Benjamin Wong · Salleh Hairon ·
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School Leadership and Educational Change in Singapore

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1959–2016

A Friend, Mentor, and Leader.
You started this journey and left lasting
impressions of love and grace on our lives.
It is now complete, but you shall not be
forgotten.

Contents

Introduction: School Leadership and Educational Change in Singapore

Pak Tee Ng and Benjamin Wong

There is great interest internationally to understand the success of the Singapore education system in the light of its strong and consistent results in international tests, such as PISA, TIMSS and PIRLS. Singapore ranks consistently among the top few countries for Reading, Mathematics and Science (OECD 2014). Interestingly, while some might have previously attributed the good results to rote learning and memorisation, the results of PISA 2012 have offered a different complexion to the issue. When students were assessed on twenty-first-century skills such as problem-solving and flexibility in thinking, Singapore once again performed well (MOE 2014).

Notwithstanding its success, the Singapore education system is changing to help prepare its students for the more complex and demanding socio-economic environment of the twenty-first century. It continuously evolves to ensure that their students are well placed and well prepared to meet the emerging demands of a knowledge-driven global economy (MOE 2010; 2013). Under the 1997 umbrella vision of Thinking Schools, Learning Nation (TSLN), many initiatives were subsequently launched. These included National Education (NE), a four-phased ICT Masterplan and the Teach Less Learn More (TLLM) reform. These, and many other initiatives, reflected the system's transformation to shift the focus of learning from quantity to quality (Ng 2008).

Today, the Singapore education system continues its evolutionary path of change by adopting a student-centric, value-driven education paradigm. It aspires to achieve (Heng 2012a):

1. Every school, a good school;
2. Every student, an engaged learner;
3. Every teacher, a caring educator and

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4. Every parent, a supportive partner.

To be able to do so, a key success factor is school leadership, in particular, that is exercised by the school principal. Although there are still arguments to whether the effect of a principal is direct or indirect, principals are generally perceived as having significant impact upon school effectiveness (read for example Hallinger and Heck 1998; Gurr et al. 2005; Leithwood et al. 2008; Dinham 2005; Fullan 2014). While there can be many variables that have effects on student learning in school, only the principal can create the conditions under which these individual variables combine synergistically in school to enhance learning. Singapore believes in the importance of the work of the school principal in bringing about educational change.

The successful implementation of Singapore's education policies depends critically on the effectiveness and conviction of the principals interpreting these policies in school. Principals are at the forefront of educational reform and they have great impact, as former Education Minister Heng Swee Keat articulated:

> Principals are the critical interface between MOE HQ and the ground, between the current reality and our desired future. The actions of our 360 Principals have a tremendous impact on 33,000 teachers and over half a million students. (Heng 2012b)

Principals have the challenging task of developing a positive school culture so that people are united in achieving the common goal of the entire system.

> A supportive school culture is critical. There is nothing like school leaders and HODs coming together, with the Senior Teachers and Lead Teachers in the school, to create this culture of support, and this culture of understanding… this is key to making Every School a Good School. (Heng 2014a)

But principals are not just leaders of their own school. They are leaders of the national school system. As Minister Heng explained:

> All schools are part of a national school system. You take up appointments across schools and see every school as your school… School leaders hand over to another pair of hands. This enables us to run a marathon, passing the baton, taking the long view, rather than seeing every school as a sprint and competing in this sprint. In that sense, you are all co-builders of every school. (Heng 2014b)

The roles and responsibilities of a principal are complex and wide ranging. They include managing teachers, leading change, working with stakeholders and transforming curriculum and pedagogy.

> Implementing this series of changes is going to be very challenging, because it is not just about programmes, but about mindsets and beliefs on what matters, and of exercising fine judgment of what is relevant and useful for each child. (Heng 2013)

Of course, school leadership is not an easy journey, as the minister said to the principals:

> Education is hard work, and it is only with this conviction that you (the principal) will have the stamina to inspire every student to be an engaged learner. (Heng 2012b)

This book aims to provide readers with insights into how Singapore school leaders are actively engaged in the transformation of the Singapore education system. The case studies will focus on how Singapore school leaders interpret and implement new policy initiatives, sharing valuable 'insider' stories about the problems and challenges of educational reform.

1.1   The Case for Case Studies

The case studies in this book should be of great interest to those keen to explore possibilities of educational reform both in Asia and beyond. They are sufficiently rich to fulfill a broad sweep of educational interests, although their main purpose is pedagogical—to facilitate professional reflection and discussion regarding the challenges of school leadership. These case studies can be used by practicing school leaders in their reflection or as instructional material in school leadership preparation programmes. While useful to academics as a potential source of information, the cases here are not to be confused with formal qualitative empirical studies designed to answer research questions.

A case is a description of an event, a problem or a challenge, with its relevant details most commonly presented in the form of a written narrative.[1] With proper construction, they aid in the identification of problems or challenges, in facilitating critical discussion and analysis of issues, and in offering exercises in practicing decision-making.

Cases may be anonymous if not doing so may disclose sensitive strategic and/or personally identifiable information. They may even be partly or wholly fictitious, but contain enough details that capture the essence of the themes and problems involved. A case need not be 'real' in the sense of a faithful recording of events that have actually happened, but must have a basis in reality and help readers engage with scenarios that are likely to occur in reality. A case is thus designed to be a learning vehicle with specific educational purposes in mind (Easton 1992); it is often written in order to present particular themes and to foster relevant disciplinary and/or professional skills.

Cases vary in length and detail. The complexity of a case is independent of its length. Rather, it is largely dependent on the individual's or group's ability to solve the problems that make up the case, and the inter-disciplinary skills that each person or group brings to bear on them. Cases are typically accompanied by questions of the form, 'If you were person X, what would you do?' Such questions help the individual to make a decision regarding the most suitable course of action, after a process of deliberation and discussion. Some cases also record the decisions actually taken by the person(s) in question, and the resulting effects, offering the

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[1]There exist multimedia cases containing audio, video and slides, etc., though they are relatively few because they are expensive to prepare. (see Easton 1992).

individual an opportunity to reflect on what might otherwise have been the case if he or she had chosen differently (Midlock 2011).

What often distinguishes the case study method of instruction from other traditional instructional methods is the great degree of equality between the instructor and the student. Cases give the same information to both, and while the instructor may be more experienced or informed in certain aspects of the problem or disciplines,[2] the instructor is in the same position as the students with respect to the information provided, and the problem posed (Barnes et al. 1994; McNair 1954). Therefore, some have observed that the case method of teaching requires a different relationship between teachers and students, with the consequence that teachers and students *both* teach and learn (Barnes et al. 1994). In case studies, there are rarely any absolutely right or wrong answers. But there exist a range of better or worse responses, and the discussion of cases will reveal them to those involved. The instructor's job is to *facilitate* the discussion, not dominate it.

Well-crafted case studies capture the complexities of reality and challenge the learner to address them with all the relevant skills and resources that he or she possesses. Tackling a case, whether individually or collectively, is a very different process from absorbing and regurgitating information. It requires and trains one to perceive and appraise the complexities of reality, and make decisions that may involve difficult trade-offs. Thoughtfully written cases give sufficient details (without overwhelming learners) and appropriate reflection questions to help learners develop important intellectual and decision-making qualities. The case study method of instruction is powerful in helping learners develop the knowledge and skills to deal with complex and unstructured real-world issues.

1.2 Case Studies of Singapore School Leaders

The cases presented in this book are constructed mainly, though not exclusively, through interviews with school leaders. Occasionally, teachers were interviewed to fill in gaps or to provide more details on events referred to by the school leaders. In some cases, other stakeholders were interviewed to provide another perspective on the issues. All chapter writers were guided by the following open-ended questions:

1. What are your general views of educational policy reform or school-based curricula innovation (e.g. Character and Citizenship Education, Professional Learning Communities)?
2. How do you interpret and implement policy initiatives in your school?
3. How does curricula innovation or policy reform come about in your school?
4. What role do you play in it? How do you provide support for the reforms and innovations in your school?

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[2]'Teaching by the case method is class discussion of possibilities, probabilities, and expedients… Such discussion rests on the nice balancing of probable results; and in this balancing the teacher has little to contribute except a broader appreciation of the springs of human action than his pupils are likely to have developed and perhaps a greater knowledge of …theory and its applications' (McNair 1954, p. 4).

5. Who are the key people you work with to support these reforms and innovations? How does your school benefit from these reforms and innovations?
6. What are the challenges that you face in implementing or enacting these reforms and innovations?
7. What have you learned from your experience in the implementation or enactment of these reforms and innovations in your school?

The number of principals and types of schools were determined by chapter writers. Often, the schools were chosen based on convenience and purposive sampling techniques. Participation in the case studies was made through invitation with approval from the Ministry of Education, Singapore. Chapters were crafted in line with the pedagogical purposes outlined in the previous section.

All cases in this book are based on real-life events. They are, however, not necessarily strict reproductions of the transcriptions of school leaders' responses to interview questions. For example, while most responses were left largely verbatim, certain responses had to be modified for fluency and for the understanding of international readers. Local terms and idioms unfamiliar to an international audience were either deleted or modified into conventional English terms or phrases. In some cases, some details were modified or the number of actors in the case reduced, in order to simplify the complex narrative for easier appreciation.

Each chapter in the book focuses on a particular issue, such as technological innovation, professional learning communities, and character and citizenship education, which has become important or has gained renewed importance in the Singapore education system. While the authors adhere to a common broad structure of the chapters, they craft the chapter in their own style. Each chapter first provides a background to the theme under examination and a theoretical basis for discussion. It then narrates the case that shows how school leaders interpret and implement policy initiatives in their respective schools or lead change in that area. It also highlights the challenges and learning experiences of the school leaders. At the end of each chapter, there are guiding questions to help readers critically analyse and reflect on the main learning points of the case.

References

Barnes, L. B., Christensen, C. R., & Hansen, A. J. (1994). *Teaching and the case method: Text, cases, and readings* (3rd ed.). Cambridge, Mass.: Harvard Business Review Press.

Dinham, S. (2005). Principal leadership for outstanding educational outcomes. *Journal of Educational Administration, 43*(4), 338–356.

Easton, G. (1992). *Learning from case studies* (2nd ed.). London: Prentice Hall.

Fullan, M. (2014). *The principal: Three keys to maximizing impact*. San Francisco: Jossey-Bass.

Gurr, D., Drysdale, L., & Mulford, B. (2005). Successful principal leadership: Australian case studies. *Journal of Educational Administration, 43*(6), 539–551.

Hallinger, P., & Heck, R. H. (1998). Exploring the principal's contribution to school effectiveness: 1980–1995. *School Effectiveness and School Improvement, 9*(2), 157–191.

Heng, S. K. (2012a). Keynote Address by Mr. Heng Swee Keat, Minister for Education, at the Ministry of Education Work Plan Seminar, Ngee Ann Polytechnic Convention Centre. Retrieved September 12, 2012, from http://www.moe.gov.sg/media/speeches/2012/09/12/keynote-address-by-mr-heng-swee-keat-at-wps-2012.php.

Heng, S. K. (2012b). Speech by Mr Heng Swee Keat, Minister for Education at the 15th Appointment and Appreciation Ceremony for Principals, Island Ballroom, Shangri-La Hotel. Retrieved December 27, 2012, from http://www.moe.gov.sg/media/speeches/2012/12/27/speech-by-mr-heng-swee-keat-at-36.php.

Heng, S. K. (2013). Keynote Address by Mr Heng Swee Keat, Minister for Education, at the Ministry of Education Work Plan Seminar 2013 at Ngee Ann Polytechnic Convention Centre. Retrieved September 25, 2013, from http://www.moe.gov.sg/media/speeches/2013/09/25/keynote-address-by-mr-heng-swee-keat-at-the-ministry-of-education-work-plan-seminar-2013.php.

Heng, S. K. (2014a). Keynote Address by Mr Heng Swee Keat, Minister for Education, at the Ministry of Education Work Plan Seminar 2014 at Ngee Ann Polytechnic Convention Centre. Retrieved September 23, 2014, from http://www.moe.gov.sg/media/speeches/2014/09/23/keynote-address-by-mr-heng-swee-keat-at-the-ministry-of-education-work-plan-seminar-2014.php.

Heng, S. K. (2014b). Speech by Mr Heng Swee Keat, Minister for Education at the 17th Appointment and Appreciation Ceremony for Principals, Shangri-La Hotel. Retrieved December 30, 2014, from http://www.moe.gov.sg/media/speeches/2014/12/30/speech-by-mr-heng-swee-keat-at-the-17th-appointment-and-appreciation-ceremony.php.

Leithwood, K., Harris, A., & Hopkins, D. (2008). Seven strong claims about successful school leadership. *School Leadership and Management, 28*(1), 27–42.

McNair, M. P. (Ed.). (1954). *The case method at the Harvard Business School*. New York: McGraw-Hill.

Midlock, S. F. (2011). *Case studies for educational leadership: Solving administrative dilemmas*. Boston: Pearson.

Ministry of Education. (2010). International OECD study affirms the high quality of Singapore's education system. [Press release]. Retrieved December 7, 2010, from http://www.moe.gov.sg/media/press/2010/12/programme-for-international-student-assessment-2009.php.

Ministry of Education. (2013). International OECD study shows that Singapore students are ready to thrive in the 21st century. [Press release]. Retrieved December 3, 2013, from http://www.moe.gov.sg/media/press/2013/12/international-oecd-study-shows-that-singapore-students-are-ready-to-thrive-in-the-21st-century.php.

Ministry of Education. (2014). Singapore students excel in thinking flexibility and creatively to solve complex and unfamiliar problems, says PISA study. [Press release]. Retrieved April 1, 2014, from http://www.moe.gov.sg/media/press/2014/04/singapore-students-excel-in-thinking-flexibility.php.

Ng, P. T. (2008). Educational reform in Singapore: From quantity to quality. *Educational Research for Policy and Practice, 7*(1), 5–15.

OECD. (2014). PISA 2012 results in focus: What 15-year-olds know and what they can do with what they know. Paris: OECD. Retrieved from http://www.oecd.org/pisa/keyfindings/pisa-2012-results-overview.pdf.

Instructional Leadership

F. S. David Ng

Abstract

Over the past decade, researchers have begun to make excellent progress in understanding how classrooms and schools can better provide quality instruction for all children. Research in classroom pedagogies in Singapore through the Office of Education Research, National Institute of Education, and Nanyang Technological University has also yielded significant results in the typical classroom practices in Singapore. Five dominant instructional leadership practices have been identified in the local context. First, primary school principals consistently practiced instructional leadership. Second, instructional leaders are distributed in nature. Third, school principals seem to display a greater range of instructional leadership domains. Fourth, instructional leadership tends to align with the national contextual uniqueness of the Singapore state. Fifth, school principals may adopt the instructional goals of their predecessors if these goals are still relevant. In this case study, greater understanding on a principal's beliefs and practices of instructional leadership is provided as the reader "follow" the principal, and as she applies various dimensions of instructional leadership in her interactions and meetings with school staff, pupils, and parents.

2.1 Introduction

As a consequence of globalization, many countries are competing in the globalized knowledge economy in which their state of competitiveness is increasingly dependent on their capacity to meet the fast-growing demands for employees with

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high-level skills and knowledge. Thus, many countries are embarking on extensive educational reform in the effort to enhance the performances of their schools that develop such vital human capital (Barber and Mourshed 2007). Moreover, with the continuous education reform, government policy-makers and the public are demanding greater public school accountability and assessment in the hope of improving academic and nonacademic school outcomes, as well as decreasing the achievement gaps among the subpopulations of pupils (Heck and Moriyama 2010).

The interest of school policy-makers in educational accountability has focused the public's attention increasingly upon the performance of schools. Previous reform advocates and the public has emphasized on school performance that is largely interpreted in terms of examination results. However, in recent years, school performance has taken on a wider interpretation to include various domains such as values-based learning, academic value-added, physical and aesthetics, and character development. While this expansion provides schools greater choice in developing pupils, the direct effect on student achievement is not clear. This is highlighted in an editorial that states that political leaders and the business community feel that the city-state needs more than just smart people.

> Singaporean pupils are known all over the world for their smartness such as gaining top scores on international assessments… it needs entrepreneurs and leaders - people who do not merely work for the multitude of the locally based transnational firms - who have the vision and courage to start and nurture them. (Borja 2004)

To satisfy those needs, Ministry of Education Singapore officials acknowledge that the education system must change from a traditional teacher-directed to a student-centered approach. This involves moving toward self-directed, engaged, and creative ways of learning. Other Asian countries, such as Japan and Korea, are also slowly transforming their education systems in that way. Much of the concern for school reform in Singapore has stemmed from the overemphasis on academic achievement and examination results.

Over the past decade, researchers have begun to make excellent progress in understanding how classrooms and schools can better provide quality instruction for all children. Research in classroom pedagogies in Singapore through the Office of Educational Research, National Institute of Education, and Nanyang Technological University has also yielded significant results in the typical classroom practices in Singapore.

In this case study, the reader will have the opportunity to understand the principal's beliefs and practices of Instructional Leadership. The reader will also "follow" the principal as she applies various dimensions of Instructional Leadership in her interactions and meetings with school staff, pupils, and parents.

2.2 Overview of Instructional Leadership Literature

There are two general concepts of instructional leadership—one is narrow while the other is broad. The narrow concept defines instructional leadership as actions that are directly related to teaching and learning, such as conducting classroom

observations. This was the conceptualization of instructional leadership used in the 1980s and was normally applied within the context of small, poor urban elementary schools (Hallinger 2003). The broad view of instructional leadership includes all leadership activities that indirectly affect student learning such as school culture and timetabling procedures. These might be considered to be aspects of leadership that have impact on the quality of curriculum and instruction delivered to pupils. This conceptualization acknowledges that principals as instructional leaders have a positive impact on pupils' learning but this influence is mediated (Goldring and Greenfield 2002).

A comprehensive model of instructional leadership was developed by Hallinger and Murphy (1985, 1986). This dominant model proposes three broad dimensions of the instructional leadership construct: defining the school's mission, managing the instructional program, and promoting a positive school-learning climate. These dimensions are further delineated into ten instructional leadership functions as follows: (1) framing the school's goals, (2) communicating the school's goals, (3) coordinating the curriculum, (4) supervising and evaluating instruction, (5) monitoring student progress, (6) protecting instructional time, (7) providing incentives for teachers, (8) providing incentives for learning, (9) promoting professional development, and (10) maintaining high visibility.

The first two tasks: framing the school's goals and communicating the school's goals are incorporated into the first broad dimension, defining the school's mission. These two leadership practices emphasize the principal's role in establishing and articulating a clear school vision with the focus on enhanced student learning. This dimension is developed to reflect the principal's responsibility for collaboratively building an appropriately context-based vision, ensuring it is widely known by other school stakeholders, and ascertaining that teaching and learning processes are aligned with the vision.

The second dimension comprises three leadership tasks, namely, supervising and evaluating instruction, coordinating the curriculum, and monitoring student progress. This dimension assumes the principal's engagement in supervising, monitoring, and evaluating instruction-and-curriculum-based activities in the school. These roles of principals are treated as the key leadership responsibilities in the present model.

The third dimension comprises five leadership tasks, that is, protecting instructional time, promoting professional development, maintaining high visibility, providing incentives for teachers, and providing incentives for learning. Compared with the two former dimensions, this dimension is broader in scope and intent. Leadership functions included in this dimension are assumed to be highly influential principal practices. This dimension points to the importance of creating and maintaining a school climate that supports teaching and learning practices and promotes teachers' professional development.

The model presented above is assessed to be the most fully tested among existing models of instructional leadership. Over 110 empirical studies were

completed using this model until 2005 (Hallinger 2005, p. 227). Several alternative models of instructional leadership have been proposed, yet all of these models identified three major dimensions similar to those in Hallinger and Murphy (1985, 1986).

Current literature shows that the instructional leadership does not require the principal be a model or exemplary teacher, but he/she must have the capacity to create the organizational conditions necessary to build pedagogical capacity, expand opportunities for innovation, supply and allocate resources, give instructional direction and support to teachers, and enable teachers to assume individual and collective responsibility for instructional improvement. From this perspective, the principal is a conductor of processes of instructional innovation rather than its composer or business manager. Accordingly, the concept of the principal as instructional leader should focus on the principal's role in the development and distribution of the understandings, skills, and attributes across the school organizational spectrum. As Gronn (1986, 1999, 2003) has argued, the term "school leadership" does not refer to the leadership of the principal alone. Although the principal remains a key player in organizational change, schools cannot rely on the "power of one". Rather, concepts such as leader–teacher relationship, collegiality, collaborative culture, learning organization, teacher leadership, and personal leadership all suggest that the power to make decisions in order to improve teaching and learning in the classrooms must be distributed throughout the organization.

2.3 Summary of Instructional Leadership in Singapore

A review of Instructional Leadership research in Singapore from 1985 to 2012 have highlighted five dominant practices of instructional leadership in Singapore and shed light on the strategies adopted by Singapore principals in the implementation of instructional leadership (Ng et al. 2015a, b). First, principals in primary schools seem to display more instructional leadership roles than those in secondary schools. Masdawood (1990) claims that Singapore primary school principals spend "around 50% of their official work time" exercising their instructional leadership, though this study does not explicitly indicate the areas of practiced instructional leadership. This corresponds with the findings in the international literature (e.g., Louis et al. 2010; Hallinger 2005, Harris 2002). Second, Singapore principals seem to realize that they cannot successfully perform instructional leadership alone. Instead, principals make good use of the knowledge and skills of nonteaching and teaching staff within the school community as well as the external resources. While it is true that Singapore principals tend to perform more top-down instructional leadership in the initial stage of a school change process, they subsequently empower heads of departments (middle managers) with direct instructional roles when teachers, staff, and students are more accustomed to the change. The studies reviewed here showed that top school leaders were very appreciative of the effectiveness of their middle management (Ng et al. 2015a, b). In other words, principals exercise a transformational

leadership approach, instead of instructional leadership, in the later stages of school change by facilitating and sustaining the process. The skillful management of role changes in the course of a school-wide reform prevents principals from being overburned by the demands of change in a large and complex school system. In addition, the strategy of involving multiple stakeholders in creating and implementing the school vision is a good example of lateral capacity building. In lateral capacity building, two change forces are unleashed, namely, knowledge (learning) and motivation. In terms of knowledge, principals wisely tap on the knowledge capital of stakeholders as they participate in creating the vision and establishing the specific goals related to the vision. Stakeholders are also motivated as they are involved in the theory of action—individually and collectively.

Third, Singapore principals appear to exercise quite a number of domains of instructional leadership; nevertheless, the degree of instructional leadership practiced in each domain varies. This review reveals that principals focus much attention on developing the school vision, creating a good learning climate, and developing and improving the school-wide curriculum (Ng et al. 2015a, b). This finding concurs with Hallinger (2007) who suggests that principals, in reality, tend to emphasize the two dimensions of instructional leaders: defining the vision and supporting the school climate. With regard to other practices, Hallinger (2007) has called attention to the lack of empirical data demonstrating that principals spend more time on direct classroom observation and supervision.

Singapore principals, however, share the task of instruction evaluation and supervision with middle managers. These include classroom observation and giving post-observation feedback to individual teachers. Traditionally oriented literature on instructional leadership, nonetheless, stresses the importance of the principal's role in the dimension of the coordination and control of instruction. The principal's actual practice of classroom evaluation of teaching and learning is essential for effective schools, particularly enhanced student learning (Hargreaves et al. 2001; Hallinger 2005; Leithwood et al. 2004). In this view, principals are thought to be able to augment the quality of teaching and learning by mentoring teachers through observing, providing feedback, and even modeling instruction in specific cases. An emerging question is whether Singapore principals need to exert more instructional leadership on instructional evaluation and supervision, and whether this is feasible in the context of Singapore schools. According to Horng and Loeb's (2010) review of empirical studies, the traditional model mentioned above is ideal, but it is "actually poorly suited to the reality of many of today's schools" (p. 66). Horng and Loeb (2010) add that the principal's involvement in the classroom only has a marginal impact on the quality of teaching and learning. Even principals who are very determined to be more heavily involved in classrooms meet many varied challenges (Hallinger 2000). Instead, principals can improve instruction by strategically managing organizational management activities such as recruiting and retaining highly qualified staff, allocating budgets and resources, assigning classrooms with the most suitable teachers, and building a friendly and positive school climate.

Fourth, Singapore principals' practice of instructional leadership tends to be greatly aligned to contextual factors, in particular, policies and initiatives from the Ministry of Education. The alignment is most noticeable in the dimensions of the school vision and managing the instructional program. This is understandable as Singapore adopts a centralized educational system, in which the Ministry of Education plays a very active role in influencing how each school is run. Elmore (2004) emphasizes that educators must learn to do new things in "the setting in which they work". This is evident in how Singapore principals articulate their own vision of the school within the constraint of the framework imposed by the ministry. While the Ministry's initiatives and mandates loom large in the background, principals have consistently created their own school vision together with the stakeholders in the school according to the school's setting and context. This was reflected in the strategies of alignment of the curriculum implementation and instruction with the desired outcomes of education. Among the learning opportunities created are involvement of staff's constructive inputs and establishing departmental and subject-based goals.

Last but not least, while change appears to be a constant (with principals' rotation and frequent new initiatives), there is an element of continuity in that many principals chose to endorse or adapt the vision set by their predecessor. There is a strong practice of staying the course to achieve the established school goals. At the same time, there is flexibility where principals refined, reviewed, and changed goals through a systematic process involving stakeholders, in particular, the middle-level leaders. These two factors most probably have helped schools to maintain or continuously improve student achievement. Rigidity alone (by continuing the predecessor's vision) would have either maintained or cause student achievement to decline. At the same time, frequent change without establishing practices would amount to nothing in the end (Fullan 2006).

2.4 Method

Southworth Primary School was established prior to the 1965 as a Chinese medium public school with a handful of pupils. 50 years after its establishment, it became an English-medium, government-aided school and took in its first batch of Malay pupils. Over the years, Southworth has preserved the "hardworking yet simple" school tradition of her founders while continuing to take huge strides forward in providing a good and supportive environment for its pupils. The Social Economic Status (SES) profile of the school shows that 24.3% of the pupils are on financial assistance. In general, middle-class parents are more actively involved in the schools. They do not, however, form the largest portion of the school board membership (three of nine). In 2014, there were 1,561 pupils and 89 teachers in the school. The principal joined the school at the start of 2011 while the vice-principal joined the school in June. The School Climate Survey in 2013 improved over the year before. The school was selected based on the school leader's familiarity and

experience in the practices of instructional leadership. Participation was based on informed consent given by the principal.

2.4.1 Data Collection

1st Stage: Interviews

Southworth Primary School Principal was invited to participate in the study based on two criteria. First, reviews of instructional leadership literature found that the effects of principal instructional leadership are most substantial at the primary school level (e.g., Louis et al. 2010). Second, we invited participants, including Southworth Primary School Principal on the basis of willingness to contribute to the study. Data were collected in two iterative stages. In the first stage, we conducted in-depth interviews with Southworth Primary School Principal from January 2014 to March 2014. The researchers targeted questions that took into consideration Singapore's educational context. The purpose of the interview was to establish the principal's individual views of her work and school. Her prior professional, personal experiences and current position, and leadership style were explored in relation to Singapore's context. The interview lasted between 60 and 90 min in the principal's office.

2nd Stage: Observations and Reflections

Data collection in this stage entailed: observations of the principal's activities and reflective interviews (Dwyer et al. 1983). This second stage of observation and reflective interviews was conducted over the course of 5 working days in a period of about 8 weeks. Each observation day in the school lasted from 4 to 8 h. Descriptive fieldnotes were generated and organized to record the principal's activities and happenings around her after each occasion of observation.

The researchers conducted observations of the practices of the principal as she interacted with staff, teachers, parents, students, and visitors (Dwyer et al. 1983; Lofland 2006; Spradley 1979). The other activities included observing classes, recesses, lunch periods, meetings, and talking informally to teachers and students about their work and the school. Critical documents such as school plans, test score reports, descriptions of special programs, and other documents were examined, collected, and recorded into the fieldnotes that accrued for the principal and school.

At the end of the day or on the day following each observation, the researchers conducted a short interview (when appropriate) with the principal about some of the activities and interactions (Dwyer et al. 1983; Denzin 2001; Lofland 2006). The principal was asked to clarify actions when the intent was not clear, and encouraged to reflect on her decisions and activities. The following section provides the summarized details of one typical day for the principal.

2.5 Findings

2.5.1 The Principal in Action: A Day as an Instructional Leader

What is a typical day like for an Instructional Leader? The following actual events provide the reader with an in-depth view of events and people that the principal interacts with in the course of a day in school.

Monday	
7.35 a.m.	Walked with principal (P) to canteen and had coffee. Observed school has values prominently displayed at various places in school including canteen (School values: Creativity, Respect, Loyalty, Empathy, and Responsibility). School canteen also displayed Chinese history of emperors, Science Wall. Purpose of these murals meant to encourage students to learn at all times Pointed out indoor sports hall building in progress
	P talks about holding teachers accountable for results using Key Performance Indicators (KPIs) in School Excellence Model[a] (SEM). The goals are co-created with teachers. P explained that teachers are happier with clear direction through the goals. P has set stretched goals and compares school with K** school. Reason is that school achievements have already surpassed comparable schools
	P says that the School Climate Survey shows staff are happier and engaged. Morale of staff is high. Teachers are busy, and school has many good staff. Her style is to have lots of conversations with staff. And she often uses classroom observation to identify potential school leaders, groom, and develop them and deploy them according to strengths—"put right people in the right place"
8.45 a.m.	Vice-principal (VP) walks into P's office to talk about various matters: 1. Data report in the system—submission of returns to the Ministry as a routine procedure and 2. School's request for Bachelor of Arts/Bachelor of Science staff member. In the midst of the conversation, the Superintendent called and offered congratulations to both the principal and vice-principal on their promotion
8.55 a.m.	Head of Department (HOD) Physical Education (PE) comes in and wants to finalize his decision to convert from PE to ART as his main professional responsibility. He had spoken to the P the previous month as part of the professional development and capacity building dialogue that P initiates regularly with staff. The conversion would require the HOD to attend a 4 month long course. The P affirmed the decision and asks the HOD to proceed to identify the handover procedure and also to suggest personnel to take over his responsibilities and duties during the 4 month absence
9.15 a.m.	VP Administration comes in to discuss with P on the request of the Administrative Manager (AM) to bring forward her transfer to another school from August 2014 to April 2014 P shares she had already "interviewed" a potential AM from a polytechnic to replace the current AM but will require the potential AM to go through the application process when the school puts up an advertisement. The P reiterated that it is important for the potential AM to follow proper

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	Monday
	procedure even though she feels that this is an urgent matter for the school operation to proceed efficiently
9.25 a.m.	Interrupted by a staff informing P that Marshall Cavendish visitors from UK are in school for a planned visit P finished discussing with VP Admin on the AM matter and proceeds to meet the visitors
9.25 a.m.	P walks to the meeting room to greet the visitors. Visitors asked about school staff's engagement with parents P explains that there are many platforms: Parent–Teacher (PT) meetings, organizing self-help mathematics workshop (e.g., How to avoid careless mistakes) for parents so that they can help their children at home with mathematics homework, newsletters, and individual teachers contacting parents
9.40 a.m.	Walkabout by P—through the Primary 2 and Primary 3 classes P goes on walkabouts at different times throughout the week, and is of the belief that "walkabouts" reveal more about classroom practices than planned classroom observation. The "better"—as streamed through academic achievement—academic pupils have been allotted classrooms that are furthest away from the office. Her rationale is that these pupils are less likely to have disciplinary problems especially during the changeover of period when teachers might take slightly longer time to reach the classroom P believes that structures drive behavior—especially arrangement of the classroom. She gives an example that if the classroom is arranged like an examination setting it tends to promote individual and passive learning among pupils
9.55 a.m.	VP enters P's office to discuss a parent's request for the son to take foundation level for a certain subject for Primary School Leaving Examination (PSLE). P asked VP for the rationale and was told that the pupil has difficulty coping with learning the subject. P has some questions regarding this matter and requests the office staff to ask the subject teacher to come in for consultation. The teacher walks in and explains some details of the matter to the P. P thanks the teacher
10.10 a.m.	P spends time reading and replying to emails AM walks into discuss payment for T-shirts for pupils' upcoming school outing. P approves the payment
10.35 a.m.	P meets with a transferred teacher from another school. The transferred teacher has indicated that he sees the school as a good place to further develop his own professional practices. P requests the School Staff Developer (SSD)[b] to be present SSD comes into P's office. P asks the SSD to share with the transferred teacher about her own progress and development as a teacher. P walks out of the office. SSD starts to share with the transferred teacher. SSD was appointed as a Key Personnel in 2010 and thereafter appointed as SSD in 2012. SSD reveals that she will be promoted to VP at the end of 2014 SSD shares on the P's role in developing her. She says she has learned a lot from the P who sees potential in her and internally promoted her, and entrusted her with responsibilities. She spent a lot of time with the P—shadowing and understanding P's thinking. P shared a lot about staff matters, how a leader needs to have moral courage, clear rationale, and be

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Monday	
	decisive in decision-making. P always asked her lots of "why" questions. SSD stated that the probing questions helped her think deeper, wider, and understand the links to policy and school strategic plans. This has helped her to develop her leadership roles—in particular skills in visioning
	SSD speaks about the school's transition from a departmental to a level system of management. The transition has helped her to work with colleagues better and understand common teaching and learning challenges and goals
	She shares about her involvement in team learning and team support as a result of the level system. Various team learning platforms such as Professional Learning Communities (PLC), mass staff conversation on topics such as Future Readiness, Desired Culture, What is a good school? SSD also reveals that P spends time conversing with small groups of staff members on a regular basis
	SSD speaks about P's flexibility in staff deployment taking into consideration work–life balance for some teachers (e.g., some teachers requested to be slightly late for school on certain days because they have to send their children to the child-care center)
	SSD and teacher leave the office
11.00 a.m.	P comes back to the office. Chinese teacher comes in and P discusses in Chinese about communicating with parents and the reading program.
	P wants to ensure that the Chinese teacher will inform parents about the program and explain its rationale to them as well. P stresses that she hopes that the parents will support the program
11.10 a.m.	P meets with a teacher to discuss the Zoological program for Primary 4 pupils. This program will involve students visiting the zoo for a planned learning journey. At the same time, P and teacher talk about the leadership camp for Primary 4 and 5 appointed leaders. P wants to leverage on the Zoological program: appointed leaders will have the opportunity to learn leadership skills while at the same time participating in the program for their learning journey. P reiterates that conducting two programs through the same platform will save time. She says that it will also according to the MOE's advice (MOE has advised against visiting a certain destination for camping trips). P discusses with the teacher the details of camp goals and activities. P questions teacher on feasibility and rationale for activities and even objectives of the camp. P also raised details such as budget, T-shirts, and asks the teacher to incorporate current songs used in the school assembly to inculcate values to the pupils at the camp (school staff have used pop songs such as Michael Jackson's "Beat It" to discuss values with pupils. P reported that latecomers have decreased since introducing pop songs to pupils. These songs are played during preassembly time and during the assembly the appointed teacher will discuss current affairs such as drought, haze, the need to save water, etc.
11.40 a.m.	SSD comes in to see P to discuss the Professional Learning Community (PLC) meeting (which will be held at 12.30 p.m.) and the following day's Executive Committee Meeting (EXCO)[c]
	SSD talks about the specific feedback received from staff where they have raised concerns about the "unpredictable and demanding" aspects of the PLC's objectives and projects. P says that SSD will need to find out more about what teachers mean by those phrases. P reminds SSD about PLC

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Monday	
	meeting—the importance of shared goals and the school vision in driving learning and discussion P talks about the coming EXCO meeting where SSD will be taking the lead. P goes through the agenda details. P talks with SSD on "what we have learned, already done, not ready, need to do." SSD talks about providing a helicopter view to teachers. P asks SSD how she will go about doing it. SSD shares that she will use the Political, Economic, Social, and Technology framework (PEST). P suggests that SSD links the framework to sustainability, importance of cohesion, and to deal with mental models P reminds SSD of the need to cast the vision in more practical terms—of what is the desired state rather than presenting a grand vision (Notice that P asks a lot of "why" questions)
12.30 p.m.	P sits in and listens to PLC team discuss their analysis of pupils' comprehension errors. PLC team wants to discuss the need to teach comprehension strategies. P interjects and question teachers about the purpose of the assessment. She asks "Is it assessment for learning or just assessment to identify issues?" P explains that the purpose of questioning is to encourage teachers to focus on the assessment outcome for their own development—such as changing pedagogical practices instead of just attempting to correct pupils
12.45 p.m.	P meets with an NIE researcher in the office. P talks about the School Excellence Model (SEM) report. The SEM is used as a tool for developing strategic thinking for middle-level leaders. Various appointed school leaders will lead learning at EXCO meetings using the SEM as the basis for learning and discussion P talks about her decision to move away from using "Comparable Schools" as a benchmark within the SEM framework. Instead, she has chosen to benchmark Southworth Primary with the best/most popular primary school in the West of Singapore. These schools are accorded Best Practice in Teaching and Learning Awards and the School Excellence Award. This broader benchmark will enable the school staff to see and compare the school's performance with a wider set of schools
2.05 p.m.– 5.00 p.m.	P attends the EXCO meeting All Key Personnel (KPs), including VP, are in attendance VP goes through the minutes of the previous EXCO meeting P asks the Head of Departments (HOD) for brief updates Each head gives a succinct update on events P asks HOD English to share the "Collective Lesson Planning" with staff HOD English shares that English teachers implemented the collective lesson planning through the Google Doc platform. During the first week of implementation, the teachers were spending about half an hour each posting and reading shared strategies, resources, and links. By the third weekend, the time taken was reduced to 15 min. This was an exceptional improvement from the typical 1 or 2 h teachers spent during weekends planning lesson on their own She also states that she followed the Strategies for English Language Learning and Reading (STELLAR) guidelines for the topics and Specific Instructional Objectives (SIO) in the lesson planning P interjects and asks if the teachers are sharing more on approaches rather than planning lesson for the week. HOD English replies that it is both—

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Monday	
	because although the pace and sequence may differ per class, the approaches are adopted by teachers and this does indeed help to shorten the time for preparing the lessons
	P replies that she will leave it to the Level Heads to lead and decide on the focus and the adoption of the collective lesson planning procedure. She stresses that it should also be used as a learning platform for beginning teachers—as a way to shorten their learning curve. P also reminds teachers that concepts of PETALs[d] should also be included in the lesson plan
	P talks about assessment for learning from the book by Dylan Wiliam. This book has been given to teachers for their reading at the beginning of the year. She reminds teachers that they should not just focus on the strategies suggested by the author but understand the purpose—it is about why and how to use assessment for learning—a changing of mindset from the traditional summative assessment. She reminds the Heads to allow teachers to scope and try it
	SSD shares from the article/book on Change Management and Change Leadership
	Using slides, she goes through the internal and external scans and then talks about first- and second-order changes. She proceeds to get teachers to think and suggest what might be some of the first- and second-order changes they would initiate in the school
	Announcement of three groups of facilitators to lead in the sharing of the topics in the Change Management book in the subsequent EXCO meetings
	P reminds EXCO that it is not just the sharing and facilitation but that the focus should be on learning and development of themselves—deeper understanding that would bring about deeper change
	EXCO meeting ends
5.00 p.m.–6.00 p.m.	P walks back to her office and attend to the day's emails
	P leaves office for home. It is yet another long drive to home that P has come to accept as part of her daily routine. She sees these long drives as an opportunity to reflect and to think

[a]The School Excellence Model (SEM) is a framework used to guide schools in the assessment of their management and education processes and overall school performance. The SEM helps schools to provide a holistic and quality education and continuous good performance. Implemented in 2000, the SEM is now used by all schools for their annual self-assessment and by the Ministry of Education (MOE) for the external validation of schools

[b]The School Staff Developer is senior personnel whose job is to ensure that the training and professional development programs are customized to the teacher's needs, while supporting the school's goals. The SSD may be a more senior teacher or a Head of Department. The SSD will also work with other Senior Teachers and Heads of Departments to mentor and coach teachers in the areas of teaching and career development (MOE 2006)

[c]In many schools, the principal, vice-principals, and heads of department form an executive committee commonly referred to as "the EXCO"

[d]PETALs is a curriculum framework designed by the MOE. It comprises five dimensions of practice for engaged learning: Pedagogy, Experience of learning, Tone of Environment, Assessment, and Learning Content

2.5.2 Principal's Beliefs of Instructional Leadership

In the first stage interview, the aim was to establish the principal's individual views of her work and school. Her prior professional and personal experiences, current position, and leadership style were explored in relation to Singapore's context. Data from the first stage interview was recorded and transcribed verbatim. The researchers adopted a grounded theory approach to analyze the data (Glaser and Strauss 1967; Strauss and Corbin 1998). This bottom-up coding approach best suits the primary purpose of this inductive study that aims to explore instructional leadership practices in Singapore. More specifically, the transcribed interview and descriptive fieldnotes underwent a coding process that comprises three iterative key stages: open coding, axial coding, and selective coding (Strauss and Corbin 1998).

We followed two main steps to openly code the data with an attention to reflexivity. The researchers read the collected documents (mainly interviews and fieldnotes) in a careful manner. Each document was usually perused several times to ensure a thorough understanding of the incidents, statements, contexts, and others either explicitly or implicitly mentioned in the document. Next, the researchers flexibly used three strategies of open coding, that is, line-by-line analysis, whole-sentence analysis, and whole-paragraph analysis. This microanalytic approach helped us to generate initial categories quickly and effectively.

We reviewed all preliminary open codes and then selected "focused" codes to better manage the analyzed data. These focused codes contain the key ideas through the document or seem to have greater potential for category generation. Potential categories accordingly emerged from the focused codes.

The key aim of our axial coding stage is to systematically develop categories and link the identified categories in the open coding stage with their potential subcategories. A category represents a phenomenon while its subcategory elaborates on such questions "when, where, why, who, how, and with what consequences" of the phenomenon (Strauss and Corbin 1998, p. 125). The categories and their subcategories continued to be integrated and refined in the process of selective coding. This process happened in a nonlinear way with high reflexivity.

The following themes were identified as key aspects of the principal's beliefs of instructional leadership.

On Professional Journey

"I started as a teacher teaching for about 5 years at a top secondary school. After that I went to MOE as a training officer, and then I got a scholarship and went away to do my Master's. I came back trained as an educational psychologist, and served as an Assistant Director in Psychological Assessment. Then I went back to school as a VP for 2 years, attended the Leaders in Education Programme (LEP) at the National Institute of education (NIE), and was subsequently promoted. This is my 10th year as a principal. This is my second school. I was in my first school for 7 years. This is my third year in this school. I think being a second term principal is very different. You learn. As a first term principal, I was more tentative about things and I was slower to move. I think it is an accumulation of experience. In my second term as principal, I think I am more confident. As I become more confident, I think the way I look at things and matters are also quite different. I must say that I am

enjoying myself very much as a second term principal. I do not know whether it is just this school, because there are a lot of things here that I enjoy, or I am enjoying it because it is my second term. I am enjoying my job here."

On Leading a High Performing School

"Our own indicators for seeing Southworth as a high performing school are narrow, but we look at the PSLE results. We benchmark ourselves against schools in the West (Zone)[1] of Singapore. We find that we are performing better than the MOE selected schools, and there has been an upward trend. We selected a smaller subset amongst the MOE schools, and see that we have also performed better. We chose the most popular schools here in the West…. and we are still performing better. So we chose to compare ourselves with the most popular schools in the J** cluster. We found that R**Primary is way ahead. Although it is not a fair comparison because we have a lot more foundation pupils, I cannot just leave out R**Primary. We are a little behind R**Primary, probably because R**Primary is way ahead of the rest of the schools in the cluster. However, if I leave R**Primary out of the comparison, we are comparable with the rest of the schools in terms of PSLE results."

"Then I chose to benchmark against schools led by principals that I am comfortable with. I chose W**Primary. The SES of W**Primary school is much higher than mine, albeit still considered low nationally. Southworth Primary does a little bit better in terms of results. I also chose to compare with K**Primary. It is not a fair comparison because 43% of parents at K**Primary are graduates, whereas over 20% of our parents have a highest education of Primary 6 and below, and 12% of our families are living in 1- to 2-room (low-income)flats. So I am using K**Primary as a stretch goal. That is how we compare our performance."

"At the end of the day it is about delivering results. Without the confidence of stakeholders in your school, it is very hard to do your job. So as a principal, I juggle many balls, from making meaning to synergy and so on. I have to take care that certain measures are always kept in place. Parents judge my school by the results, and it is about accountability. I have to put myself in the position of the parents – what do I want to achieve by sending my children to school? It is about meeting the needs and expectations of our customers too. At staff conversations we talk about producing people who are equipped with future-ready skills, because I also need the teachers to buy in. If we do not get teachers to buy in, teachers being teachers with good intentions will always focus on PSLE. We ask teachers to identify the skills that children will need to work well in life in future, so our teachers care that the kids will do well and triumph in life in future. That is how we try to convince teachers on the importance of holistic education. Otherwise it is very difficult; they would just want to see results."

On the Successful Student

"One thing would be results, but I define success as being the best that you can be. Realistically, not everybody will be able to go to Raffles Institution (one of the top schools in Singapore). Here at Southworth Primary, they aim for schools like River Valley High, but I do try to tell them that they must be open-minded and they must see a bigger world. I have to convince the children that not everybody will make it as a lawyer or a doctor. There are different jobs that would suit them better. You will be surprised, due to the character of this neighbourhood, some parents may be quite happy if their child manages to

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[1]All the schools in Singapore are arranged into four zones—North/South/East/West. The schools are grouped into clusters and each cluster is facilitated by a Cluster Superintendent.

go to the 5-year Normal stream.[2] If their child can get into J** Secondary, which they regard as a good school, they would be happy. To me, I communicate to parents that a successful student means he/she can go to their school of choice. And children are realistic; a person who cannot make it to RI will never think that they will want to go to RI, and their parents are also aware of that."

On Vision, Values of Leadership

"At every point we are guided by some fundamental beliefs. We have certain values and visions. But I think we only make meaning when we are able to actually live, direct and work out the vision."

"When I was a VP, I could say that I was an educator with a certain vision. But it takes a different meaning when I am able to live it. I always thought that there were certain beliefs at every stage of my life, and I have very strong convictions, but it is only when I am able to get into a real position of leading that I begin to see how they have crystallized, and how I am able to enact these basic beliefs. So I started off as a first term principal with this belief in making meaning for the teachers, and this approach has evolved over time."

"How so? It is because a principal's job 5 or 10 years ago is different from now, and a teacher's job 5 years ago is very different from now. And it will definitely be different 5 years in the future. So how do we get our teachers to be what they want to be? From when I led my first school till now, I can see that it is even worse now if we do not do something to make meaning for the job. Teachers on the ground tend to receive many directives from department heads, the school principal, MOE, and parents. As a principal, I appreciate the autonomy that I am given as a principal, where I am judged by my outcome rather than being managed in my processes."

"Having worked in MOE, I know that when I want the schools to do something, it is my only goal for the schools. I do not know the other things that the schools are doing, so it seems to be the only thing. That is the impression of every department and everyone. I can understand, because they are just doing their jobs. But as a result, everyone ends up piling things onto the lowest end. So leadership is about making meaning. If teachers do not find meaning in their jobs because they cannot make decisions, they just find themselves doing a lot without any meaning. So I think it is very important that leadership is about making meaning, not just for the teachers but for everything."

"As an instructional leader, if I do not tie everything together, everything runs about in all directions. So it is also about synergy in the things that we do. For example, we do modular CCAs as part of holistic development. Instead of regarding them as separate, we see how one initiative can fulfill multiple objectives and cater to a certain outcome. But most importantly, it is about giving teachers meaning in the job."

"How do I give them meaning in the job? I am in the position to give them the autonomy to say that they can make professional decisions. The slogan 'Teachers as Professionals' was a major thrust in my previous school because I want them to feel they are professionals. Here we have evolved and name it 'Competent and Engaged' as one of the strategic thrusts. But basically the whole idea is that we recognize them as professionals, so that they can make local level decisions."

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[2]There are three streams at the secondary level: Express, Normal (academic), and Normal (technical). The Normal stream is intended for academically weaker students. Students in the Normal stream generally spend an additional year to complete their secondary education.

On the Teaching and Learning Structure

"In my previous school, I used the concept of 'Schools within Schools' and I started the level system. As a first term principal, I started very small and first piloted 2 levels. By starting small, I can be more involved, and it will always be a success because other people buy in and everyone will want to come in. The level system was very successful in C** Primary and they loved it, because there was a lot of autonomy on the ground."

"Why the level system? Because the school is a micro-system of society; there is MOE, and the various subject departments. Teachers are at the receiving end of multiple directives and they are tired. When I run the level system, the level head is a professional position. I find the level system so unique, and the teachers like it because they have autonomy on the ground. For example, as a Primary 4 level head, we synergize everything so teachers will not be with doing everything. The level head has the autonomy of the whole level and has the authority to decide on how they want to implement programmes and the curriculum. The level heads are also actively involved in contributing to staff deployment."

"Deployment is important such that I can pull up the performance of the weaker teachers. 80% of my staff here may be very positive, but in another school it may be just 70%. What is important is the mixing and putting the same people together. This is another concept that we believe in here: team learning and team support. It stems from the phrase that the whole is more than the sum of the parts. I keep going back to this phrase, maybe because I come from a theoretical background."

"Group lesson planning is timetabled into school events. It is put into the TTT, (Teachers Timetable Time), under the weekly level meetings. Group lesson planning is tied to PLC at the moment. We have not done it for other subjects yet because we want to get used to the culture first. So we are currently running our 'Skillful Teacher' PLC for the 2nd year. We have moved on to the topics that are more application based. Gradually we are slowly moving on to a culture of observing each other while in lesson. Again, we want to start small. We started PLC on the questioning technique, which came from the Chinese department's action research. We got them to do group lesson planning, and later they went on to do group lesson observation– to observe a teacher delivering a lesson. Finally, they do a group critique."

On Autonomy

"I talked a lot about making meaning. I realized that enabling and structuring a routine for staff to reflect on is important. It is important because ultimately, when teachers find the connection between programmes/events and meaning, they will feel empowered to act. The structure for reflection is something like this. First of all, I must know what 'something' is, before I can make meaning of it. For example, in terms of rolling out CCE (Character and Citizenship Education), if I do not find it meaningful at my end, all I will do is to disseminate every circular from MOE, and the teachers carry out their plans in a perfunctory way. But CCE is the whole thing. I need to personally understand what I am trying to drive at with regards to Character and Citizenship Education. What is the end point? What do I want? I tie this to our school values. The key is to develop citizenry and rootedness to Singapore. This is not really new; it is everything that we have been doing! So I first get to understand what it all means from my end and communicate this to all the staff. Then when they implement and infuse it into the curriculum, it is meaningful to them and they have ownership of it. I share with staff the 'procedures' to make meaning using the example above."

"Making meaning is not just about rolling out a programme or initiative. Actually 'making meaning' to me is about finding meaning in the job. If I always have to do things that MOE and the departments tell me to do, I will not find meaning in the job. I will be very tired at the end of the day. I believe that, if I ask people to go home at 1 o'clock, people will start looking at their watches at 12 o'clock. But if they find meaning in the job, they connect with the job, they believe that this is good, and they are in control of what they do. That is meaning. If they do not find meaning in this job, and their job is what other people are telling them to do, they do not find meaning. So meaning is more than just that. They have control. With the level system, they have control over what they want to do and how they want to do it. But it stems from my being confident that they will do their best. The way to do it is to be honest in a situation and put people together such that they will have a good influence on others."

On Staff Appraisal

"I allow staff to arrive at their own meaning instead of insisting on a shared meaning. It is my faith in them. In my previous school and current school, I am even confident enough to let the staff decide on their appraisal criteria because they did it 'meaningfully.' And you will be surprised! It turned out to be what EPMS (Enhanced Performance Management System) was. So it is my faith and belief that they want it like that too. We triangulated the ranking panel, staff and EPMS, and everything fell into place, plus they believe that it is theirs – that is why it is meaningful."

On Teamwork and Staff Development

"The whole is more than the sum of the parts. Teachers have a rich pool of expertise, so the problem is that the leader must always process information and make meaning. I am glad to have good people – the VPs (VP (EO), VP (Admin)), heads – very good people. If I am caught in the daily school operations, I cannot see the big picture. I do not have enough time and energy because time, energy and intelligence are limited. I spend a lot of time trying to see things. I think a lot during my long drive to work, so by the time I come to school, I have a lot of things formulated. For example only when I came to school this morning that I decided to ask VP if he would like to join us today because it is good for his development. I did not think about it earlier."

"So I believe that teachers are a rich pool of expertise. The problem is that everybody pushes us to go for training. I am not saying that training is not good, but everyone returns with multiple, competing directives, and at the end of the day, again it is like the problem with the departments. Eventually you decide not to fight it because no one is able to help in the facilitation and implementation, and everything fizzles out. It is like what Michael Fullan says. So I think there must be synergy."

"Of course I have good people, and a very good SSD. We started our PLC, because I always believe that every teacher must aim to be a ST (senior teacher). Teaching competencies are very important, so we chose 'Skillful Teacher' as our PLC, and the STs will lead. For instance, Chinese teachers learn action research and questioning techniques, and this is tied together into the 'Skillful Teacher' PLC. That is synergy. For 'visible thinking', I want to tie it to 'learning to learn skills and behaviour', where I am introducing metacognition. It is also tied. There must be synergy, so that the whole school moves together, and change is carefully paced."

"The 'Skillful Teacher' PLC takes a certain approach to teachers' learning. The Lead Teacher (LT) and the SSD drive it. You need to have very good people to start with, and obviously the LT is a very good teacher. We started with the first chapter on teachers'

belief. Then we went on to momentum and attention. So the STs, led by the LT and SSD, will first explore and internalize that topic. Then they share it with the rest of the staff on alternate Wednesdays at PLC. For example, if it is about momentum – momentum means that you must have a steady pace when you teach, and once there is a break in momentum children get distracted – and they share practical examples. The levels then go back and discuss, and STs facilitate. This year we took on the approach of group lesson planning."

"Change happens together because of team learning and team support, and it is easiest to create change when everybody goes about as a team. So that is why it is my fundamental belief that the whole is more than the sum of the parts. Firstly, it is about expertise. If everybody tries to develop their own skills, putting them together is just a sum. But if we take it as a whole, there is knowledge creation. The whole is more than just the sum of individuals put together. So this is in our model. That is why we need team learning and team support."

"So our teams are PLC teams, and our level teams. I use these teams because firstly as a group it is easier to bring everybody up. The people who are less motivated can get inspired by people who are more motivated. You feel change, and then change is more easily managed. They are also in touch with ground issues, because heads of departments do not always know what is going on at the lower levels. So at the lower levels, they can solve problems and have innovations at the local level. They feel that they can have a choice to decide what they want to do; for instance P1 learning journey, or how they would want to do this IPW, so long as we eventually come to this value. This is our assessment rubric. So there is a kind of autonomy as well. At the end of the day, it is about recognizing that teachers have a rich pool of resources and expertise."

"To give you a very good example, there was this untrained teacher trainee and she was very ill prepared for the job. I said let us not waste her time and be unkind. Do not pass her because if she goes to NIE [National Institute of Education] and she does not pass, it would really be unkind to her. But the STs worked very closely with her and practically begged me to go for her lesson observation. So I went, and I was so impressed with what the STs did in leveling up a person. So when I talk about synergy, it is not just about the pro-grammes; it is about synergy in our training and development, and everything else."

"In implementing group lesson observation as a professional development practice, we leverage on ICT such as video. Some levels will have face-to-face meetings because they are willing to stay back for one afternoon a week, because they believe in it. Some levels took the video, but I think the P4 or P5 levels stayed back. A lot of things are well-received because it appears to be initiated from the group up, like this PLC initiative. After a while, I do not have to go in, though I am still very involved in the 'learning to learn skills' PLC at this point. Eventually I want it to evolve from the ground up such that they feel that they have ownership of it. I think at the end of the day, leadership is about getting people do things that are sustainable and they feel that they are the ones doing it. Only on further reflection then they may realize that it was my leadership that has made it possible for them to do this. But for something to be sustainable, people have to feel that they are the ones who are doing it, not the leader. So that is the thing that is very important."

On Parents and Community

"Our parental support is something that we struggle very hard for. We have plans to establish an alumni association. But the challenge has to do with the SES profile of families. I have over 12% of families from 1 to 2-room flats, and they do not provide much school support, but they also do not interfere in school matters. For example, other schools may face pressure from parents to give less homework. But for me, if I do not give homework,

parents will try to pay for private tuition outside, even though they can hardly afford it. But this is just like throwing money away. In regards to this, I am glad my teachers share the same belief and they provide a lot of extra lessons. But I try to strike a balance. During the school holidays, I do not want the teachers to give extra lessons, so I engage outside vendors to do holiday programmes, which are optional for children to attend. If parents have better holiday programmes or better after school remedial programmes for their children, they can opt not to attend. But then there are parents who try to stop the school from having this programme, because they have the mentality that other people cannot have it if their children cannot have it."

"Anyway for my school, I do not have many parents who have the means to provide a lot of private tuition such that teachers need not do anything and children can still score well on exams. They usually do not interfere and leave us to do what we think is best for the children. I think this is our opportunity. Initially when I first entered the school, parents did not know me and they were the most difficult. But when they saw that I was able to do things, and they see their children very happy about school, they do not interfere with us very much."

"We do an open house for P1 orientation. Another thing we do is to invite parents to school during Mid-Autumn festival. For Meet the Parents sessions, I tend to just preach to the converted. Parents that you want to see do not come. Teachers are different nowadays, they also know how to work with parents well. So parents have confidence in them."

"Our PSG [Parent Support Group] is made up of non-working parents, and they are not able to contribute in some ways – there are very few who can do things independently. Usually they accompany children for field trips, or help to sell things on Mother's Day, or help us with Fruity Veggie Bites and so on. But it is not easy to initiate programmes or activities, or to get them to lead programmes."

On 'What do staff say about you as a principal?'

"Sometimes teachers dare not see me and they see the VPs instead, which is not so nice. I think very fast, and I am very clear, so sometimes I do not communicate as well, and they may see me as impatient. None of them have told me that, but I think they see me as impatient. Sometimes they say that they cannot follow my thoughts and may leave a meeting not completely sure of what I want, yet are afraid to ask for clarification. But I think they do appreciate the things that have been going on here. I think they feel that I care for them. As for students, Primary 6, Primary 5 children always have blank faces. For Primary 1 to 4 children, once I pay some attention to them, they will like me. Young children are like that. It is not hard to win children over. You can win them over by being friendly to them. It seems as though being a principal is very easy, right?" [Principal]

"I think my principal is very focused. There is always clarity of thought. In terms of strategic planning and thinking, she really engages our minds, our energy and our actions all towards that target, so we will not run around aimlessly. I think that is a key strength of our principal. And she does not do things just for the sake of doing; she focuses on the importance of teaching and learning, which is our core business. Once we get that right, I think the rest of the things will fall into place very nicely. I believe students and teachers will share the same sentiment as me. Surprisingly, the number of teachers getting pregnant has also gone up." [Vice-Principal]

2.6   Discussion

Our study reiterates the forces or factors that influence Singapore principals' instructional leadership practices. These key forces are globalization, localization, and personalization.

2.6.1   Globalization

The influence of globalization on Singapore principals' leadership approach can be seen in the role of vision development. Singapore principals are acutely alert to the international educational trends in setting the vision and goals for their schools. They establish or revise the school vision and goals according to the needs of the twenty-first-century learners. The 2015b review of Ng et al. revealed some commonalities in defining vision for students in Singapore schools. These commonalities include an attention to holistic education and ICT proficiency. This current study further reinforces the findings of Ng and his colleagues. Moreover, we wish to argue that a focus on holistic education and developing students in the area of technology is aligned with the international educational trend. It should be noted as well that Singapore is a small country, which might be heavily susceptible to the forces of global change (OECD 2011). Being attuned, Singapore principals must adapt to the changes in the world.

2.6.2   Localization

National culture: long-term vision, pragmatism, and consideration

The previous studies have suggested culture as a noteworthy factor that influences leadership practices among Singapore principals (Stott and Low 2000; Sharpe and Gopinathan 2000; Ng et al. 2015a). The current study additionally specifies the leadership styles of Singapore principals that reflect the characteristics of the local culture: long-term vision, pragmatism, and consideration. These three characteristics go hand in hand to form Singapore principals' leadership styles. Interviewed principals emphasized vision development and setting a long-term direction, and simultaneously take a pragmatic perspective to establish yearly goals. For example, the long-term vision involves targeting at holistic education, while increased academic results are reflected in the year goals. It should be noted that benchmarking is a common practice in Singapore schools.

Despite adopting pragmatism through organized structures, principals regarded relationship building and care for staff and students as key to success. Moreover, relationship building and care for people pertain to "consideration". This finding, coupled with those in the previous studies (see Ng et al. 2015a), suggests that effective principals usually have a good balance between long-term vision and pragmatism, and initiation of structure and consideration. Although having such a

balance may create tensions or paradoxes for principals themselves, it can be feasibly implemented.

National Policies and Initiatives

Another factor influencing principals' instructional leadership practices, particularly vision building, is "cornerstone" national policies and initiatives. These include broad-based holistic education, bilingual policy, Teach Less Learn More, and 21st Century Competencies. Principals emphasized the importance of a strong alignment between policies and their implementation at the school level. According to Organization for Economic Co-operation and Development (2011), there is less gap between policy-making and implementation in Singapore than that in many other countries, though the small size again seems to help the implementation of initiatives and policies more effectively.

School-Contextualization

Principals exercised all identified broad roles of instructional leadership, irrespective of their school contexts (i.e., school location, student achievements, and student demographics). However, the enactment mode of such roles is influenced by contextual factors. This influence is particularly explicit in the role of mission and vision building. As mentioned in the "developing vision" subsection, principals who started their principalship in a school that had been consistently reputed for academic outcomes tended not to change the school vision, but tried to ensure the alignment between school activities and vision. Our study is not the only to assert this finding; well more than two decades ago, Bamburg and Andrews (1991) attributed school context as a notable factor influencing principals' roles in developing mission.

Personalization

While "globalization" and "localization" forces are reported to have a substantial influence on principals' vision development, "personalization" factors are influential to a certain degree on principals' direct involvement in managing classroom instruction and teacher professional development. These "personalization" factors refer to principals' educational background, philosophy of leadership, and (previous) mentors/peers.

2.7 Conclusion

This chapter sets out to provide a first-hand account of principal instructional leadership in Singapore context. This was a deliberate effort to fill the knowledge gap of instructional leadership in non-Western societies. Singapore's model of instructional leadership suggests that principals maintain a high level of oversight on the school's direction and vision. This is reflected where all the school's

instructional processes, programs, and activities are deliberately organized to achieve the school vision, educational policies, and initiatives.

2.8 Questions for Reflection and Discussion

1. To what extent do you think the principal is or is not an effective instructional leader?
2. Is Southworth Primary an effective school? Give your reasons.
3. What can schools do to promote the overall achievement of all pupils (other than just examination results)? In addition, what are the limits of what schools can do?
4. How does the pressure for change enter into the need to implement a plan for action that takes into consideration the varying needs and interests of stakeholders (staff, students, and school administrative personnel)?
5. What ought to be the priorities for the principal in improving the school? Why?
6. What further research can be done to help school leaders function better as instructional leaders?

References

Bamburg, J. D., & Andrews, R. L. (1991). School goals, principals, and achievement. *School Effectiveness and School Improvement, 2*(3), 175–191.

Barber, M., & Mourshed, M. (2007). *How the world's best-performing schools systems come out on top*. New York: McKinsey & Company. Retrieved from http://www.smhc-cpre.org/wp-content/uploads/2008/07/how-the-worlds-best-performing-school-systems-come-out-on-top-sept-072.pdf.

Borja, R. R. (2004). Singapore's digital path. *Education Week, 23*(35), 30–36.

Denzin, N. K. (2001). *Interpretive interactionism*. Thousand Oaks, CA: Sage Publications.

Dwyer, D., Lee, G., Rowan, B., & Bossert, S. (1983). *Five principals in action: Perspectives on instructional management*. San Francisco, CA: Far West Laboratory for Educational Research and Development.

Elmore, R. (2004). *School reform from the inside out*. Cambridge, MA: Harvard University Press.

Fullan, M. (2006). *Change theory: A force for school improvement*. Centre for Strategic Education, Series Paper 157. Retrieved from http://www.michaelfullan.ca/Articles_06/06_change_theory.pdf.

Glaser, B. G., & Strauss, A. L. (1967). *The discovery of grounded theory: Strategies for qualitative research*. New Brunswick, NJ: Aldine Transaction.

Goldring, E., & Greenfield, W. (2002). Understanding the evolving concept of leadership in education: Roles, expectations and dilemmas. In J. Murphy (Ed.), *The educational leadership challenge: Redefining leadership for the 21st century*. Chicago, IL: University of Chicago Press.

Gronn, P. (1986). Politics, power and the management of schools. In E. Hoyle (Ed.), *The world yearbook of education 1986: The management of schools* (pp. 45–54). London: Kogant Page.

Gronn, P. (1999). *The making of educational leaders*. London: Cassell.

Gronn, P. (2003). *The new work of educational leaders: Changing leadership practice in an era of school reform*. London: Paul Chapman.

Hallinger, P. (2000). *A review of two decades of research on the principalship using the principal instructional management rating scale*. Paper presented at the annual meeting of the American Educational Research Association. Seattle, WA.

Hallinger, P. (2003). Leading educational change: Reflections on the practice of instructional and transformational leadership. *Cambridge Journal of Education, 33*(3), 329–352.

Hallinger, P. (2005). Instructional leadership and the school principal: A passing fancy that refuses to fade away. *Leadership and Policy in Schools, 4*(3), 221–239.

Hallinger, P. (2007). *Research on the practice of instructional and transformational leadership: Retrospect and prospect*. Retrieved from http://research.acer.edu.au/research_conference_2007/7.

Hallinger, P., & Murphy, J. (1985). Assessing the instructional management behaviour of principals. *The Elementary School Journal, 86*(2), 217–247.

Hallinger, P., & Murphy, J. (1986). The social context of effective schools. *American Journal of Education, 94*(3), 328–355.

Hargreaves, A., Earl, L., Moore, S., & Manning, S. (2001). *Learning to change: Teaching beyond subjects and standards*. San Francisco: Jossey-Bass.

Harris, A. (2002). Effective leadership in schools facing challenging contexts. *School Leadership and Management, 22*(1), 15–26.

Heck, R. H., & Moriyama, K. (2010). Examining relationships among elementary schools' contexts, leadership, instructional practices, and added-year outcomes: A regression discontinuity approach. *School Effectiveness and School Improvement, 21*(4), 377–408.

Horng, E., & Loeb, S. (2010). New thinking about instructional leadership. *Phi Delta Kappan, 92*(3), 66–69.

Leithwood, K., Louis, K. S., Anderson, S., & Wahlstrom, K. (2004). *How leadership influences student learning*. Center for Applied Research and Educational Improvement and Ontario Institute for Studies in Education.

Lofland, J. (2006). *Analyzing social settings: A guide to qualitative observation and analysis*. Belmont, CA: Wadsworth/Thomson Learning.

Louis, K. S., Leithwood, K., Wahlstrom, K., & Anderson, S. (2010). *Investigating the links to improved student learning: Final report of research findings*. New York, NY: The Wallace Foundation. Retrieved from www.wallacefoundation.org/knowledge-center/school-leadership/key-research/Pages/Investigating-the-Links-to-Improved-Student-Learning.aspx.

Masdawood, J. (1990). *Principal and teacher perceptions of the principals' instructional leadership role in primary schools*. (Unpublished Master's thesis), National University of Singapore, Singapore.

Ng, F. S. D., Nguyen, T. D., Wong, K. B. & Choy, K. W. (2015a). A review of Singapore principals' leadership qualities, styles, and roles., *Journal Of Educational Administration*, *53*(4), 512–533.

Ng, F. S. D., Nguyen, T. D., Wong, K. B., & Choy, K. W. (2015b). Instructional leadership practices in Singapore. *School Leadership and Management, 35*(4), 388–407.

Ng, F. S. D, Wong, B., Choy, W., & Nguyen, D. T. (2014). *Instructional leadership in Singapore and East Asia: A cross-cultural collaborative research study* (research project funded by National Institute of Education, Nanyang Technological University, Singapore). Manuscript in preparation.

Organization for Economic Co-operation and Development (2011). Singapore: Rapid improvement followed by strong performance. In OECD (Ed.), *Lessons from PISA for the United States* (pp. 159–176). Paris: OECD Publishing.

Sharpe, L., & Gopinathan, S. (2000). Leadership in high achieving schools in Singapore: The influence of societal culture. *Asia Pacific Journal of Education, 20*(2), 87–98.

Spradley, J. P. (1979). *The Ethnographic Interview*. New York, NY: Holt, Rinehart and Winston.

Stott, K., & Low, G. T. (2000). Leadership in Singapore schools: The impact of national culture. *Asia Pacific Journal of Education, 20*(2), 99–109.

Strauss, A., & Corbin, J. (1998). *Basics of qualitative research: Techniques and procedures for developing grounded theory* (2nd ed.), Thousand Oaks, CA: Sage Publications.

Curriculum Leadership

3

Christina Lim-Ratnam

Abstract

The narratives of three principals were used to make sense of what is involved in curriculum leadership, particularly in the Singapore context where decisions such as selection of content, skills, values, and standards for evaluation are centrally made. The three principals were purposively selected based on the following contexts: an established school that has a long tradition of excellence in achievement at the national examinations; a new primary school; and a school that caters to academically low ability students. Their narratives show how each principal exercises curriculum leadership by defining their conception of curriculum, articulating their own curriculum mission and vision, and building the curriculum culture of the school.

3.1 Introduction

In this chapter, the narratives of three principals have been drawn upon to make sense of the driving force behind curriculum leadership. What is involved in curriculum leadership? It may seem that the curriculum is a 'given'—'something never to be questioned, just accepted, "covered", and implemented' (Shaw 2012, p. 5). This is especially so in an education system wherein curriculum decisions and policies tend to be centrally driven. Singapore's education system has been characterised as centralised and standardised, with bureaucratic alignment (Sharpe and Gopinathan 2002). In Singapore, the Ministry of Education (MOE) publishes the syllabi for all the subjects taught in schools. These syllabi contain the desired

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outcomes, detailing content, skills and values for each subject. Recently, MOE also publishes a teaching guide in tandem with the syllabus for each subject. At the end of 6 years of primary school education, all students in Singapore take the Primary School Leaving Examination (PSLE). There are other national examinations that students have to take at the end of their secondary school education. The Singapore Examinations and Assessment Board (SEAB) is a government statutory board that develops and conducts these national examinations in Singapore, and develops the examination syllabus for each subject. Since decisions such as selection and scope and sequence of content, skills, values and standards for evaluation are centrally made, how much autonomy does a principal have in exercising curriculum leadership?

This top-down approach in planning, disseminating and enforcing educational changes (Goh and Gopinathan 2008, p. 25) had served the nation well in the early years of nation-building and survival (Gopinathan and Mardiana 2013). Such a view of the curriculum in terms of content and transmission, however, would be detrimental for survival in the fast-changing globalised world of the twenty-first century (Ferrandino 2001; Priestley and Humes 2010). To survive and prosper in the future—particularly within increasingly globalised socio-economic conditions —the education system would need to foster dispositions of flexibility and innovation (Deng et al. 2013, p. 4). MOE has thus embarked upon extensive reform efforts in order to devolve decision-making power to local schools (Ng 2005), allowing for autonomy on the part of the practitioners in the field to interpret the goals and desired outcomes, and to innovatively plan and support pupils' rich learning experiences (Hargreaves et al. 2012). Moving from 'one size fits all decisions made by MOE for all schools in Singapore, schools are now much more active in decision making for themselves' (Tan 2008, p. 8). As noted by Tirozzi (2001), the principal of the twenty-first century—

> establishes a climate for excellence, puts forth a vision for continuous improvement in student performance, promotes excellence in teaching, and commits to sustained, comprehensive professional development for all staff members. The principal ensures that curriculum, instructional strategies, and assessment of student progress are coherent components in the teaching and learning process. In short, the principal engages herself or himself as an instructional leader (p. 435).

In view of this new policy trajectory that Tan and Ng (2007) have characterised as 'decentralised centralisation', Singaporean school leaders are more recently discovering, exploring, constructing and articulating their role in exercising curriculum leadership in their schools. As such, autonomy is still rather new to the Singaporean education culture, coupled with the onerous and demanding work of school leadership, it is not surprising that not much research has been done and written about how Singaporean principals view and carry out curriculum leadership. This is also compounded by the nebulous nature of curriculum leadership. As Hairon et al. (2017) pointed out:

> There is still no official definition for curriculum leadership, and the attempt to understand the concept of curriculum leadership is likened to the story of 'The Elephant and the Blind Men' (Sorenson et al. 2011). *Each of the six blind men touches different parts of the elephant and defines curriculum leadership differently depending on the part of the animal that was touched (p. 11).*

To give us a frame of reference, it may be useful to consider curriculum leadership by referring to the literature on each of the words. Though there are diverse definitions of the word 'curriculum', there is general consensus (Eisner 2002; Marsh 2009; Posner 1998; Tyler 1949; Schwab 1969) that it can be conceived as

1. The intended or explicit curriculum, usually formally stated as national policies and in documents such as syllabuses;
2. The enacted curriculum or what is taught, usually guided and informed by departmental schemes of work and schedules and textbooks and instructional material and
3. The experienced curriculum, including the learning and assessment experiences, as well as the 'hidden' messages that are implicit in these experiences.

The definition of the term 'leadership' is just as diverse, ranging from types to styles of leadership. For the purposes of this chapter, I have chosen to look at the roles of leaders as explicated by Sergiovanni (2009):

1. The technical leader who ensures optimum effectiveness and proper management of the school;
2. The human leader who nurtures and supports the social and interpersonal potential of the school;
3. The educational leader who manifests well-informed professional knowledge of matters of pedagogy and education;
4. The symbolic leader who models and signals the values of the school and
5. The cultural leader who builds and nurtures the unique identity of the school.

The purpose of this chapter is to draw from the narratives of three principals to understand how they exercise their curriculum leadership within such 'decentralised centralisation'. How do they negotiate a mandated curriculum, and yet exercise curriculum leadership in constructing curricula according to the unique context of each school?

3.2 Method

The case study method provided thick descriptions on how each principal exercises curriculum leadership by:

1. Defining their conception of curriculum;
2. Articulating their own curriculum mission and vision and
3. Building the curriculum culture of the school.

The three principals were purposively selected based on their unique school contexts. Each context would have its own demands, expectations, dilemmas and tensions that call for each principal to negotiate and exercise curriculum leadership differently from others. The first case school is an established secondary school that has a long tradition of excellence in achievement at the national examinations. In such a context, the principal may feel pressured to maintain the status quo. The second case school is a new government primary school. In such a context, the principal would have to make a lot of decisions, starting from scratch, yet with a view to being distinctive among the other more established schools nearby. The third case school is a school that caters to academically low ability students. I was interested to explore how the principal would construct the curriculum to meet the challenges that are unique to this school. The three principals were invited to participate in the study, and they gave their informed consent. While it was possible to ensure anonymity for the first two cases as there are a number of schools within each of these contexts, it was impossible to do so for the third school. Pseudonyms have been used for the principals. Each principal was interviewed once, with the interviews lasting from 100 to 150 min. The interviews were audio-recorded and transcribed verbatim. The transcripts were then systematically coded to generate relevant themes. The draft of each principal's case was sent to them for member checking.

3.3 Case Study 1: Curriculum Leadership in an Established School

Mrs. Chen is a Principal in a secondary school that has a long history. The school is an autonomous school, which is indicative of its popularity as a school of choice. Through the years, its students have excelled academically at national examinations with value-added performance. The school has been conferred many national awards, including the School Excellence Award, which serves as a mark of distinction for schools that have achieved overall systematic excellence in both academic and non-academic outcomes.

3.3.1 Autonomy in Exercising Curriculum Leadership

As the school is part of the 'mainstream' education system, it would be guided by the subject and examination curricula set by the Ministry of Education (MOE). Would this constrain the extent to which Mrs. Chen is able to exercise curriculum leadership? Mrs. Chen feels that she has flexibility in designing the curriculum in the school, as she feels that a school curriculum is about preparing students for life. This is a big 'umbrella' that encompasses several aspects, both academic and non-academic. While conceding that the relevant departments in MOE would

design the syllabi for the various subjects and examinations, Mrs. Chen feels that the school decides on other aspects of the overall school curriculum.

> The 'O' Levels[1] examinations is only one part. As a leader, I consciously perceive the definition of curriculum as more than just the syllabus, more than just the examinations, more than just the academic subjects. I believe in a holistic curriculum. To me, a holistic curriculum involves BOTH the academic rigor, as well as the character and citizenship education part. There are the 21st century competencies we want to develop in the students. So with reference to these different areas, I see quite a bit of autonomy as a school leader in how I want to see the curriculum enacted in my school.

Even with the non-academic aspects, Mrs. Chen sees the frameworks and plans that MOE provides (such as the Character and Citizenship Education (CCE) Framework[2] and the ICT Masterplan[3]) as broad directions and resources that provide support to the school. These are broad strokes for the general and long term. The details in the curriculum design, however, have to be customised according to the particular profile of the students in the school. Such decisions can only be made at the school level—'On the ground, how I see it happen for the students of my school's profile is a call that I make. It is a decision that we make as a school'. The curriculum that Mrs. Chen envisions for her school

> will always reflect the confidence we have in our students' ability, and our aim to prepare students for the challenges of the future. We continually blaze new trails for our students to discover new learning opportunities that will enable them to be wholesome individuals who believe in themselves and what the future can offer them.

She articulates this curriculum vision in her Foreword of the school's website, which espouses a holistic curriculum that is student centric, and emphasises both curricular and co-curricular programmes. The intention is to develop students to be well-balanced scholars, responsible and gracious citizens, having strong character and potential for leadership, and be able to learn and work collaboratively, and endowed with twenty-first-century skills and dispositions.

The exercise of autonomy in curriculum leadership could also be constrained by school context and culture, especially with 'established organizations'. As the school has a long history, with an excellent academic track record, did Mrs. Chen feel that she should not 'rock the boat' and just 'maintain status quo' when she took over the helm?

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[1]The 'O' Levels examinations refers to the Singapore-Cambridge General Certificate of Education (Ordinary Level) Examination which is jointly administered by MOE, Singapore and University of Cambridge International Examinations (CIE). It is a national examination taken by the majority of Singaporean secondary school students at the end of their secondary school education.
[2]The Character and Citizenship Education (CCE) Framework, incorporating National Education, Co-Curricular Activities and Civics and Moral Education, was launched by MOE in 2011.
[3]The Information and Communication Technologies (ICT) Masterplan in education is managed by the Educational Technology Division of MOE.

When I took over, I was conscious that I am not here to change everything. My predecessors have established very good foundations and it is on these foundations that I build. I see it as a continuum and each school leader builds on the good work that has been done in the previous term. That has to be. If not, I really pity the teachers. You ask me if I changed the school vision, mission and values. I left them as they were. You cannot keep changing the school vision every four, five years, so I left it. But how you interpret and unpack the vision has to be consistent with the prevailing context, so that was the approach that I took. And really, my predecessors have left an excellent school for me to lead so all the credit goes to them for laying the foundation.

After LEP,[4] I was assigned to the school as VP. During LEP, people always say, when you go to the school, you don't touch anything for one year. Watch things go by, make small changes here and there. But the reality on the ground is, when I came into the school in September, I knew I was taking over the helm in December, and that the school would be undergoing EV[5] (external validation) two years later. That would mean I can't wait for one year to make any changes, because then it would be too late to actually do stuff. So it was a decision I needed to make whether or not to just let the school's previous strategic thrusts continue, or start an envisioning process with all the teachers by November of that year. It was a decision I had to make and at that point I recognized that it would be more useful to do it earlier than later.

It helped that in November my predecessor spoke to me and gave me the freedom and assurance to do what I thought fit. She gave me a tip: that the school was envisioned to death. Every time there is a new school leader you get the whole thing all over again. I felt for the teachers so instead of the usual envisioning exercise I adopted a futuring approach. I got the teachers to consider what the realities our students are going to face beyond the 'O' Levels, what are the underlying goals we serve as teachers, and eventually we made certain decisions with reference to how we would conceive of the curriculum moving forward. When we looked at the strategic thrusts that the school already had, we found that we could converge the seven thrusts into a single strategic thrust that merges CCE with the Instructional Programme.

As the school had established a very good reputation, with a student population in the 80th percentile of the Primary School Leaving Examinations, one would expect that the students and parents would exert pressures based on certain expectations. Would this serve as a constraint to the autonomy of curriculum decisions made by the Principal?

First of all, I feel the tension myself. I spent 9 years at a top junior college as a teacher. I felt it was my responsibility for them to get As for their 'A' Levels so they could move on to a university course of their choice. So I am very clear about what my core business is, with reference to the responsibility to ensure that our kids do well in the exams. I never once told the teachers that was not important. That is my own belief.

During the futuring exercise, I put forth an assumption. Then, some teachers were thinking we should offer IP (Integrated Programme[6]). At the back of my mind, I looked at the landscape and thought that it was too saturated with IP schools, and there is a place for a rock-solid school offering 'O' Levels. But I didn't tell the teachers what was on my mind.

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[4]The Leaders in Education Programme (LEP) is a course jointly organised by MOE and the National Institute od Education (NIE) to prepare candidates for school principalship.

[5]The School Appraisal Branch of MOE conducts External Validation (EV) exercises as part of a system of school evaluation.

[6]The IP course would offer a 6-year programme instead of 4 years, with the end point being the 'A' Levels instead of 'O' Levels which is the end point of secondary school level.

Instead, I asked the teachers, "What if we were going IP?" I wanted them to think what they could do if 'O' Levels were removed, what would it look like, because if I don't remove that, the teachers are constantly shackled. Every time they think of curriculum innovation, they would come back to "but this will get in the way of preparing for the 'O' Levels"; "no time - we need to finish the syllabus". We get so shackled that we don't think anything is possible. The "buts" keep coming, so to get on with the scenario planning exercise, I put forth the "if we were going IP, what will you envision" scenario, and collectively as a staff, we came collectively to what I call Vision 2025 – our vision for our school by 2025.

But at the back of my mind, I knew I did not want to go IP, and that the system does not need more IP schools. I knew it would make it easier if the 'O' Levels are not there, but looking systemically, the school did not need to go IP. I introduced the new idea of the 'O' Levels Enhanced programme, meaning to say the rigor of an 'O' Levels programme with the breadth and exposure that kids will get in an IP school. I recognised that there is a pecking order of school choice. I am very realistic. If your T-score[7] is about 248 or 250, your first five choices are probably IP schools, which is fine. If I were a parent, I might do the same. If they cannot get into an IP school, they come to me. These are the students who have the capacity, the capability, but unfortunately they are not IP. But that does not mean I cannot give you a holistic education that you may also get in an IP school and I have the additional advantage of the rigor of the 'O' Levels.

This was how we eventually decided that we wanted to brand ourselves in that way to offer a holistic curriculum. It has taken some time. The teachers are very clear I am not saying "no 'O' Levels". I am saying that even with the 'O' Levels exams at Sec 4, it should not stop us from providing a well-rounded, holistic, rigorous curriculum. The 'O' Levels are never out of view. I never once let my teachers think that I want them to swing to the other extreme because I know that is still my core business. That is the tension I feel. I tell them I feel the same tension. I think that assures them as well, because they know I'm being realistic.

This is also what I communicated to the parents. Ever since I came into the school, I always get asked the question "Are you going IP?" at every Sec 1 meet-the-parents session. I tell them point-blank – we are not but this is the 'O' Levels Enhanced curriculum that we offer. So when they first come in, in the first week of Sec 1, I ask how many are appealing and about 50% would appeal. I am fine with that and I wish them all the best because I also have a whole list of pupils appealing to come in. I am totally open-door. If no IP school is willing to take you, you are welcome to join us because I am very confident of the curriculum that I offer. I don't clamour for students with high T-scores as they are not accurate predictors. I want students who want to be here and I am very confident that the holistic curriculum that we offer would develop them accordingly.

That really is the definition of "every school a good school". It means we do "good stuff" with you, whoever who wants to come to me, at Sec One, whether you are an appeal-case or not, DSA[8] or not. Once you come into Sec One, it is a level playing field. The holistic curriculum is yours to enjoy. If all your students come in with 260, if you don't do good stuff with them or if they are not doing good stuff, there is something wrong with the school. We don't judge people based on T-score.

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[7]The overall performance at PSLE of a student is reported in terms of an Aggregate Score. This aggregate score is derived from the T-scores (i.e. Transformed Scores) in all the subjects sat, which must include the three subjects—English Language, Mathematics and Science.

[8]The Direct School Admission (DSA) exercise is an admission exercise to allow participating secondary schools to select some Primary 6 students for admission to Secondary One. The selection is based on their achievements and talents before the PSLE results are released.

3.3.2   Leadership in the Curriculum Decision-Making Process

Taking on leadership over an established school has its challenges of engaging staff who may be rather wary towards any change. As mentioned earlier, Mrs. Chen's predecessor had warned her that the staff had gone through numerous envisioning exercises, and may be weary about the process. How did Mrs. Chen lead in the 'futuring' process? Did she have a plan in mind, or did she want the teachers to come up with the ideas themselves?

> With reference to the direction of the school, of course, I did already have a broad direction that I wanted to bring the teachers and school to. I wanted to get them to recognize that as a school, we need to go in that broad direction – holistic education.

> But I also wanted their ownership. I wanted the teachers to think, "What does holistic education look like?" So, for the 'futuring' exercise that we did in November, I asked them to work in groups to think about the possibilities in one of the following realms: of 21st CC[9] learning, CCE, IP, and technology. So what happened then was a discourse that was entirely the teachers'. What I got at the end of that session was a whole diversity of different scenarios that the teachers had envisioned for the school, and then to draw them altogether into a certain direction that we wanted to head towards. The direction is quite apparent with reference to where we want to move our education system. It does not deviate very much because I think the core philosophy of education is there; we are all fairly aligned there.

> Then we took what the teachers surfaced up at EXCO[10] level. We fleshed it out a lot more and eventually converged on certain things, which were drawn from inputs from the teachers, but it was pretty much what I had envisioned. There was congruence. I then put it back to the teachers at the end of the year.

How much can you change at an 'established' school that offers the prescribed curriculum set by MOE? What value could such a 'futuring' exercise add to the existing curriculum?

> Yes, the content of the subject curricula is discipline-based, and you can't change much there. For some of the subjects teachers had also developed some integrated curricula across secondary 1, 2 and 3 but it was still very academic.

> So, for the 'O' Levels Enhanced curriculum that we offer, I wanted the teachers to understand that while we still offer a rigorous curriculum that prepares students for the 'O' Levels, we need to bring the students beyond the 'O' Levels, to equip them with a lot more skills than just being able to do well in the 'O' Levels. So, while you need a fair amount of direct-instruction and drill and practice for the students to do well in the 'O' levels, the question I put forth to them is how **effective** is your direct instruction? I needed the teachers to reconsider how they were doing the teaching and learning. While direct instruction has its place, were they mistaking quantity (through drill and practice) for quality (achieving deep learning)? How do we know that with all our telling (direct instruction), the students are truly learning and have understood? So these were issues that I put forth to the teachers under the guise of "what if we go IP?" so that they could dream beyond the 'O' Levels.

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[9]In 2009, the MOE launched the 21st Century Competencies (21st CC) and Desired Student Outcomes.

[10]In many schools, the principal, vice-principals and heads of department form an executive committee commonly referred to as 'the EXCO'.

A one-off two-day 'futuring' or envisioning exercise is not enough. It is but the tip of the iceberg of a 'slow but consistent shift'.

> So during the first year, it was still "What if we were to go IP". I established a small committee, what I called the think-tank, to spearhead some things with the intention that if we were to go IP, perhaps these are some of the things we should do. So that was how I gently got the teachers to shift a little bit. Along the way, things became clearer to me with reference to how the school was already doing 21st Century Competencies. What I really wanted to change was with reference to how the school was implementing the 21st CC curriculum. They were not implementing it but assessing it. This was what was happening. My burden was if you don't teach it, how can you assess it?

> So at that point I got into contact with some friends from (a certain research institute) and they had a particular People Development framework to guide teachers in designing lessons that develop 21st CC. We got them in, trained the teachers and eventually the 21st CC tightened and became another key curriculum innovation we wanted to propagate in the school.

> So it took one whole year of going on the ground, talking to people more open to change, getting them to work with that, convincing teachers who did not want to change to make small incremental steps, working with what the school was already doing with curriculum innovations, sharpening that, building on strong foundations.

3.3.3 Leadership in Curriculum Implementation

Besides leading in the early planning stages, what other curriculum leadership roles does the principal play, for example, at the implementation stage? What is the role of the principal vis-a-vis the heads of department, who are the subject specialists? Mrs. Chen sees her role as guardian of the broad teaching and learning framework which provides the guiding considerations with reference to how things are done in the school. How does she play this role?

> All my HODs report to me. I do work review with them. If you do not have a pulse on what is happening on the ground, how do you run the school? I want to be directly in touch with what is going on in all the departments. When I do the review and performance planning with all the HODs we talk about things that really matter, in terms of the academics, in terms of CCE, and in terms of the use of technology. I work through the action plans with them. Talking to the Heads helps me to establish a common understanding across all the departments in the school.

Mrs. Chen believes that the key to implementing the curriculum is to work closely with the middle management. There are at least three points in the year where she talks to the HODs one on one, at length for at least an hour a session, talking through things. At such discussions, as well as the monthly EXCO meetings, she establishes certain guiding philosophies which form the foundation for her narrative.

> I am also very deliberate about the tone of the school environment that I want to establish. I am a control freak about the narrative. The principal should control the narrative, which is what you say at morning assembly, at staff meeting, at EXCO meetings. It is a narrative that

has to be consistent. These are things I had time to think through at LEP. For example, Instead of just looking at the academic results, I look at the student. Instead of just focusing on whether you are getting your 6A1s or 7A1s,[11] I look at effort and character and holistic development. These are things that would be words in a policy statement but these are things I believe in. And therefore as a school leader, I want to make sure my narrative is consistent with what I believe in. For example, if I say it is a holistic curriculum and I am not chasing after results, I mean it. When I talk to students, I never once scold them about their common test results. I go to every Sec 4 class and talk to them. And constantly the narrative I put forth is not about the results. At the end I don't really care what results you actually emerge with but from now till then, part of character development means this is the goal, so let's find the resilience and go for it. So next year, when you come back with your results,[12] then we decide on what is next. That is the narrative I keep reinforcing, about character and about holistic development.

Even with my teachers, I say we are about holistic curriculum. If our 'O' levels results dip a little bit, the whole world watches what the principal says. So if my narrative has been about holistic curriculum, and if the moment the results drop I come in and say let's cancel everything else and just make sure our Sec 4s end CCA[13] in February from the beginning of the year, then I undo the testimony and narrative that I am very deliberately establishing. So when we analyse the results, it is not about the one percent or two percent drop, but I articulate that as a school, we are committed to getting our students to a junior college of their choice. Therefore, we need to ask ourselves what have we done, and whether we could do better. If we can do better, let's do better. It is the tone and it is a conscious tone. So when the results drop, even the EXCO watch. I have to be very careful that it was not about the results. When I was upset about certain things, it was not because the results dropped but it's just the grief of whether we could have done better by our students. The analysis of results has to be framed from that perspective. Could we have done better? Could we have done more in terms of the care and motivation of the students? Please review the way you are working with the kids. Please review if you are teaching them the right way. I focus a lot on these things rather than the fact that results dropped.

How does Mrs. Chen remain consistent in this philosophy? Have there been times when there are slips in her narrative?

I truly believe it should not be about the results. So when the results dropped, I really believed that we really want to focus on the students and make sure we do justice by them. It is not something I felt I needed to say. It was who I am. Do I feel the pressure of accountability? Obviously, yes. I am responsible for everything that happens in school. So I must be absolutely convinced and sure about what I believe in, and stand by my convictions, so that I have an answer when called for.

I believe you lead the way you are because if not you will be really miserable. I am as transparent as what you see is what you get. I do not play games with the teachers. I am all the values that I walk. I am this. I am who I am. I do not put on a front in front of the teachers. I think you have to be transparent in front of the teachers for them to trust you.

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[11]The A1 grade is the top 75th percentile.

[12]As the students sit for the 'O' Level examinations at the end of the calendar year, they receive their results in the next year. As they would have left the school after the examinations, they have to return to the school the following year to get their results.

[13]Every secondary school student takes part in one Co-Curricular Activity (CCA) taken from the following options: clubs and societies, physical sports, uniformed groups, visual and performing arts.

3.4   Case Study 2: Curriculum Leadership in a New School

Mr. Yeo is a very experienced educator, who has held various positions in schools and MOE. He had been a principal of a primary school before he was asked to set up a new school. His staff was still growing as the school is serving only two levels (primary 1 and 2), so the culture of the school was still developing. Many changes were happening, as everything was new, affording him ample opportunity to exhibit curriculum leadership, unlike in an established school already flushed with resources, standard operating procedures and trained staff.

Where the academic curriculum of the school is concerned, Mr. Yeo emphasises that 'we're very clear that teaching learning is indeed the forefront of our business'. As there is a national examination at the end of 6 years of primary education, MOE has set very clear and detailed guidelines. The school makes these expectations clear to the parents and teachers at the start. 'We put together a handbook that actually spells out all the different syllabus requirements by MOE'. So, while the academic curriculum tends to be prescribed by MOE, Mr. Yeo explains that he sees himself exercising curriculum leadership in three Cs-culture, climate and community.

3.4.1   Curriculum Leadership in Building Culture

By 'culture' Mr. Yeo means the philosophy or 'whole ethos underpinning our belief of what teaching learning is'. This means 'espousing beliefs in terms of what we think the learner is, because this affects how we view learning and teaching, and helps the teachers to frame their work around the philosophy'. Given the challenge of starting a brand new school in a neighbourhood that already had other popular primary schools, Mr. Yeo felt the most important step he had to take was to establish a culture that is unique to the school.

> I wanted to be very clear why the school was started. With so many schools in the neighbourhood, why do we need to start a new school? How is this school different from the other schools? I also need to be convinced myself that I had something to offer to parents. Otherwise why would parents want to choose a new school? So we needed something as a rallying call, to champion the curriculum, to say we can offer a new brand of education.

> So, this culture is for the long term – it helped us, the pioneers of this school, to frame our mission, vision, values and motto. It's our brand. It even helped us to design our school crest and school song – yes, even the lyrics of our school song, so that it becomes part and parcel of our daily life and routine – that's the school climate. So it's all interlinked – the school culture is reinforced by the daily school climate and the community.

How did Mr. Yeo lead in the design of the culture?

> Actually, when I was Principal in the other school, I had heard of this particular curriculum for a positive education. So, I read up about it, and I even visited a school in Australia that started this five years ago, and went for some training on it. That was one year before I was appointed Principal of this school. So, I had an idea of the philosophy of the culture of this school.

> So, as the Principal, I gave the idea the seed of the philosophy, the goals that I want, and the teachers fleshed it out. Because I want to honour the practitioner. They need to believe in it, not just carry out somebody else's programme. Positive education will only work if the teachers internalise it, accept it as their mindset, and then all their behaviour and teaching will come naturally as the manifestation of that mindset. So first of all, I had to believe in the philosophy, and then I sowed the seed – "this is what I stand for – this is what this school stands for" – then, the teachers flesh it out. We used the philosophy as a framework to guide our crafting of the school values, what we want our kids to have, and then what are the outcomes that we want to see after six years with us. We worked together to craft the mission, vision, values and motto. This is important because it sets the tone of the climate.

3.4.2   Curriculum Leadership in Building Climate

What is the difference between climate and culture? Mr. Yeo describes it as what happens daily in the school.

> Like the weather – it sets the tone for every aspect of what we do every day. School culture is "the big thing" – the philosophy that endures, and should not change, and so, once we've decided on it, we don't quite need to keep talking about it. Climate, on the other hand, is about the now and present and the things we do daily. So it's about the small things that happen, day in, day out.

> Once the teachers make sense of the culture, the philosophy, they need to internalize it. This internalization results in the school climate. It doesn't come about overnight. It needs a lot of conversations about their beliefs. This is where my leadership comes in. I have to keep having these conversations with my staff. Just this morning, we were talking about it again (even though it is during the school holidays) – how does our philosophy "play out" in terms of their teaching?

> Language is very important in the climate. So, things like how we talk about accomplishments and success – we're so used to saying things like, "you must do your best, strive for excellence", but according to this philosophy of positive education, even the language of praise takes on a different spin. I realized that I have to praise the effort and not the accomplishment. I need to encourage them to learn from their mistakes rather than focus on the product.

As the concept of school climate involves the translation of the philosophy into action, getting the consensus of the staff would be crucial. How did Mr. Yeo lead in helping every teacher internalise the culture such that their behaviour and speech promoted the desired school climate?

We got ourselves into six groups and in each group, we talked about how that aspect of the philosophy can be fleshed out. For example, in my group, we talked about mindfulness. How can we practise it every day? At the start of the day and then after recess we want them to come back together settle in just to give them the two minutes to settle down. Same thing before they take a test – two minutes to settle down first, before you start the test. So the teachers are the ones who suggested the practical ways in which we could play out the philosophy. Simple things, but so important to message the climate. Some good teachers are already doing these things – we tap into their craft – then the teachers make sense of it, and they can see that they are useful tips and practices. Now that we have discussed it, we have documented it, we even printed it out and everyone has a copy. We have a frame of reference to guide us. It's about starting good habits for the children and for the staff.

3.4.3 Curriculum Leadership in Building a Community of Learners

Building a community of learners features strongly in Mr. Yeo's vision for his school's curriculum. In fact, the vision statement found in the school's website states that the school 'inspires our community to lead meaningful and engaged lives'. How does Mr. Yeo lead in building a community of learners?

When I recruit teachers, I want to bring in like-minded people. I always tell them, "This is our philosophy. It means we teach in this way. I'm very up front with them. This is what we stand for; this is how we do things. Do you agree with it? If not, perhaps this is not the school for you". Some of them even tell us that they read our website, and I ask them for their interpretation of our philosophy. I like such people. We can co-create this whole journey together.

Nowadays, teachers don't just do what they're told to do. They want to find meaning in what they do. As a community we design and review our culture and climate and grow together. This is a community of learners. A teacher needs to be constantly learning. You can't teach effectively unless you reflect on how you're a learner yourself.

3.5 Case Study 3: Curriculum Leadership

In 2006, the Prime Minister Lee Hsien Loong gave an impassioned call for educational opportunities to give less academically inclined students hope for 'every child who drops out is one too many'. Having experienced failure at the primary School Leaving Examination (PSLE) can be very discouraging for a young person. How can we give these students a school experience that not only repairs their damaged self-esteem, but also set them on the path to a successful and purposeful life?

3.5.1 Curriculum Leadership in Advancing Social Justice

Mr. Lam feels strongly that curriculum design can help in advancing social justice. To him, social justice means providing greater support for the 'low achievers'—ensuring that this group of children does not get left behind. Several of the students in his school come from socially challenging circumstances.

> For want of a better way to say it, we say that our students are 'less academically inclined' but that is only the tip of the iceberg. Why did they fail at PSLE? If you trace back, you'll find they have been failing practically every year in primary school. From the very start in life, they did not have a supportive socio-emotional environment that says, "I believe in you". It is unimaginable what these kids have gone through or are going through now. Ever since I became Principal of this school, I've seen a part of Singapore that I've never seen before. And I wonder how these kids have managed to live through it.
>
> It breaks my heart and that's why I believe strongly that my school can make a difference for these kids - give them a second chance in life. They need it. Everything seems to be against them from the very start. People seem to have given up on them. That's why the curriculum in my school must give them the message: you can be successful. You can lead a purposeful life. You can contribute positively to the community. You are not hopeless. There is hope. Someone cares for you. We are here to support you.
>
> So the curriculum has to cater to the students. It must make them want to come to school. It must make them want to stay in school and not drop out. When the school was first conceptualised, the target was to reduce the dropout rate from 60 per cent to 25 per cent. Now, the attrition rate of the graduating cohorts is between 10 to 15 per cent. What does this mean? It means that the students feel a sense of belonging in this school. The hands-on pedagogy makes learning more interesting, and they look forward to coming to school.
>
> We make our lessons authentic. There are opportunities for students to apply what they have learnt in class. We develop our own curriculum and teaching packages and have moved away from using textbooks. We want students to experience the joy of learning. Though many are not strong in Maths, they begin to experience the learning of it in a different and meaningful way. It is more than just teaching them Maths. Many of the students think they can't "do Maths". They've switched off because they have experienced failure in Maths for so long. So the teachers in my school need to go the extra mile for the students. They need to have the heart to help the students overcome their sense of failure and mental block. My teachers use great pedagogical strategies to engage the students. That's what I believe in. If a teacher has the passion and the belief to help such students, the rest can be learnt.

3.5.2 Curriculum Leadership at the Institutional Level

Key to such a school environment would be the teachers. Mr. Lam feels that the groundwork had already been laid by the pioneering staff who strongly believed and articulated the school's mission of giving the students a second chance in their education, giving hope to the students, and never giving up on them. On his part, as principal, he exercises curriculum leadership in this area by recruiting the right teachers who believe in the school's mission, and building the capacity of new staff on how the school's mission can be enacted.

Quite a large percentage of the work is outside the school. Because a lot of the students have a lot of problems outside school, in the homes, in their communities and as a result of that, they can't come to school and are not in school. Yes, 70-80% of the students come daily without issue. But the other 20-30% of the students are actually out there, having all kinds of issues. A lot of the teachers actually go out to visit the home and sit down and talk to the child and ask "why don't you come to school? What are your problems? I promise to help you in any way I can. Would you come back for the sake of your future?"

So the teachers have to make a lot of home visits, in between free periods or after school when they have time. Sometimes in the evening or weekends, when the child has run away from home, the parent calls the teacher "can you help me find him?" So the teachers have to go and do home visits. They have to work with other social agencies – MSF (Ministry of Social and Family Development) officers, and family service centres - take the child to hospital, accompany the child to court, help the parents apply for financial aid and so on.

It is a very important part of the work of a teacher in this school because if you don't bring them back, whatever curriculum initiative or innovation that you have is not going to reach them.

It goes back to how much the staff believes in this mission. The pioneering teachers did a fantastic job in setting the tone and commitment to this mission. But as you can see, this is emotionally sapping work, and many of the pioneering teachers have moved on – they need a break. So, the school is in transition with new teachers coming on board.

I think first of all at the recruitment stage, you really have to get the right people. You have to screen very carefully. Because these are matters of the heart. Passion. If you get someone in who doesn't have it, it's not likely to grow or develop in that person over one year or two years.

As their leader, I have to look into building the capacity of the staff - tapping on the more senior pioneers to show the way, ensuring that the new staff come on board successfully and are integrated, at the same time making sure the pioneering staff don't burn out – and then bring these two groups together as one family, striving towards achieving a greater goal, collaborating cohesively. I think that is a key piece of my work as curriculum leader.

Mr. Lam models the enactment of this care for the students by taking care of a few students himself. Halfway through our interview, a student came into the office to see him. It was so much a part and parcel of the routine of daily life that she was not hindered from approaching Mr. Lam's office even during an interview with a visitor. Her appointment with the principal was accorded the same importance as that of the visitor's. Every day, the student is required to get Mr. Lam's signature. The following conversation ensued:

Mr. Lam   *Share with me one new thing you learnt today.*
Student   *I learnt how to play basketball during PE.*
Mr. Lam   *Did you enjoy it?*
Student   *Yes.*
Mr. Lam   *OK, good. How come you didn't get anyone to sign at 7:45?*
Student   *The teacher signed on the wrong side. See?*
Mr. Lam   *Ah yes. So you came at 7:45. Were you at the morning assembly? Who was talking at the morning assembly?*
Student   *Mr. Lam.*

Mr. Lam   What did I talk about?
Student   You talked about the children in Cambodia

Mr. Lam explained,

> It's not just about signing in and signing out. It's checking in and having a sense of how they're doing. So some days they come in looking very cheerful and some days, downcast. You ask them what happened, and they tell you 'this weekend I've got home leave and I don't really look forward to going home'. Then you'll give them a listening ear and share with them something positive and encourage them to look at it from the other side.

3.5.3   Curriculum Leadership at the Programmatic Level

At the programmatic level, Mr. Lam explained that he was able to exercise curriculum leadership in advancing social justice by proposing an extension in the duration of the curriculum offered by the school from 4 years to 6 years. Looking at the context of the student profile and demographics, and studying the data of what graduating students do when they leave the school and how they have fared in the workplace, Mr. Lam and his team realised that more has to be done.

> 50% of them actually have to join the workforce after they leave the school. And out of these 50%, many of them are struggling with work, because they're still young and they still lack the resilience. So we are designing and developing a new curriculum which is an extension of the four year programme we have now, to a six-year programme. The aim is to better prepare them for their employability. The two years are like an apprenticeship, where the students actually spend some time with a company and then some time back in school to strengthen their literacy and numeracy. And the final goal is that after the two years of apprenticeship, companies will absorb them as permanent staff.

> The other students in secondary schools go on to two or three more years of post-secondary education, like JC or polytechnic. So, why not our kids? They also need the runway of time for maturity to take place, to be steadier, more ready.

How did Mr. Lam come up with this idea?

> It's always communications with the various stakeholders. To begin with, we spoke to some parents. Then we spoke to some students and I also spoke with my predecessor. And we looked at the data of students who have graduated, what they're doing. Because this goes back to the mission of the school. Just because they have graduated from the school, we can't just turn away and say, "our job is done, you're on your own now", when we know that a percentage of them are struggling with work, not quite ready, and don't have a chance to continue their education.

> With a very strong mission to help these students prepare for a better future, And also seeing that some of the students were struggling, it was something that we felt strongly we had to do. And one of the things we did when we started to ideate was to go to the staff. And we had several sessions communicating with the staff and hearing their views. And so we had strong support from the staff. The teachers are very focused on helping the students. So if you sell them something that is always about the students, they will buy it,

wholeheartedly. If they can see that it's really about helping the students they will buy it wholeheartedly even if it means stretching themselves further.

Being intimately familiar with the context of the school enables Mr. Lam to make decisions that make the school experience engaging for the students. Interestingly, seemingly 'small things' such as timing of certain programmes could make an impact on the students' school experience.

> Take the Co-curricular Activities (CCA) programme as an example. I see great value in CCAs as they help to build character. But when it is held in the afternoon – 3:30 pm – after school, in the hot sun – the students are just too tired. The teachers are also tired. So CCA was not doing well. So I thought long and hard and I again went to the staff and I shared my observations and I said, "let's think about this and what we can do". One of the teachers told me, "if you really want to make CCA successful, bring it into the curriculum time, so that it's not an after-school afterthought. Bring it into the curriculum."

> So we worked it out and we asked what are the benefits of bringing two hours of CCA into curriculum time? When you do it first thing in the morning, everybody is fresh, and you have sports, games, art, music, cooking classes. It's a good way to start the day, for both teachers and students. But how to find the curriculum time? Which subject would want to be pushed to the afternoon?

> At that time we used to start school at 7:45, and we used to have 15 min of pep talks to encourage students. We didn't think this was very effective, so we got rid of it. So we managed to save quite a bit of time from there – 15 min over four, five days add up to an hour. So we basically extended curriculum time by half an hour on two days. So, instead of ending at 2:30 we now end at 3. But it sure beats staying back till 5:30 for CCA. So last year we tried it. Student attendance at CCA shot up.

3.6 Discussion and Conclusion

To all three principals, curriculum is more than just the syllabus or content to be taught. They conceive of curriculum as the experience afforded to the students who enter the portals of their respective schools. The outcomes of such experiences go beyond achievement in the national examinations. They impact the students' sense of self-esteem, and their values and attitudes towards leading a purposeful and fulfilling life. This corroborates with the definition of curriculum extending beyond the explicit and intended curriculum, to encompass the implicit and experienced curriculum (Eisner 2002; Marsh 2009; Posner 1998).

Seen in this light, there is much that the principal, as curriculum leader, has to do. Principals 'cannot merely be accepting of ever-expanding curriculum but need to bring a critical and moral edge to the judgment of how and in what ways the curriculum will support the purposes of the school and the learning of the individual' (Shaw 2012, p. 56). Clearly, all three principals drew upon the various roles in Sergiovanni's (2009) list: the technical leader, the human leader, the educational leader, the symbolic leader and the cultural leader.

At the very start, the principals needed to be very clear of their own curriculum beliefs. How do they view the purpose of education? How do they view the learner and learning? Their answers to these questions would impact their conceptions of how teaching and assessment of learning are done. What came out strongly in the narratives of the three principals was their strong conviction in their personal curriculum beliefs. This is especially important in their communications with the staff, students, parents and other stakeholders, including the public. They not only articulated these beliefs, but they also ensured that they walked the talk.

The principal, however, does not walk alone on the curriculum journey. All three principals shared about how they had to build the curriculum culture of the school. The main work of curriculum leadership is in engaging colleagues in dialogue to own the desired curriculum for the school. This is a necessary condition to ensure that the planned curriculum is enacted in such a manner that the student experience what is intended for them.

3.7 Questions for Reflection and Discussion

1. How and to what extent do you believe the curriculum to be malleable? or what reasons?
2. How did the beliefs of each of the principals affect their curriculum decisions and actions?
3. What curriculum dilemmas and challenges were implicit in the stories of the three principals?
4. What future research needs to be done to explicate curriculum leadership by school principals?

References

Deng, Z., Gopinathan, S., & Lee, C. K. E. (Eds.). (2013). *Globalization and the Singapore curriculum: From policy to classroom*. Singapore: Springer.

Eisner, E. (2002). *The educational imagination: On the design and evaluation of school programs* (3rd ed.). New Jersey: Pearson.

Ferrandino, V. L. (2001). Challenges for 21st century elementary school principals. *Phi Delta Kappan, 82*(6), 440–442.

Goh, C. B., & Gopinathan, S. (2008). The development of education in Singapore since 1965. In S. K. Lee, C. B. Goh, B. Fredriksen, & J. P. Tan (Eds.), *Toward a better future*. Washington, DC: The World Bank.

Gopinathan, S., & Mardiana, A. B. (2013). Globalization, the state and curriculum reform. In Z. Deng, S. Gopinathan, & C. K.-E. Lee (Eds.), *Globalization and the Singapore curriculum: From policy to classroom* (pp. 15–32). Singapore: Springer.

Hairon, S., Tan, K., Lin, T. B., & Lee, M. M. (2017). Grappling with curriculum leadership theory in schools. In K. H. K. Tan, M. A. Heng, & C. Ratnam-Lim (Eds.), *Curriculum leadership by middle leaders: Theory, design and practice* (pp. 10–25). New York: Routledge.

Hargreaves, A., Shirley, D., & Ng, P. T. (2012). Singapore: Innovation, communication, and paradox. In A. Hargreaves & D. Shirley (Eds.), *The global fourth way: The quest for educational excellence*. Thousand Oaks, Cal: Corwin.

Marsh, C. (2009). *Key concepts for understanding curriculum* (4th ed.). New York: Routledge.

Ng, P. T. (2005). Students' perception of change in the Singapore education system. *Educational Research for Policy and Practice, 3*(1), 77–92.

Posner, G. F. (1998). Models of curriculum planning. In L. E. Beyer & M. W. Apple (Eds.), *The curriculum* (pp. 267–283). Albany NY: SUNY Press.

Priestley, M., & Humes, W. (2010). The development of Scotland's curriculum for excellence: Amnesia and déjà vu. *Oxford Review of Education, 36*(3), 345–361.

Schwab, J. J. (1969). The practical: A language for curriculum. *The School Review, 78*(1), 1–23.

Sergiovanni, T. J. (2009). *The Principalship: A Reflective Practice Perspective*. Boston: Pearson.

Sharpe, L., & Gopinathan, S. (2002). After effectiveness: New directions in the Singapore school system? *Journal of Education Policy, 17*(2), 151–166.

Shaw, P. E. (2012). *Taking charge: Leading with passion and purpose in the principalship*. New York: Teachers College Press.

Tan, C. (2008). Tensions in an ability-driven education. In J. Tan & P. T. Ng (Eds.), *Thinking schools, learning nation: Contemporary issues and challenges* (pp. 7–18). Singapore: Prentice Hall.

Tan, C., & Ng, P. T. (2007). Dynamics of change: Decentralised centralism of education in Singapore. *Journal of Educational Change, 8,* 155–168.

Tirozzi, G. N. (2001). The artistry of leadership: The evolving role of the secondary school principal. *Phi Delta Kappan, 82*(6), 434–439.

Tyler, R. (1949). *Basic principles of curriculum and instruction*. Chicago, IL: University of Chicago Press.

Suggested Readings

Servais, K., & Sanders, K. (2006). *The courage to lead: Choosing the road less travelled*. Lanham, Maryland: Rowman & Littlefield Education.

Sorenson, R. D., Goldsmith, L. M., Mendez, Z. Y., & Maxwell, K. T. (2011). *The principal's guide to curriculum leadership*. Thousand Oaks, CA: Corwin.

Assessment Leadership

4

Hui Yong Tay and Kelvin Tan

Abstract

How can Singapore principals negotiate the many complexities associated with assessment change to bring about better learning in their schools? This chapter discusses the assessment challenges of three principals at a primary school, secondary school and a junior college. By analysing their stories, it is argued that in order to bring about sustainable and structural assessment reform in schools, principals must exercise a threshold level of assessment leadership. The four characteristics of such leadership involve bringing about irreversible change, being coherent and integrative, being a catalyst for transforming the direction and value of education, and provoking new and unfamiliar thinking in others.

4.1 Introduction

School life for students in Singapore starts with 6 years of compulsory primary school with a broad-based curriculum, followed by 4 years in secondary school. Which secondary school a child progresses to depends on the results obtained at the national Primary School Leaving Examinations (PSLE) taken at the end of Primary 6. The PSLE results also determine the course that the child will take at secondary school. Students entering secondary schools are streamed into different ability groups: express, normal academic and normal technical. Students in the express stream typically aim for admission to university; those in the normal academic

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stream would usually head for the polytechnics, and those in the normal technical stream would go on to vocational schools. More information on students' various pathways are found in MOE's official website (www.moe.edu.sg/education).

4.2 Recent Assessment Changes in Singapore

Singapore invests heavily in education. This does not just refer to the considerable portion of the annual budget devoted to education, but also to the continual system-wide reviews by the Ministry of Education (MOE). With manpower as the only valuable asset to sustain economic development because of her limited natural resources, Singapore is keenly aware of how important it is for her educational system to produce a highly able workforce. Particularly with the advent of globalization, there is a need to take stock of whether young Singaporeans are prepared for the future with the skills and competencies needed to navigate a fast-changing, globalized world: that of critical and creative thinking, communication and collaboration (Ng 2008).

These have resulted in curriculum changes along with concomitant changes in assessment, even at the high stakes national examinations. Oral communication has been given significant weighting in the assessment of English and Mother Tongue Languages in the national examinations, and the format of testing adjusted to better assess real-life communication skills. Coursework assessment has also been included, with the belief that independent research and collaborative work will develop skills that would give students "a firm foundation for future learning and contribute towards future work-life competencies" (Heng 2014). Such course work includes Project Work, a compulsory course in junior colleges.

Besides ensuring that assessments of students' learning are relevant and robust in these changing times, the reviews have also looked at how assessments can be designed to enhance learning. For example, concerns regarding an "over-crowded" and "over-taught" curriculum (Ministry of Education 1998, p. 4), led the Ministry to launch the "Teach Less Learn More" (TLLM) initiative in 2004. Among the recommendations were authentic assessments to bring about more learner-centredness, and nurture students with the capacity for independent learning. A more recent review, Primary Education Review and Implementation (PERI), has resulted in the Holistic Assessment initiative, so called because it aims to support the holistic development of primary school children during their formative years through age-appropriate assessments such as show-and-tell, in place of paper-and-pen worksheets.

How these assessment changes are translated into actual everyday teaching and learning is left largely to the school leaders to enact. This move is consistent with what the literature says about the critical role principals play in influencing reform at school level (Florez and Sammons 2013; Fullan 2010; Hollingworth 2012; Timperley 2011). For example, one key finding from a large-scale UK project found that a large part of success of teachers engaged in assessment reform lay in "collaborative, classroom-focused inquiry actively supported by school leaders"

(Mansell et al. 2009, p. 22). Still, it is noted that assessment reform often meets with some resistance, be it at tertiary level (Deneen and Boud 2013) or at elementary and secondary schools (Tierney 2006).

Resistance is also to be expected when translating and implementing assessment policy in schools. As Ball (1994) pointed out, "Policies do not normally tell you what to do, they create circumstances in which the range of options available in deciding what to do are narrowed or changed, or particularly goals or outcomes are set" (p. 19). This leaves room for adjustments, accommodations, or even struggles and conflicts at the enactment stage (Spillane et al. 2002). Given the consistent warnings about the difficulties involved for teachers to practice AfL in their own culturally situated contexts (Webb and Jones 2009; Carless 2011; Carless and Lam 2014; Berry 2011; Black and Wiliam 2005), school leadership in the area of interpreting and guiding formative assessment policy in specific school contexts would be hugely important.

As such, school leaders have to tread wisely, charting their own course after surveying the realities of their school context as well as being propelled by their vision for the students in their charge. Such actions often entail rather different notions and practices of assessment. The new and desired assessment practices for which leadership is provided is commonly known as "alternative assessment", or assessment practices providing alternatives to current ones in order to achieve formative purposes of assessment for the benefit of enhancing student learning. The alternative assessment practice(s) featured in the three case studies in this chapter are concerned with "Assessment for Learning" (AfL) initiatives—designing and implementing assessments to yield feedback which students are guided to act upon to imminently enhance their learning.

But how do school leaders decide on the type and extent of change for their schools? How soon and how exactly should such change be introduced? How should teachers be engaged in identifying with (and implementing) the said changes?

4.3 Method

The three cases portrayed in this chapter are principals of a primary school, a secondary school and a junior college, respectively. Over 2 months, they were interviewed for about an hour each. The data collected through the audio-recordings was analysed using both a prior codes derived from research questions as well as emergent codes from iterative analysis of the data. The three interviewees were purposively chosen to capture the span of the three major levels involved in a child's school life, and also to offer the depth to investigate the unique assessment challenges at each of these levels. In particular, these three cases offer insights into three vital areas of school leadership for Assessment for Learning change—(a) Identifying the extent of change to be implemented, (b) Identifying the time and opportunities for such desired change, and (c) Engaging teachers towards achieving

desired change/improvement. It is perhaps no coincidence that these same three features are also the essential characteristics of "Assessment for Learning" (AfL) (Tan 2013). In Assessment for Learning, teachers identify a gap between current and desired levels of student achievement, the length of time and the opportunities therein to assist students to close such a gap, and engaging students with dialogue and feedback to assist students to close the gap. These three case studies therefore offer not only insights into how school leaders at different educational levels provide leadership to enhance their students' learning, but also exemplify AfL principles at the same time. In other words, these school leaders offer case studies of what it means to provide AfL leadership through AfL principles—

1. Identifying a gap between current and desired assessment practices/outcomes;
2. Identifying the available time and opportunities to target closing the gap;
3. Engaging teachers with feedback and dialogue to guide their actions towards closing the gap.

These three AfL leadership practices may be understood as a framework of assessment leadership, as illustrated in Fig. 4.1.

A more complete description of the AfL framework is available in Tan (2013). In the context of AfL leadership, the three AfL leadership practices are best understood in relation to each other such as to collectively triangulate distinct contexts for exercising leadership for changing and enhancing the assessment practices in a school. The first AfL leadership practice of identifying a gap depicts the vertical axis of the triangulated model of AfL leadership by articulating the possible and targeted gaps that changes in school assessment practices seek to address. The second AfL leadership practice of identifying time and opportunity depicts the horizontal axis of the triangulated model of AfL leadership by setting out the initiatives which sequence and pace the requisite changes to desired assessment practices within an intended timeframe. These two AfL leadership practices boundaries frame the consequent leadership actions by informing the school leader of two vital considerations—extent of ambition (how ambitious the gap should be) and extent of available opportunity (how much time is, or should be,

Fig. 4.1 Framework of three AfL leadership practices

Feedback Dialogue to close the gap

Gap between current & desired assessment practices outcomes

Available time and opportunities to close identified gap
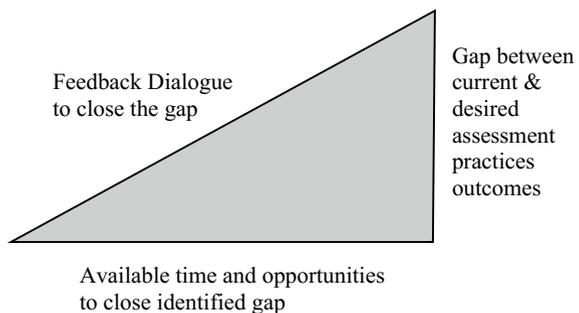
afforded). The level of incline conveys how ambitious the school leadership seeks to be. For example, if the gap (vertical axis) is very wide and the time between afforded for change (horizontal axis) is short, then the nature and intensity of school leadership for such assessment change would be greater. The third and final AfL leadership practice completes the triangulated model of AFL leadership by providing teachers with guidance to work towards closing the gap.

4.4 The Case of the Primary School Leader, Mrs. Chan

As mentioned earlier, PERI resulted in the implementation of Holistic Assessment (HA) which refers to the ongoing gathering of information on different facets of a child from various sources, with the aim of providing quantitative and qualitative feedback to support and guide the child's development. What HA entails therefore is first, a de-emphasis on once-off semestral examinations, and more "bite-sized" assessments throughout the year to build confidence and provide students with feedback on their learning. This move also opens up the possibilities of using more and varied age-appropriate modes of assessments. The HA initiative is relatively new, after being piloted with 16 schools in 2009, it has been rolled out to all schools (between 2011 and 2013), starting with Primary one in each school with the intention that it will be gradually scaled up to other levels.

At the same time, looming at the end of a child's Primary school life is the PSLE, a national examination that is very much a traditional paper-and-pen mode of assessment. It is considered high stakes because the children's results, presented in terms of a norm-referenced t-score, will determine whether the children can enter the secondary school and course of their choice.

4.4.1 Mrs. Chan's Story

Like most cases in Singapore, Mrs. Chan was "parachuted" into head the school—a colloquial term meaning that she was appointed to a school to which she had no previous affiliation, either as a staff or an alumnus. Hence, in addition to having to adjust to her new role, she had to take stock of the new context in which she was working. Perhaps less constrained by pre-conceived notions, Mrs. Chan saw many areas that she wanted to address in her school, but decided to "pick (her) battles" and focused on putting "fundamentals in place" like school attendance and tackling students with school avoidance issues. Besides, she was fortunate that the school had the benefit of already having "a rather good system in place for Holistic Assessment" for Primary one and two. The teachers have been supported by the MOE in terms of training and exemplars. In fact, the school had shared its HA practices on a few occasions, including to foreign visitors. These HA practices include alternative modes of assessment such as show-and-tell in language testing and use of manipulatives in mathematics.

She reports that the primary one and two teachers, now into their 5th year of HA, are "very comfortable" with it. They are "very encouraged" by the students' positive response to such alternative assessments and have seen "how the kids have grown". However, there is still a lack of clarity over the purpose of the other characteristic of HA that of bite-sized assessments. Teachers now carry out mini-tests in the name of HA but she feels that they can do more to use these tests formatively to help students learn. She also senses that "at the back of their minds (teachers) are concerned about how the pupils are progressing. Because to them… holistic assessment may not always give a very full picture of the competencies of the child in mastering the mathematics or even English writing". As students in P1 and P2 are seen as "playing" or "not doing serious assessment" teachers become concerned with how students will perform in written tests, especially at Primary 3 and beyond. Such sentiments are not just the views of less informed teachers but even of her key personnel, the Heads of Department (HODs), some of whom feel that "HA must not be very good for the children because when they come up to P3, they can't learn as well. They are very unsettled". But it may be the case that the HODs themselves are unsettled by the possibility that HA may negatively affect students' results at national examinations.

4.4.2 Strategic Use of Time to Frame and Close the Gap

To help teachers grapple with the purpose(s) of Holistic Assessment, she devotes time during Executive Committee (EXCO) meetings (involving HODs) to "intense conversations" about the nature and purpose of assessments. In fact, the metaphor of conversation appears to be a hallmark of her approach—she talks about creating "a common understanding and language" through school-wide workshops and discussions scheduled during staff meetings and level meetings. She believes that getting teachers "talking and thinking more" about assessments will create the understanding and "buy-in" needed:

> I think as humans, (if) we don't talk or think about it – it's just not in the schema and we just go back to the same old way of doing things. But sometimes you get new ideas and have conversations, you learn from your other colleagues.

Committed though she is to the philosophy that underpins HA (that of supporting learning through assessments), she says, "At the end of the day, I need my department heads to also take the leap". She leaves it to the HODs to advise year heads who coordinate all matters related to the pupils for their respective levels. The year heads and their advisors plan the agenda for the weekly meetings to discuss level concerns, including issues of teaching and learning. On her part, she supports them by being "creative in timetabling in creating spaces" for such regular conversations. She releases teachers to go for external trainings even if they were to miss lessons because she believes that such an investment would pay dividends when they return to share with colleagues and put what they have learnt into practice. She herself plays an active part in building staff capacity through sharing

with the staff her learning from her own reading as well as organizing visits to other schools to see how they have put things in place.

She candidly remarks that it is "an ongoing journey". The HA initiative requires "a lot of juggling" and "a lot of trials". Talking "about how we're teaching and how we're learning is very important… For (teachers') own professional development and growth, and for the pupils' learning". And "if the teachers grow, pupils will grow".

4.4.3 Feedback and Dialogue to Guide Teachers to Close the Gap

Mrs. Chan's challenge is thus not just limited to managing the local tension between the different primary levels due to the implementation of a national assessment initiative. More importantly, her challenge is to help her staff understand the new assessment initiative that is focused on learning with the benefit of teachers' feedback rather than being tested with the burden of school and national assessment. She often reiterates the point that she wants to re-orientate the staff to focus on helping with feedback so that "the kids can look at how they can learn better, or look at how they can own the problem and solve the problem" rather than being "fixated with drill and practice, and more practice papers". Mrs. Chan recognizes that these changes require teachers to let go of their "security blankets" and "previous mental models" of how assessments must be done. She raises the example of how she had to convince teachers that she would rather have them mark fewer pieces of writing if that would enable them to give "detailed and good feedback to the pupils to help them close the gaps in their learning". This would help overcome the problem of teachers marking more pieces of work with cursory and generic remarks like "take note of your grammar" and "be careful of your tenses".

Mrs. Chan feels that it would not be helpful to make executive decisions where she decides and "the rest of (the HODs) follow". Instead, she feels as a school leader she needs to

> win over the HODs and get buy-in from them first before they can help get the buy-in from the teachers. Because sometimes a school leader can make certain decisions that even heads of department may not understand initially. And if the heads don't understand, then the messages from them to the teachers will not be positive.

4.5 The Case of the Secondary School Leader, Mr. De Cruz

Apart from the PSLE at Primary 6, the other landmark assessment event in most Singaporean students' lives is the General Certificate of Education (GCE) Ordinary ("O") or the "Normal" ("N") Level examinations at the end of secondary school.

Though there have been some changes in assessment modes, these national examinations are generally of the traditional paper-and-pen mode. As a result, teachers of graduating classes often set their own tests or examinations that resemble the national papers as way of preparing their students to do well in the latter. In many cases, the repercussion from the national examinations affects even the lower levels, on the assumption that the earlier the students get used to the style of testing, the better they will ultimately do at the national examinations.

The schools themselves are assessed based on two indicators. The first is the Performance Indicators for School Management or PRISM. Schools which achieve O-level results which are much better than the norm for schools with a similar quality of PSLE intake are recognized as being value-added. The second indicator is "Quality of School Experience" (QSE) administered to all secondary two and four students, to survey them on their views on how well the school has provided a positive and engaging learning environment, quality teaching processes and support for their holistic development.

4.5.1 Mr. De Cruz's Story

Prior to becoming principal, Mr. De Cruz held other leadership positions in different types of schools. He also served for a period of time at the MOE curriculum planning unit. As such, he brought with him a wealth of experience and a broader perspective than the typical new principal. He understands why assessment practices in his school are "all geared towards preparing them to do well at the 'N' and 'O' levels"; nonetheless, he hopes that assessment can be used "more holistically". By that he means that assessments should "provide a broader range of information about the students and what are the kinds of things they can do and cannot do". In addition, assessments can be a catalyst for changes to the entire teaching and learning experience.

4.5.2 Identifying Gap in School Assessment Practices to Act Upon

When he first joined the school, he noticed that in class 90% of the time it was teacher-led frontal teaching: "the students were doing worksheets, the students were doing lots of practice". It struck him that "teaching practices had not changed for many years since I was a student myself". The decisive point came to him as he walked around the school, observing the students during lessons. It was clear that students were not engaged in what they were learning, as reflected in reports that they "don't see the relevance" and they had no interest in the subjects. They were "driven purely by the desire to score well in the exams". The teachers were also very focused on helping them by providing notes, hand holding, reminders and such. However, the downside of this practice was that some students struggled when they entered junior colleges and polytechnics, where they were "not given as

much support as…in secondary school". Mr. De Cruz was concerned that the students were not well-prepared for the kinds of skills that they would need beyond examinations and school, such as "being able to critique info, to be able to readjust and to come up with new ways of looking at things". There was also an urgent need to do something about it because:

> the longer we wait to change, or the slower we proceed, denies another batch of students who perhaps may have benefitted from a different approach. In the end I think it's our responsibility to try, as best we know, to make teaching and learning more meaningful for the students. This has to include assessment, as we know that given our kind of society, assessment often determines the sort of things that happen during the lessons and in class.

4.5.3 Strategic Use of Time to Frame and Close the Gap

Despite the urgency, he resisted taking a top-down approach such as enforcing changes through the instructional programme heads. Instead, he invested time in forming a team of volunteers who wanted to work on putting together an accessible teaching and learning framework for the school which would include assessment. So at a staff retreat in his second year as principal, teachers were invited to reflect on why the school had not achieved value-added results for a long time. The staff themselves came to the conclusion that they had been "trying … and pushing" their students to work harder, but such extra effort in "more and more remedials, more and more extra lessons" did not work but in fact they "just created stress" in both students and teachers. At that point, he issued a general invitation to all those who would like to be involved in studying how these issues could be resolved, to write an email to him. He complemented the volunteers and he also invited others to join in because he felt that these individuals could contribute to the enterprise. Others came on board later, intrigued by the work that was going on. In all, the resulting group was "a nice mix" of senior teachers, heads of department and teachers who "were basically very interested" and felt that this was "something important".

The group subsequently went to visit other schools to see how things were done elsewhere; while some others looked for learning points in the education literature (for example, "The Skilful Teacher"). Discussions also resulted in "a bit of buy-in" with some departments replacing secondary 1 mid-year examinations with alternative assessment practices. For example, the English Language department mid-year assessment now consists of students putting up a performance, and they are graded not just on their performance but "their communication, their scripting, and their treatment of the themes that they have been assigned to produce in their performances".

As anticipated, the discussions encompassed areas beyond assessment to include pedagogy. The group revised the lesson observation checklist to incorporate the things that the team felt were important, and also arranged workshops on Differentiated Instruction. Once a month, the group would come together to do a "health check" to see if classroom practices have improved. Sometimes, the outcome of

these discussions was brought back to another committee whose job is to oversee and track key performance indicators in teaching and learning. This committee comprises representatives from different subject areas and tended to be individuals who are already leading the department, or are well-respected educators in the school. Extending the conversation outside of the core group of volunteers to the more established teachers and school leaders helped create more awareness and opportunities for the ideas to take root. To get more acceptance, Mr. De Cruz approached former colleagues from the curriculum planning unit at the MOE to work with his teachers. The involvement of these MOE officials led the teachers to see that the kinds of things the principal wanted were also valued by the MOE. A few teachers who were attached to subject areas in the curriculum unit in MOE also gained a broader perspective of what other schools were already doing. In spite of these measures, Mr. De Cruz is aware that each teacher's competency must match the aspiration; hence, there are plans for training of teachers by external agencies (such as the National Institute of Education) as well as internal coaching by senior teachers and some heads of department.

4.5.4 Feedback and Dialogue to Guide Teachers to Close the Gap

In Mr. De Cruz's opinion, whilst there has been greater awareness of the need for curriculum reform, changes have not been pervasive because "mindsets are difficult to change". One department, Mother Tongue Language (MTL), was willing to initiate change but this was partly compelled by changes at the national level. The oral communication component in the MTL assessments within school was increased to be aligned with the increased weighting at the national examinations. The science department became more open to trying out a "project-based kind of learning" because an external study found that the students' engagement in science was much lower than their engagement in mathematics. As expected, the departments that "were very successful" in delivering results using past practices were precisely the ones that found "it very hard to let go" for "fear of failure". With such departments, the compromise was to try out alternative practices in the lower secondary classes but as students progressed to the year of the national examinations, teachers reverted to past practice to prepare students for the examinations because "that's the tried and tested way of getting the results". There also appears to be a divide between the younger teachers who are "more prepared to innovate, more prepared to try" and some of the older staff who may be "very traditional" and "not terribly convinced" about the new pedagogies and assessment. Mr. De Cruz tries to mediate between the two groups by acknowledging the important work the latter are doing, but also persuading them to give their support to the younger staff. Such dialogue assists in reframing and shifting teachers' towards desired assessment change and learning outcomes.

Happily, the school recently achieved its best results, as a consequence of which it was given the Academic Value-added Achievement Award. Mr. De Cruz is of the

opinion that the good results was probably "a nice coincidence" and not due to the assessment and other reforms in school because "it is really too early to say". Still, it has been a morale booster that has galvanized the staff to say, "We seem to be getting better. Let's push ahead and see how much further we can go". But perhaps, it is a testimony to what he strongly believes in all along: that student engagement through alternative assessments goes "hand in hand" with examination preparations. If students are motivated and they see meaning and purpose in what they do, this will pay dividends in terms of preparing them for the examinations. For the moment, Mr. De Cruz quips, the school has taken the first step, and "let's hope that the momentum keeps up".

4.6 The Case of the Junior College Leaders

Every year, about 40% of the secondary school cohort go on to enrol in junior colleges (JC) which offer a pre-university education that culminates after 2 years of study in the GCE Advanced ("A") Level examinations. Students typically offer 3–4 content subjects at the "A" levels in addition to Project Work and General Paper. Their performance at the "A" levels determines their entry into university. Because of the short runway (2 years) to work towards the high stakes national examinations, JCs do not have the luxury to experiment with alternative approaches to assessments, unlike in the primary and secondary schools.

In addition, JC staff are typically deemed to be of a high calibre, consisting of graduates with good degrees as well as MOE scholars who will leave the JC after a few years to serve in the ministry. These corps of teachers are often courted by secondary schools that operate the Integrated Programme (a 6-year programme starting at secondary 1 and culminating in the "A" levels, skipping the "O" levels). These factors contribute to a high turnover rate of JC staff.

4.6.1 Ms. Mohana's Story (The Principal is Joined by the Vice-Principal in This Interview)

Not surprisingly, the context and impetus of assessment change as shared by Ms. Mohana lay in the "A" level examinations. First, the syllabus has become more demanding with higher order thinking questions testing candidates' grasp of concepts. However, there are two structural constraints in the JC: the first is the "very compressed timeframe of 18 months" to complete the syllabus before preparations for the national examinations. Second, lessons at the JCs are typically didactic because of the lecture-tutorial system. These factors make it difficult for teachers to facilitate the development of critical thinking in each student, especially when faced with an increasingly different profile of learners, who tend to be more heterogeneous in ability, have shorter attention spans, and who are used to instant gratification.

4.6.2 Impetus for Identifying a Gap in School Assessment Practices to Act Upon

For Ms. Mohana, the critical juncture came in her first year as principal when faced with "a very large number of failures" in the JC1 promotional examinations. It made her question whether the examinations were "reflective of teaching and learning" and "useful for the students to gauge where they are in terms of their progression". So at her very first strategic planning meeting, she got her key personnel to revisit their fundamental beliefs about their school's vision, mission and values. The discussion, initially on how to prepare students to deal with exam questions testing critical thinking, became an opportunity to pose questions on how teachers would know if their teaching strategies have worked, or if the students have learnt. As Ms. Mohana shared, the discussion left no stone unturned as they challenged assumptions on fundamental issues, such as:

> How do we assess them? How do we know? And we're not talking about waiting for the high stake exams. How do you know that when you go into a classroom, your students have got it, whatever learning outcomes you wanted …and then …where we run our regular common tests, what do we want to see at these tests to help you and the students review the learning as well as make the progression?

The school leaders' constant emphasis on looking for "evidence of learning" may be due to the influence of the work by Daniel Kim on the "core theory of success" which operates on four key elements: quality of results, quality of actions, quality of relationships and quality of collective thinking (Kim 2016). Hence, they frame assessment as providing teachers with evidence of student learning. This involves being thoughtful about "designing good assessment problems and challenges" that will reveal such evidence of targeted learning outcomes. At the same time, the school leaders also believe that assessments are "really for the students" as milestone checks for them to know "where they are…as well as their gaps" and "therefore to amend their learning or to correct whatever they have misunderstood and also to pace themselves". But for students to be self-directed, they need teachers to give them "constructive feedback" that makes explicit what they "must do to move on".

4.6.3 Strategic Use of Time to Frame and Close the Gap

To further "entrench (assessment) as the flavour of the year, not the day", the school reworked the time table to create dedicated time for the staff to work with their professional learning teams, at least two or three times a week. Despite the initial skepticism, the initiative has borne some fruit with a few groups going out to share their success, while some departments have shown some results because of the deepened pedagogic processes. Teachers who were already doing very well in "being very systematic, able to give that kind of feedback that the students needed" were invited to share their practices with the rest of the staff. The school leaders are

always alert to opportunities to build teachers' capacities, including involving them in MOE projects. The school leaders believe that these opportunities serve to "broaden" the perspectives of teachers, who often become more motivated to enact the best practices they have been exposed to, and even to forge "a little ahead" on their own.

Throughout it all, the aspiration of the school leaders has been of the "whole community moving together" in "a more organic way" with those who are ready leading the way and supporting others, particularly those who are "fumbling and struggling", rather than competing with one another. This focus on quality of relationships, an aspect of Kim's (2016) "core theory of success" is in keeping with the prevailing ethos of care that both staff and students value about the JC. Indeed, the school leaders took time to form relationships first with the "key leaders" in the school community: those among staff who have the respect of others and who could be the "catalyst for change". Once these key people believe in and act on the same vision, there will be "a multiplier effect" on the rest of the staff.

4.6.4 Feedback and Dialogue to Guide Teachers to Close the Gap

In line with the quality of collective thinking espoused by Kim's (1997) "core theory of success" the principal resisted the temptation to "drive the change personally". This would only arouse "rejection and resistance" as might be expected from a school with a long tradition, as well as staff used to doing things in a certain way "for decades". Instead, Ms. Mohana invested time to get the staff involved in a school-wide review of the current situation so that they would "keep looking at assumptions", discover the strengths and gaps, and hopefully arrive at that "aha" moment themselves. Because she understood how apprehensive the staff might be to changes, Ms. Mohana did not apply pressure on staff but instead encouraged them to work at their "comfort level" and to take "incremental steps". She gave them the space to "try things" and to "make mistakes", but always with the focus that the changes must be aligned with the school's beliefs and principles.

However, the school leaders were not just targeting the staff in the area of assessment innovation. At the heart of it all, they wanted to change the role of the student from being passive in the assessment process to being "self-directed" and taking "ownership of their own learning". Perhaps, it is because of the maturity of the students involved (17–18 years old) or because of the short runway to the national examinations, there is a constant reference to how students themselves must be able to "gauge where they are in terms of their progression" and to know what to do to close the gaps in their understanding. To this end, teachers must support the students in giving "very good feedback" that the latter can immediately "take it and work on it". In addition, they must also ensure that students understand the feedback and more importantly, the standards implied in each achievement level so that if students are at level 2 of the rubrics, they know what to do to reach the next higher level. In such a way, students can gain the self-efficacy and competency

to help themselves improve. In fact, Ms. Mohana thinks this "ethos of self-directed learning" extends beyond the academic to all other areas of student life including that of personal mastery; for example, in "managing their own emotions".

When asked what words of advice she would impart to school leaders with less experience and planning to embark on assessment reform in the school, Ms. Mohana said:

> Don't rush into it. And this is also advice given by my mentors when I was a new principal. Don't try to change everything within the first year. In fact, spend the year observing, knowing the strengths, looking at the dynamics of the people, getting a sense of the culture but most importantly, identifying your strengths and your drivers. Because you really can't do this alone.

Second, as a school leader, the principal must help everyone in the school see how all the different pieces (for example, school activities and programmes) fit into one "common narrative". Otherwise, "they're all discreet pieces and as discreet pieces they don't make sense, and as discreet pieces it means we're just very busy". The school leader must keep highlighting the links because when people see "how everything links together, then it makes meaning, it becomes purposeful". That, to Ms. Mohana, is "the challenge of school leadership".

4.7 Discussion and Conclusion

4.7.1 Assessment Leadership for (New) Assessment Thresholds in Schools

As can be seen, the school leaders faced distinct challenges arising from their particular context: implementing a national assessment initiative (for the primary school principal); backwash effect from national examinations (for the secondary principal) and (re)defining student success (for the JC school leaders). Yet, they also share much in common. All three school leaders are clear and purposeful about exercising their learning towards a distinct type and level of change. Mrs. Chan, in her primary school, selects her gap carefully by picking her battles and focuses on dialogue and cajoling her Heads of Department and teachers to think and talk more about assessment practices and purposes. Such conversations are not confined to coping strategies, not implementing someone else's plans. Instead, she recognizes that the intent and extent of the PERI recommendation(s) of Holistic Assessment for Primary Schools have far-reaching implications for how teachers understand and use assessment to make their students' learning more holistic and formative.

Mr. De Cruz is similarly ambitious in recognizing the urgency in preparing students in his secondary school to learn and develop important skills beyond that of test-taking and examination preparation, and in seeking to guide his teachers to rethink and change assessment practices so that students could be more engaged in their learning, and not be solely driven by test scores. His appraisal that the

initiatives in his school are not yet pervasive suggests a level of ambition that would bring distinctive changes and improvement to learning in the school.

Likewise, Ms. Mohana in her Junior College responded to the initial challenge of a large number of failures in her school's examination by looking beyond raising test scores to understanding the underlying issues of learning, and strategizing a larger vision of learning. In her case, Daniel Kim's (2016) "core theory of success" has provided her with clarity in identifying and communicating what success, and ambition should mean for her students in terms of their learning and assessment, and for her teachers in terms of how they understand and use assessment for the students' learning benefits.

These leaders have attempted assessment change beyond pragmatic limitations, at a level of ambition that is not restricted to immediate evidence of change and improvement. As such, it can be argued that these are three cases of school leaders attempting to initiate and guide assessment transformation beyond imminent assessment change(s). How should we understand the aspirations of these three leaders in terms of their attempts to transform assessment practices? It is suggested that the notion of a threshold level of success typifies the ambition of these three school leaders with regard to their schools' assessment practices.

First, however, the notion of a threshold needs to be grasped. Meyer and Land (2003) coined the term "threshold" as a metaphor to describe a strategic and unprecedented level of learning and development. Tan (2011) articulated the notion of a threshold as encompassing the level of change required to bring about sustained structural reform in assessment, either in school or throughout the system of education. Four attributes of threshold concepts are suggested by Meyer and Land (2003). These same four concepts can be used to identify the level and type of ambition of the three assessment leaders in their respective schools:

First, a threshold level of assessment leadership needs to bring about *irreversible change* so that new perceptions and understandings of what assessment should do for learning will not be reversed. Academic results in national examinations weigh heavily on parents' concerns about their children's future as well as on the children's concerns about their career prospects. Parents are not necessarily interested in utilizing assessment to enhance their children's learning. Likewise, teachers may be more concerned about whether new assessment practices would jeopardize their students' academic results, rather than focusing on how a more holistic assessment system may benefit the learning of students.

The importance attached to short-term assessments results is clearly a source of anxiety among parents, students and teachers. And such anxieties may prevent any real assessment change to take place. The three school leaders are clearly aware of this problem. These leaders recognize that the realization of the ethos of "Assessment for Learning" would constitute a paradigm shift. For this reason, they have adopted alternative assessment strategies that rely on small incremental changes to bring about deep and fundamentally irreversible changes. Such irreversible change would transform the mental models of teachers, from the existing (and limited) question of "what must we do for assessment?" to the question "what must assessment do for learners, and their learning?"

Second, just as assessment should not atomize learning that is holistic and integrated, assessment leadership should also be coherent and *integrative*. The three principals were not content with addressing disparate assessment issues and practices in a piecemeal manner. They were commendably consistent in two ways: First, by encouraging their teachers to develop a coherent assessment framework that would facilitate a more integrated and holistic learning experience for students; and second, ensuring that their own ideas and initiatives are similarly articulated within a coherent framework of strategic curricular changes. In educational contexts where the atomizing of curriculum through assessment modularization happens all too frequently, holistic and integrative approaches to assessment require exemplary holistic and integrative approaches to assessment leadership. Such an approach would not only preserve the integrity of the school leader's vision but it would, more importantly, secure the higher purpose of using assessment to benefit learners and their learning.

Third, assessment leadership can be valuable as a catalyst for transforming the direction and value of education. In order to bring about desired assessment changes in schools, it is critical to recognize that assessment is bounded by, and therefore can act as the *pivot* for, the different forms of learning and understanding that a holistic education can bring about. The three school leaders clearly appreciate the value of holistic education. Each of them has clear conceptions about how to bring about curricular changes in his or her own school. Such clarity of vision is vital in societies and systems which tend to focus too much on pragmatic concerns at the expense of a larger and more purposeful vision of education.

Education policy in Singapore is essentially driven by pragmatic considerations, and assessment is seen as the most direct opportunity to secure access to elite schools and, eventually, stable lucrative careers. Assessment leadership can alter the regulatory features of assessment to one that fosters a love of learning that embraces the epistemological connections and diversity of academic and non-academic subjects and disciplines (Boud 2007). Such assessment leadership requires school principals to be a catalyst for transforming hearts and minds towards more expansive notions of education. To varying degrees, all three school leaders demonstrated such catalytic qualities.

To initiate change, the primary school principal, Mrs. Chan, encouraged her teachers to think and talk about assessment so that it would become a focal point of their professional learning. If teachers are not encouraged and given opportunities to think and discuss the complexities of assessment, then it would be difficult for school leaders to expect them to embrace and execute assessment reform. Likewise, Mr. De Cruz in the secondary school context worked at identifying teachers and departments that were more open to trying new assessment practices and ideas. In so doing, he helped to create an environment where teachers were more disposed to change and hence were more willing to learn and adapt new assessment models. Ms. Mohana in the Junior College context utilized Kim's "core theory of success" as her catalytic mechanism for getting her teachers to rethink assessment as serving the primary purpose of helping students become successful, rather than using assessment to determine if students were successes or failures.

Finally, assessment leadership should be prepared to confront and address *potentially troublesome discomforting issues.* All three cases clearly demonstrated the difficulty in getting teachers to alter their settled ways of doing things with respect to assessment. This is made more difficult in the current educational context where existing assessment practices are generally well regarded and supported by parents.

Hence, a great challenge of assessment leadership striving to reach new threshold levels would be to identify, raise and address potentially troublesome issues even when, or especially when, all seems to be well. A well-established and successful education system that prides itself on making continuous and progressive improvements would find it especially difficult to embark on deep, fundamental changes. Likewise, schools which already benefit from sound and steady assessment leadership may find it difficult to deal with established ways of addressing students' and even teachers' learning. Change at a fundamental level therefore has to be evolutionary rather than revolutionary.

4.8   Questions for Reflection and Discussion

1. What are the "potentially troublesome issues" in your school's context?
2. How similar or different are they from the issues described in the case studies? Would you have framed the issues in the same way as the school leaders here?
3. What would represent an assessment leadership threshold in, and for, your school?
4. What do assessment practices in your school reveal about how, and how well, students are learning?
5. What leadership practices need to be further investigated so as to help schools evolve in their assessment practices?

References

Ball, S. J. (1994). *Education reform: A critical and post structural approach.* Buckingham, UK: Open University Press.

Berry, R. (2011). Assessment trends in Hong Kong: Seeking to establish formative assessment in an examination culture. *Assessment in Education: Principles, Policy & Practice, 18*(2), 199–211.

Black, P., & Wiliam, D. (2005). Lessons from around the world: How policies, politics and cultures constrain and afford assessment practices. *The Curriculum Journal, 16*(2), 249–261.

Boud, D. (2007). Reframing assessment as if learning were important. In D. Boud & N. Falchikov (Eds.), *Rethinking assessment in higher education.* London: Routledge.

Carless, D. (2011). *From testing to productive student learning: Implementing formative assessment in Confucian heritage settings.* London: Routledge.

Carless, D., & Lam, R. (2014). Developing assessment for productive learning in Confucian-influenced settings. In C. Wyatt-Smith (Ed.), *The enabling power of assessment.* London: Springer.

Deneen, C., & Boud, D. (2013). Patterns of resistance in managing assessment change. *Assessment & Evaluation in Higher Education, 39*(5), 577–591.

Florez, M., & Sammons, P. (2013). *Assessment for learning: Effects and impact*. Reading: CfBT.

Fullan, M. (2010). The awesome power of the principal. *Principal*, *89*(4), 10–12, 14 March–15 April 2010.

Heng, S. K. (2014). Opening address by Mr Heng Swee Keat, minister for education, at international association for educational assessment (IAEA) conference at the Grand Copthorne Waterfront Hotel, Singapore.

Hollingworth, L. (2012). Why leadership matters: Empowering teachers to implement formative assessment. *Journal of Educational Administration, 50*(3), 365–379.

Kim, D. (2016). What is your organization's core theory of success? *Systems Thinker*. Retrieved 15 August 2017, from https://thesystemsthinker.com/what-is-your-organizations-core-theory-of-success/.

Mansell, W., James, M. & The Assessment Reform Group. (2009). *Assessment in schools. Fit for purpose? A Commentary by the Teaching and Learning Research Programme.* London: Economic and Social Research Council, Teaching and Learning Research Programme.

Meyer, J. H. F., & Land, R. (2003). *Threshold concepts and troublesome knowledge: Linkages to ways of thinking and practising within disciplines*. Swindon, UK: TLRP/ESRC.

Ministry of Education. (1998). *Learning, creating, communicating: A curriculum review.* [Electronic Version]. Retrieved 15 August 2017, from https://www.moe.gov.sg/media/speeches/1998/CurryRevueReport.htm.

Ng, E. H. (2008). *Speech by Mr Ng Eng Hen, Minister for Education, at the Ministry of Education Work Plan Seminar 2008 at Ngee Ann Polytechnic Convention Centre, on Tuesday 25 September at 9.30am at the Ngee Ann Polytechnic Convention Centre*. Retrieved 1 May 2014, from http://www.moe.gov.sg/media/speeches/2008/09/25/speech-by-dr-ng-eng-hen-at-the-moe-work-plan-seminar-2008.php.

Spillane, J. P., Diamond, J. B., Burch, P., Hallett, T., Jita, L., & Zoltners, J. (2002). Managing in the middle: School leaders and the enactment of accountability policy. *Educational Policy, 16* (5), 731–762.

Tan, K. H. K. (2011). Assessment reform in Singapore - enduring, sustainable or threshold? In R. Berry & B. Adamson (Eds.), *Assessment reform in education: Policy and practice* (pp. 75–88). London: Springer.

Tan, K. H. K. (2013). *A Framework for Assessment for Learning: Implications for Feedback Practices within and beyond the Gap*. ISRN Education, 2013, 1–6.

Tierney, R. D. (2006). Changing practices: influences on classroom assessment. *Assessment in Education: Principles, Policy & Practice 13*(3), 239–264.

Timperley, H. (2011). Knowledge and the leadership of learning. *Leadership and Policy in Schools, 10*(2), 145–170.

Webb, M., & Jones, J. (2009). Exploring tensions in developing assessment for learning. *Assessment in Education: Principles, Policy & Practice, 16*(2), 165–184.

Professional Development

5

William K. W. Choy and Paul M. H. Chua

Abstract

As a consequence of globalization, many countries are embarking on educational reform to enhance the performance of schools. School leadership is a key factor of success of schools and educational system reforms. Furthermore, the quality of a school system rests on the quality of its school leaders and teachers, that is, high-performing school systems are good at focusing on three fundamental aspects of the education system: (1) Effective mechanism for teacher selection; (2) Effective processes for training and development of teachers; and (3) Effective systems and support structures. This chapter presents two case studies that describe the professional development initiatives at the school level. The insights espoused by the school principals provide the rationale for professional development to bring about greater enhancement of the teaching quality of the respective schools' teachers. Their perspectives about professional development in their respective schools reinforce the need for promoting growth and development amongst school leaders and teachers, endorsing greater recognition for excellence in teaching and leadership, establishing high standards for professional teaching status, and reducing timelines for improvement, with the purpose of enhancing student learning, growth, and achievement, and school performance.

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5.1   Introduction

As a consequence of globalization, many countries are embarking on educational reform to enhance the performance of schools. Policymakers have acknowledged that the ability of countries—both developed and developing—to compete in the globalized knowledge economy is increasingly dependent on their capacity to meet the fast-growing demands for high-level skills. This hinges on how countries are making significant progress in improving the quality of education of their people and providing equitable learning opportunities for all (Barber and Mourshed 2007). Education has the second largest portion of the national budget (MOF 2014), reflecting the government's commitment to maximize the development of human resources. Within the education sector, it is also understandable why the development of leadership is a continual priority, and the link between leadership development and education policies are closely inter-twined. That school leadership is a key factor of success of schools and educational system reforms around the world has been extensively researched and well established (Hargreaves 1994, 2003; Blase and Blase 2000; Joyce and Showers 2002; Hallinger 2003; Leithwood et al. 2006; Fullan 2007; Harris and Spillane 2008; Bush 2009; Sergiovanni 2009; Hargreaves and Shirley 2012; Senge et al. 2012; National Institute of Education 2014).

School leaders have always been regarded as a major educational asset as they are key contributors to the success of the school system. Their quality development serves as a means to position Singapore for the future, which is becoming increasingly complex and uncertain, thus requiring highly skilled and knowledge-able leaders. Today, Singapore school leaders see the need to design holistic improvement efforts to effect purposeful and sustainable change towards achieving school effectiveness and educational excellence for teacher-level performance, and desired student-level outcomes in learning that are more holistic in nature.

In the current global competitive context of education, Singapore has caught the eyes of many educational policymakers, educators and researchers around the world. It has consistently done relatively well for both TIMSS (Trends in International Mathematics and Science Study) and PISA (Programme for International Student Assessment) results. The Singapore education system also spends less on primary education than 27 out of the 30 countries in the OECD (Mourshed et al. 2010). The education system has been ranked highly in terms of sustained improvement, and has been singled out as one of five 'great' education systems in the world (Mourshed et al. 2010). In fact, Barber and Mourshed (2007) have emphasized that the quality of a school system rests on the quality of its teachers; that is, high-performing school systems are good at focusing on three fundamental aspects of the education system:

1. *Effective mechanism* for teacher selection such that the right people are employed to become teachers (i.e. the quality of the education system cannot exceed the quality of its teachers);
2. *Effective processes for training and development* with strong emphasis on ensuring teachers are professionally developed to be effective instructors (i.e. the best way to achieve excellent outcomes is to improve the instruction); and

3. *Effective systems and support structures* are put in place to ensure that every student will benefit from the excellent instruction (i.e. the best way for schools to achieve the best performance is to raise the standard of every student).

No doubt, school leadership practices centred on sound strategic planning, proper resource management, enhancing teaching and learning, promoting staff development and close leadership support can help school leaders design organizational change and development initiatives that are purposeful and sustainable towards achieving school improvement and educational excellence through teacher and organizational capacity building. One important aspect of school leadership practices is the focus on professional development of the educators in schools. Furthermore, as commented by Craft (2002), "professional development has attracted increasing attention in recent years. Faced with rapid change, demands for high standards and calls for improving quality, teachers have a need, as never before, to update and improve their skills through professional development" (p. 5). So, what exactly is Professional Development about?

5.2 Research Initiatives in Teacher Professional Development

In many workplaces, professional development refers to the acquisition of skills and knowledge, both for personal development and for career advancement. Professional development encompasses all forms of facilitated learning opportunities, ranging from college degrees and formal coursework to conferences and informal learning opportunities situated in practice. It has been described as intensive and collaborative, ideally incorporating an evaluative stage (Speck and Knipe 2005). A wide variety of professionals, such as teachers, military officers, healthcare professionals, lawyers, accountants and engineers engage in professional development. Individuals may participate in professional development for a variety of reasons: interest in lifelong learning, a sense of moral obligation, a desire to maintain and improve professional competence, an aspiration to enhance career prospects, a professional obligation to keep abreast of new technology and practices or to comply with professional regulatory regimes. Indeed, many are often obliged to participate in professional development courses as part of an organization's human resource requirements (Golding and Gray 2006; Jasper 2006).

In the field of education reform and development, according to Guskey (2000), professional development refers to all the processes, actions and activities that have been planned to enhance the professional knowledge, skills and competencies of teachers that will lead to the improvement of the learning outcomes of students. Craft (2002) compiled a list of the many reasons for undertaking professional development in education. These reasons include:

1. To improve the job performance skills of the whole staff or groups of staff;
2. To improve the job performance skills of an individual teacher;
3. To extend the experience of an individual teacher for career development or promotion purposes;
4. To develop the professional knowledge and understanding of an individual teacher;
5. To extend the personal or general education of an individual;
6. To make staff feel valued;
7. To promote job satisfaction;
8. To develop an enhanced view of the job;
9. To enable teachers to anticipate and prepare for change; and
10. To clarify the school or department's policy.

There is a wide range of methods of professional learning. They include:

1. Action research;
2. Self-directed study as well as teacher research linked to awards such as the education doctorate;
3. Using distance-learning materials;
4. Receiving and/or giving on-the-job coaching, mentoring or tutoring;
5. School-based and off-site courses of various lengths;
6. Job shadowing and rotation;
7. Peer networks;
8. Membership of a working party or task group (these may include what are sometimes called 'professional learning communities or teams');
9. School cluster projects involving collaboration, development and sharing of experience/skills;
10. Teacher placement in other schools and even in business or public organizations;
11. Personal reflection;
12. Experiential 'assignments';
13. Collaborative learning; and
14. Information technology-mediated learning (e.g. through email discussion groups, or self-study using multimedia resources).

Craft (2002) proposes that ultimately all teacher development will have as one of its aims the improvement of pupil learning. In fact, researchers such as Creemers et al. (2013), and Darling-Hammond and McLaughlin (1995) have acknowledged that teacher training and professional development are considered an integral part of their careers for improving teachers' content knowledge and developing their personal pedagogies so as to maintain high teaching quality in the classrooms. Indeed, over the decades, the demands and expectations for better quality teaching and learning, and for greater accountability and improved standards have been receiving more emphasis and attention. Because of such developments, research on

teacher training and professional development have been high on the agenda for policymakers, education researchers and school leaders.

According to Craft (2002) and Guskey (2000), for a school to have effective teachers, it is essential that professional development be provided to teachers in such ways that they are able to directly apply what they have learned to their classroom teaching. Research has shown that effective professional development had led to better instruction and improved student learning outcomes in the classroom when it is connected to the curriculum materials that teachers use, the district and state or national academic standards that guided their work, and the assessment and accountability measures that evaluated their success (Cohen and Hill 2001). Not only that Garet et al. (2001) have strongly emphasized that there needs to be more systematic research to examine the effectiveness of the professional development of teaching and learning. Furthermore, Bransford et al. (1999) have called for more attention to the need for more studies to determine the efficacy of the various types of professional development initiatives.

To affirm this aspect of professional development, based on systematic and thorough evaluation of the focus, methods and data sources of 137 key publications on teacher educators, Lunenberg et al. (2014) have provided insights into the various roles of teacher educators and the complexity of their work, as well as examined the essential building blocks for ongoing structured and in-depth professional development. It has been noted that although the number of studies on teacher educators was growing, the research in the field is still scattered. They stressed the need to create a comprehensive research programme on teacher educators and provide concrete recommendations for such a programme if school leaders and teachers hope to be taken seriously in the profession.

5.3 Teacher Professional Development in the Singapore: The Teacher Growth Model

The Teacher Growth Model (TGM) was launched by Mr. Heng Swee Keat, the then Minister for Education, at the 6th Teachers' Conference organized by the Academy of Singapore Teachers (AST), Ministry of Education (MOE). The TGM is a professional development model[1] aimed at encouraging and helping teachers to develop holistically in the twenty-first century, by engaging in continual learning, and taking ownership of their professional growth and personal well-being. The TGM reflects the multi-faceted nature of teachers' work and presents a holistic portrait of the twenty-first-century Singapore teacher with the following five desired outcomes:

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[1]The TGM is built upon the philosophy that teachers are student-centric professionals who take ownership of their growth. It is a learning framework to guide teachers towards professional excellence in teaching experience leading to enhanced student learning. It does this through providing holistic growth in teachers, building a shared understanding of the ethos and values of the teaching profession, while reflecting the philosophy of Singapore's education system and by fostering a culture of continual and collaborative learning, teacher ownership and leadership.

1. The Ethical Educator;
2. The Competent Professional;
3. The Collaborative Learner;
4. The Transformational Leader; and
5. The Community Builder.

The model is developed by the AST in consultation with educators of diverse profiles from across the ministry to envision the learning needs of the twenty-first-century Singapore teacher. The Ministry strongly believes that the growth and personal well-being of teachers are essential to their professional development, which in turn has an impact on the quality of teaching and learning. Thus, it is a demonstration of the commitment to the professional growth and continual learning of teachers throughout their careers. Like their students, teachers have diverse learning needs. The TGM recognizes that teachers need to (1) be equipped with the relevant knowledge and skills to develop students holistically, and (2) pursue their development through multiple modes of learning, including going for training, mentoring, research-based practice, networked and experiential learning (MOE 2012a, b).

5.4 Five Desired Outcomes of the Twenty-First-Century Singapore Teacher

The TGM Learning Continuum and Multiple Modes of Learning

The design of the TGM recognizes teachers as professionals who engage in continual learning and growth. The TGM Learning Continuum recommends learning areas that will facilitate their professional growth in the five desired outcomes, according to the stages in their career (e.g. beginning teacher, experienced teachers, senior teachers, lead teachers, master teachers and principal master teachers). Within the learning areas are learning sub-areas and possible professional development learning opportunities. Using the TGM Learning Continuum, teachers have the flexibility and autonomy to plan their learning relevant to their professional needs and interest. Their learning will be aligned to the knowledge and skills needed to nurture students in twenty-first-century competencies.

Like their students, teachers in the twenty-first century have diverse learning modalities. The TGM encourages teachers to pursue professional development through multiple modes of learning, including face-to-face and ICT-based courses, conferences, mentoring and research-based practice, networked learning, reflective practice and experiential learning. MOE is committed to investing in the professional growth of teachers and will continue to support teachers as they engage in continual learning throughout their careers. Eventually, every teacher has the opportunity to grow through various learning modes and platforms. There is a

growing consensus that teacher educators largely determine the quality of teachers, and hence, the quality of education. The following section highlights some of the features essential for teacher professional development.

Features of Teacher Professional Development

In their work that involved a review of more than 20 years of international research on teacher educators, Lunenberg et al. (2014) have identified critical characteristics regarding the professional development of teachers and the particular behaviours in the roles of teachers, namely, Context, Building on personal qualities of the teacher educator, Support and Research.

1. *Context*. This refers to the availability of a frame of reference, such as a professional standard or knowledge base, which is essential in facilitating the professional development of the teacher educator as a teacher of teachers, and in promoting self-confidence. Lunenberg et al. (2014) stress the importance of a national frame of reference or professional standard as they serve to promote better understanding of the complex work of the teacher educator and in supporting deeper professional development. Consequently, the frame of reference has positive effects as it contributes to the self-esteem, moral development and enthusiasm for the profession amongst the teacher educators.

2. *Building on personal qualities of the teacher educator*. This refers to the personal qualities of teacher educators. Example of some of the qualities with possible links to improving professional development include the teacher educators' zeal or willingness to learn and openness to new ideas, enjoyment of sharing in ideas, interest in technological advancements that have impacts on classroom teaching and learning, student-oriented focus with interest in the subject–discipline and in students' outcomes, and last but not least, (gaps in) prior knowledge and experience in classroom teaching and management.

3. *Support*. This refers to the various support structures or arrangements organized within the school setting that promote learning opportunities for teacher educators. Examples of such support in schools include coaching by a mentor (usually an experienced colleague), informal learning from and with fellow teacher educators in daily practices at the micro-level within the department or team, and other forms of support such as peer-coaching, attending seminars and conferences, and participation within professional learning communities.

4. *Research*. This refers to the studying of personal practices, whereby teacher educators seek to improve their roles, behaviours and performance, as part of their professional development efforts. This approach is considered an excellent way for teacher educators to proactively reflect on their theoretical and practical knowledge, and about teaching and learning in a systematic way so as to improve their practice more professionally.

The abovementioned features are quite evident in the two case studies presented in this chapter. The comments of the school principals reflect the four features of teacher professional development. All in all, their perspectives about professional development in their respective schools reinforce the need for promoting growth and development amongst school leaders and teachers, endorsing greater recognition for excellence in teaching and leadership, establishing high standards for professional teaching status, and reducing timelines for improvement, with the purpose of enhancing student learning, growth and achievement. The following two cases below highlight a few of the issues and challenges facing school principals.

5.5 Method

The purpose of these case studies is to describe the professional development initiatives based on the perspectives of two Singaporean school principals: one primary and one secondary. The principals were selected based on a purposive sampling approach. Both schools have school-wide professional development framework and approach. Furthermore, each is unique in terms of school type. It is intended that insights about professional development initiatives are sought from a principal from a primary school and secondary school. As the culture of primary and secondary schools may be different, it would be interesting to investigate differences and similarities. Consent was sought from the principals before they participated in a one-to-one interview in March 2015. Their insights were recorded and analysed according to the questions below.

1. How does a principal plan professional development policies and opportunities in his/her school that create, shape and sustain student achievement?
2. How does a principal evaluate the effectiveness of his/her school's professional development initiatives?
3. What further expertise, knowledge and skills does a principal need to raise the level of professional development in his/her school?
4. How does a principal encourage a culture of valuing professional development in his/her school? What are the challenges that a principal face when he/she is promoting a culture of professional development in his/her school?
5. What are the main learning experiences, and what advice does the principal give to other school leaders from his/her leadership experience with professional development?
6. How does a principal determine and manage his/her own professional development?
7. What are the challenges for the principal in managing his/her own professional development?

Case Study 1: Yang Min Primary School[2]

Mrs. Pang is the principal of a well-established primary school. The school has a mission to create a strong school community where all school staff members will work together for the promotion of truth, justice, freedom and love, with special reference to the needs of the pupils who are disadvantaged. Furthermore, the school has established itself as a centre for excellence for teaching and learning with a strong mission to establish a community of reflective teacher practitioners. The school also fosters a culture of collaboration in the area of teaching and learning where stakeholders such as MOE officers and NIE lecturers and researchers can exchange practices and innovative ideas with the aim of responding to the demands of the ever-changing educational landscape in Singapore. To accomplish the centre's vision and mission, the school crafted the following objectives:

1. To provide a networking platform for the sharing of good and/or innovative pedagogical practices through demo lessons and reflections and presentations by teachers at the cluster or zonal levels[3];
2. To develop teachers professionally through the organization of workshops and courses;
3. To develop and use the school's strength in cooperative learning; and
4. To provide teachers with a range of teaching resources.

Regarding the question how the school principal plans the professional development policies and opportunities for teachers, Ms. Pang first undertook to survey the school environment to ascertain the level of commitment and competence teachers before she set the course of direction for the school. She believes that by understanding and appreciating teachers' aspirations—that is, what they wanted for themselves, the kind of job fulfilment they wanted, their level of commitment to the school, their sense of job motivation and satisfaction, their sense of belonging and other job related factors—she will be in a better position to make informed decisions relating to the professional development of teachers.

In addition, Ms. Pang consults the Heads of Departments (HODs) and Reporting Officers (ROs) to find out more about the level of competence of the various teachers under their charge. She does this in order to assess the strengths and

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[2]A different name is given for the primary school to conceal its identity.

[3]All the schools in Singapore are arranged into four zones—North/South/East/West. The schools are grouped into clusters and each cluster is facilitated by a Cluster Superintendent. The Cluster Superintendents in each Zonal Branch develop, guide and supervise the school leadership teams to ensure that schools are effectively run. They ensure that there is networking, sharing and collaboration among the member schools within the cluster so as to raise the capacity of the leadership teams and the level of performance in each school. Cluster Superintendents also play a key role in personnel and financial management. They develop personnel in their clusters according to training needs and identify personnel with potential for career development. They ensure the effective and optimal use of cluster financial resources such as funding worthwhile school projects and activities that help schools to achieve the Desired Outcomes of Education (MOE 2015a).

weaknesses of the jobholders so that she can work closely with the HODs and ROs to consider ways to enhance the quality of teachers' teaching competencies (while minimizing any weaknesses). She is prepared to provide adequate support and resources (such as the school training fund) towards the development of teachers so that they may improve their teaching. Ms. Pang believes that there is a strong correlation between the standard of teaching and learning, and the quality of students' performance and achievement at her school.

Another initiative reflecting how Ms. Pang plans the professional development opportunities within the school is her policy of encouraging teachers to specialize in two core teaching subjects. She first consults with teachers. The rationale for such an arrangement is that teachers can then concentrate their teaching efforts on subjects they are good at. Ms. Pang also believes that this arrangement will better enhance the quality of the teaching as teachers will be able to hone their skills and knowledge in classroom facilitation.

A third initiative introduced by Ms. Pang is the establishment of learning platforms—both external and internal, for teachers to capitalize on. These learning platforms provide opportunities for teachers to develop their learning capacities through close interactive engagements with each other, and occasionally with experts brought in by the school. An example of the learning platform is the Professional Learning Community (PLC). She believes that this arrangement will help develop greater level of commitment and cooperative learning amongst teachers towards shared ideas and purposes regarding best teaching practices. Most promisingly, this professional learning platform will create a dynamic interplay of learning from three knowledge sources: (1) from the strong public knowledge base, (2) knowledge derived from appreciating school best practices, and last but not least, (3) from the collaborative development of new knowledge between the participating staff members. It is important to know that this initiative is underpinned by four learning processes within the community of teachers—(1) learning from, (2) learning with, (3) learning on behalf of one another and (4) meta-learning. The benefits of the PLC initiative are that it serves to develop and maintain connections with teachers about information on best teaching practices and enhances the quality of communication in such a way so as to support one another's learning and professional development. All in all, the PLC is considered a viable initiative that creates a very conducive environment that fosters interdependent working and professional collaboration towards enhancing the quality of teaching and learning.

As to how she will evaluate the effectiveness of her school's professional development initiatives, Ms. Pang replies that, together with the HODs and ROs, she will conduct formative assessment of teachers' performance. They will consider how teachers have value-added their classroom teaching in terms of both academic and non-academic achievements. The HODs and ROs are instructed to look for strong content knowledge, and pedagogy in teachers, and how such teacher characteristics translate to strong curriculum leadership as well as consistent trends in their performance.

   In terms of challenges in promoting a culture of professional development, Ms. Pang says that she faces the challenges of time management and work commitment. She acknowledges that different staff members have differing priorities between school and family. This has significant impact on their commitment levels towards engaging in professional development, especially if the sessions are conducted outside school hours. A number of teachers feel that they are already quite "stretched" and have found it rather difficult to balance their work and family commitments. Thus, Ms. Pang has made it a point to help manage the work priorities and expectations of her staff. Another challenge that Ms. Pang faces concerns parents. Many parents are well informed about school practices and often share views on the attitudes and competencies of school's teachers through the 'parental grapevine'. Thus, she has sought to manage parents' expectations and create reliable communication channels for their use to engage with the school and its teachers.

   Concerning sharing her insights and leadership experience on professional development with other principals, Ms. Pang suggests that a school leader should seek to know his/her staff members at a deeper level. This entails spending time listening to issues and ideas raised by teachers. Informal engagements with teachers enhance the quality of communication and build deeper trust between the school leaders and teachers. In this way, teachers will be more motivated in their work, and be satisfied with their jobs as well, as they know that their school leaders are interested in their personal and professional welfare.

   As to how she will determine and manage her own professional development, Ms. Pang says that she collaborates with the School Superintendent and School Staff Developer (SSD)[4] to craft a comprehensive development plan to meet her professional learning needs. Two key areas of professional development she is interested in are people management.[5] and curriculum leadership[6] She also says that she will learn from other principals and external consultants to acquire more insights to school issues.

Case Study 2: Jing Hu Secondary School[7]

With Mr. Lim as the principal of the secondary school, the school has a mission to develop responsible and thinking students with good character and a healthy appreciation for life. The school leaders have envisioned that students will eventually grow to be a complete person, who is rational, independent, moral,

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[4]The School Staff Developer is senior personnel whose job is to ensure that the training and professional development programmes are customized to the teacher's needs, while supporting the school's goals. The SSD may be a more senior teacher or a Head of Department. The SSD will also work with other Senior Teachers and Heads of Departments to mentor and coach teachers in the areas of teaching and career development (MOE 2006).

[5]She is taking external courses on people management.

[6]She is pursuing a higher degree on curriculum leadership at the National Institute of Singapore (NIE).

[7]A different name is given for the secondary school to conceal its identity.

contributor to society, and a lifelong learner, and is predisposed to lead healthy lifestyle and have an appreciation of the arts.

Concerning how the school principal plans the professional development policies and opportunities of the school, Mr. Lim passionately believes that the school should focus on the professional development of staff members—starting from the senior management level with the vice-principals, and proceeding to the middle management level with the key personnel such as the Heads of departments (HODs), Level Heads (LHs), Subject Heads (SHs), Senior Teachers (STs) and teaching staff.

Mr. Lim believes that teachers should be able to nurture the whole child and to teach creatively. Like other school leaders, he also believes that additional competencies such as the understanding of the larger environment and the ability to collaborate with fellow teachers are important attributes of a good classroom teacher. As a professional, a good teacher should be able to help improve the capabilities of his or her colleagues, and to contribute to better teamwork in his or her department.

Mr. Lim rationalizes that the quality of the school teaching staff will have direct impact on the quality of student performance. Hence, he has made it his priority to train and develop his staff to level up, and raise the capacity of staff at all levels. One of Mr. Lim's leadership practices in developing his staff is the utilization of the on-the-job training[8] (OJT) which is a form of training taking place in normal working situations. On-the-job training, sometimes called direct instruction, is one of the earliest forms of training. It is a one-on-one training located at the job site, where someone who knows how to do a task demonstrates to another how to perform it. Mr. Lim finds that this approach is most practical as it allows him to concentrate on developing three areas of the school competencies for the senior management, namely, school administration, operations and managerial skills.

Another leadership practice that Mr. Lim considers is the use of the School Excellence Model (SEM)[9] which serves as a guiding framework in the management of his staff. Among the enabler criteria stated in the SEM, Mr. Lim highlighted two essential ones, namely, (1) Strategic Planning and (2) Staff Management, as being key to the school's professional development initiatives. He emphasizes that the

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[8]This approach that Mr. Lim has adopted for his school is due to his previous professional work in the private sector. OJT is still widely in use today. In fact, it is probably the most popular method of training because it requires only a person who knows how to do the task, and the equipment the person uses to do the task. It is normally the easiest to arrange and manage at the workplace and because the training takes place on the job, it can be highly realistic.

[9]The School Excellence Model (SEM) is a framework used to guide schools in the assessment of their management and education processes and overall school performance. The SEM helps schools to provide a holistic and quality education and continuous good performance. Implemented in 2000, the SEM is now used by all schools for their annual self-assessment and by the Ministry of Education (MOE) for the external validation of schools. In order to guide schools in their self-assessment, suggested indicators and examples of best practices in other organizations are provided. Schools are given the autonomy to chart their own progress and choose their own strategies according to the resources they have in order to achieve their desired outcomes and targets (adopted from Seah and Ow 2003).

criterion for Strategic Planning has allowed him to define how the school sets clear stakeholder-focused strategic directions towards realizing the Thinking Schools, Learning Nation vision, develop action plans to support its directions, deploy the plans and track performance. As for the criterion on Staff Management, he comments that the guidelines have provided the necessary perspectives on how the school can develop and utilize the full potential of its staff to create an excellent school.

All in all, Mr. Lim aspires to empower staff members to be individually engaged in the crafting of strategic plans, as well as planning the directions for their professional development (specifically, in relation to Staff Management) so that they may take full ownership of the SEM initiatives. The active utilization of the SEM framework has several benefits. First, it serves as a sound and integrated approach for systematic, continuous improvement towards the school strategic planning and the professional development of staff. Second, it ensures that there is a systematic prioritization and implementation of the strategic plans and professional development initiatives. Third, it provides guidelines on regular assessment and review of the measures and their implementation, based on continuous monitoring and analysis of student performance and school outcomes.

Following the implementation of the school's professional development initiatives, the question is posed to the principal about how he will evaluate the effectiveness of the initiatives. Mr. Lim acknowledges that there are many factors to consider when school leaders and reporting officers appraise teachers under their charge. These include the holistic development and accountability of teachers for their students through student outcomes, professional outcomes and organizational outcomes.

Much is at stake for the school and teachers during the appraisal and review sessions since the professional development of teachers has a certain bearing on their performance. Mr. Lim and ROs are mindful that it is no easy task conducting the staff annual appraisals and reviews. The Enhanced Performance Management System (EPMS)[10] has been designed to focus on the essential competencies of the teacher in the course of the individual's professional career. This has led Mr. Lim to incorporate the EPMS as the means of engaging staff members in more explicit assessments of their performance in specific areas, and in clearer identification of their training needs and development path. He rationalizes that the EPMS provides a systematic procedural process as well as a developmental framework with criteria that school leaders can refer to in the evaluation of their teachers.

Mr. Lim encourages teachers to continuously reflect on their personal pedagogies at three phases of the year: at the start of the school term, during the June holidays break and at the end of the year in December. Despite the measures that have been put in place to ensure that teachers are assessed on several competencies

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[10]MOE HQ has also taken the lead to simplify processes. The authors have revised the School Excellence Model (SEM), Enhanced Performance Management System (EPMS) and Risk Assessment & Management (RAM) procedures to help us focus on the key outcomes. The SEM now has 24 sub-criteria, instead of the previous 31, and 30 key performance measures, instead of the original 78. Also, the revised EPMS form is now five pages instead of 15 (MOE 2015b).

and not just the academic results of students or what they do outside the classroom, the fundamentals of the performance assessment of teachers are still about the passion and commitment of the individuals to nurture the whole student. In other words, he is looking at whether teachers are able to teach creatively and effectively, and whether they will go out of the way to look after the learning needs of their students. As the EPMS is a robust performance management system that is designed to set work targets, review performance and plan the professional developments of teachers, Mr. Lim seeks to ensure that ROs are better equipped to use the system effectively so that more holistic assessments of teachers' performance are conducted.

Regarding the question of how he will promote a culture of professional development, Mr. Lim emphasizes that he has sought to build strong bonds, trust and collaboration amongst teachers. In order to do so, he stresses the need to assess the tone of the school environment—that is, to understand the attitude and behaviours of teachers. He introduced restorative practices as a form of proactive engagement to develop relationships and build a community. This practice has given staff opportunities to speak and listen to one another such as telling their stories and offering their own perspectives in an atmosphere of safety, decorum and equality.

Pertaining to the question on the learning experiences and advice he gives to other school leaders from his leadership experience on professional development, he has suggested that school leaders consider the 6Ps:

1. *Purpose*: What is the sense of purpose that the school has? This may be perceived as the vision and mission of the school.
2. *Positioning*: This refers to the school strategy, in the specific or tactical development phases of carrying out an objective to achieve the school's goals.
3. *People*: This concerns focusing on supporting, motivating and developing the people in the school and the relationships within.
4. *Processes*: This refers to the school systems that have been put in place that are delineated by the spatial and temporal boundaries, surrounded and influenced by the environment, described by the structures and purposes, and expressed in the interconnected operations of the components in the school.
5. *Performance*: This includes the alignment of the resources, systems and staff members to strategic objectives and priorities, and the implementation of such school activities to ensure that goals are consistently being met in an effective and efficient manner.
6. *Professionalism*: This describes the standards of training and development that prepare teachers with the essential knowledge and skills required to perform their respective roles.

5.6 Discussion and Conclusion

5.6.1 A Culture of Professional Development in Singapore Schools

Both the primary and secondary schools have reflected strong school culture that supports professional development for teachers. The school leaders are in the forefront of encouraging their teachers to take ownership of their growth. These leaders exemplify the philosophy of the MOE's TGM that serves as a learning framework to guide teachers towards professional excellence in teaching experience leading to enhanced student learning. The leaders strongly value the benefits of holistic growth in teachers through continual learning, and strongly encourage teachers to take ownership of their professional development. The school leaders have stressed that teacher preparation and professional development are considered an integral part of their careers which is essential for teachers to improve their content knowledge and enhance their personal pedagogies towards maintaining high teaching quality. The high expectations for better teaching and learning as expressed by the school leaders indicate that they understand that effective professional development leads to better instruction and improved student learning outcomes as teachers are able to directly apply what they have learned to the classroom teaching practices.

5.6.2 Strong Learning Platforms for Teachers

One needs to take note that the MOE's TGM encourages teachers to pursue professional development through multiple modes of learning, including face-to-face and ICT-based courses, conferences, mentoring and research-based practice, networked learning, reflective practice and experiential learning. The school leaders of both schools have shown strong commitment in investing in the professional growth of their teachers. The school leaders' role model the need for professional development as well as seek to empower teachers to develop their teaching capacity. The school leaders have emphasized that they will continue to support their teachers as they engage in continual learning throughout their careers. The primary school has established a networking platform for the sharing of good and innovative pedagogical practices through lesson study, cooperative learning, reflections[11] and presentations by teachers as well as workshops and courses to develop teachers professionally. These learning platforms provide opportunities for teachers to develop their learning capacity through close interactive engagements with each other, with teachers from other schools, and occasionally with external experts.

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[11]The tool of reflection played a prominent role in the development of a culture of the professional development of teachers.

The leadership of the secondary school has adopted a more personal, one-on-one training that involves a school leader–teacher partnership. The emphasis on professional development is to instil a highly realistic, contextualized form of training for teachers. The direct instruction allows the school leader to have more control on developing key areas of skills and competencies for teachers, as well as to monitor the progress of growth of teachers. Furthermore, the school leader is guided by the EPMS as the means of engaging staff members in more explicit assessments of their performance in specific areas, and identifying staff training needs and development paths. The systematic procedural process has helped the school leader evaluate teachers more objectively.

Lunenberg et al. (2014), in their systematic review of literature related to teacher educators or mentor teachers or teacher trainers, identified six roles of teacher educators: teacher of teachers, researcher, coach, curriculum developer, gatekeeper and broker. This research study has surfaced three of the six roles. Chief among them is the fact that the two principals exhibited the role of a teacher of teachers. According to Lunenberg et al. (2014), the teacher of teachers' roles include being a role model to other teachers, and encouraging and promoting teacher learning. Additionally, the two principals exhibit the role of being a gatekeeper. Lunenberg et al. (2014) highlighted a key gatekeeper's role, which is to use standards and profiles in the course of teacher professional development. One of the two principals uses some form of standards to aid in their development of teachers (e.g. SEM and EPMS). The second role that had surfaced in this study is the role of a coach (e.g. the secondary school principal who adopted a more personal one-on-one approach to training), and third is a broker (e.g. the primary school principal whose school has established a networking platform for schools to exchange good teaching practices). The role of a teacher educator as a researcher is glaringly absent from the data. This probably speaks of the lack of time for most schools to conduct research into their own effectiveness as teacher developers.

5.7   Questions for Reflection and Discussion

1. What in your views are 'competencies'?
2. What can school leaders do to ensure that transparency and objectivity are maintained in appraisal exercise?
3. In your own work context, how can development be integrated with performance appraisal?
4. What further research needs to be carried so as to help reporting officers do their work better?

References

Blase, J., & Blase, J. (2000). Effective instructional leadership: teachers' perspectives on how principals promote teaching and learning in schools. *Journal of Educational Administration, 38*(2), 130–141.

Bransford, J. D., Brown, A. L., & Cocking, R. R. (Eds.). (1999). *How people learn: Brain, mind, experience, and school*. Washington, DC: National Academy Press.

Barber, M., & Mourshed, M. (2007). How the world's best-performing school systems come out on top. Retrieved from http://www.mckinsey.com/App_Media/Reports/SSO/Worlds_School_Systems_Final.pdf.

Bush, T. (2009). Leadership development and school improvement: contemporary issues in leadership development. *Educational Review, 61*(4), 375–389.

Cohen, D. K., & Hill, H. (2001). *Learning policy: When state education reform works*. New Haven, CT: Yale University Press.

Craft, A. (2002). *Continuing professional development: A practical guide for teachers and schools*. London: Routledge.

Creemers, B., Kyriakides, L., & Antoniou, P. (2013). *Teacher professional development for improving quality of teaching*. Netherlands, Verlag: Springer.

Darling-Hammond, L., & McLaughlin, M. W. (1995). Policies that support professional development in an era of reform. *Phi Delta Kappan, 76*(8), 597–604.

Day, C. (1999). *Developing teachers: The challenge of lifelong learning*. London: Falmer Press.

Fullan, M. (2007). *The new meaning of educational change*. New York: Teachers College Press.

Garet, M. S., Porter, A. C., Desimone, L., Birman, B. F., & Yoon, K. S. (2001). What makes professional development effective? Results from a national sample of teachers. *American Educational Research Journal, 38*(4), 915–945.

Golding, L., & Gray, I. (2006). *Continuing professional development for clinical psychologists: A practical handbook*. Oxford: The British Psychological Society and Blackwell Publishing Ltd.

Guskey, T. R. (2000). *Evaluating professional development*. Thousand Oaks, CA: Corwin Press.

Hallinger, P. (2003). Leading educational change: Reflections on the practice of instructional and transformational leadership. *Cambridge Journal of Education, 33*(3), 329–351.

Hargreaves, A. (1994). *Changing teachers, changing times: Teachers' work and culture in the postmodern age*. New York: Teachers College Press.

Hargreaves, A. (2003). *Teaching in the knowledge society: Education in the age of insecurity*. New York: Teachers College Press.

Hargreaves, A., & Shirley, D. (2012). *The global fourth way: The quest for educational excellence*. Thousand Oaks: Corwin Press.

Harris, A., & Spillane, J. (2008). Distributed leadership through the looking glass. *Management in Education, 22*(1), 31–34.

Jasper, M. (2006). *Professional development, reflection, and decision-making*. Oxford: Blackwell Publishing Ltd.

Joyce, B.R., & Showers, B. (2002). *Student achievement through staff development* (3rd ed.). Alexandria: Association for Supervision and Curriculum Development (ASCD).

Leithwood, K., Day, C., Sammons, P., Harris, A., & Hopkins, D. (2006). *Seven strong claims about successful school leadership*. Nottingham: National College for School Leadership.

Lunenberg, M., Dengerink, J., & Korthagen, F. (2014). *The professional teacher educator: Roles, behaviour, and professional development of teacher educators*. Rotterdam, The Netherlands: Sense Publishers.

Mourshed, M., Chijioke, C., & Barber, M. (2010). How the world's most improved school systems keep getting better. Retrieved from http://mckinseyonsociety.com/downloads/reports/Education/How-the-Worlds-Most-Improved-School-Systems-Keep-Getting-Better_Download-version_Final.pdf.

Ministry of Education [MOE] (2006). Press release: MOE unveils $250 m plan to boost the teaching profession. Retrieved from https://www.moe.gov.sg/media/press/2006/pr20060904.htm.

Ministry of Education [MOE] (2012a). New model for teachers' professional development launched. Retrieved from http://www.moe.gov.sg/media/press/2012/05/new-model-for-teachers-profess.php.

Ministry of Education [MOE] (2012b). Fact sheet: the teacher growth model. Retrieved from http://www.moe.gov.sg/media/press/files/2012/05/fact-sheet-teacher-growth-model.pdf.

Ministry of Education [MOE] (2015a). Organization structure: schools division. Retrieved from http://www.moe.gov.sg/about/org-structure/sd.

Ministry of Education [MOE] (2015b). Speech: ministry of education work plan seminar 2014. Retrieved from http://www.moe.gov.sg/media/speeches/2014/09/23/keynote-address-by-mr-heng-swee-keat-at-the-ministry-of-education-work-plan-seminar-2014.php.

Ministry of Finance [MOF] (2014). Singapore budget 2014. Retrieved from http://www.singaporebudget.gov.sg/budget_2014/home.aspx.

National Institute of Education (2014). Leaders in education programme. Retrieved from http://www.nie.edu.sg/studynie/leadership-programmes/leaders-education-programme.

Seah, J. C., & Ow, A. (2003). *The school excellence model*. Singapore: Civil Service College.

Senge, P., Cambron-McCabe, N., Lucas, T., Smith, B., & Dutton, J. (2012). *Schools that learn: A fifth discipline field-book for educators, parents and everyone who cares about education*. New York: Crown Business.

Sergiovanni, T. J. (2009). *The principalship: A reflective practice perspective*. Boston: Pearson.

Speck, M., & Knipe, C. (Eds.). (2005). *Why can't we get it right? Designing high-quality professional development for standards-based schools* (2nd ed.). Thousand Oaks: Corwin Press.

Stakeholder Engagement

6

Lana Y. L. Khong

Abstract

This chapter discusses the education policy of collaborating with school stakeholders to support student learning and development. It draws from three case studies to illustrate how Singapore school leaders might interpret, strategize and enact this policy for better stakeholder engagement at the ground level. The context and frame within which the 'stakeholder engagement' discourse occurs in Singapore has shaped the understanding of such engagement for two main purposes, namely, to support 'weak' or problematic students, and to enhance student competencies by providing them with short-term opportunities to exercise and further develop holistic learning and applied skills. The three cases illustrate the beliefs and perspectives of the respective school leaders, and the extent to which they believe in and actively drive stakeholder engagement to meet these objectives in their schools. When educational 'gatekeepers' such as school leaders are intentional in collaborating with stakeholders, their key personnel are enabled to 'catch' the same purposeful approach. When there is a 'whole-school' approach towards engaging the family and wider community in schooling, this becomes a powerful enabler of students' holistic attainment of human potential and well-being.

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6.1 Introduction

This chapter discusses the policy initiative of collaborating with school stakeholders to support student learning and development and draws from three different case studies to illustrate some ways contemporary Singapore school leaders interpret, strategize and enact this policy call to engage stakeholders in their own community. The three leaders featured here clearly agree that the policy is a useful, even essential, one, and acknowledge that schools alone can no longer accomplish the complex tasks of strengthening student learning and enhancing academic achievement in twenty-first-century Singapore. As a key institution and vehicle for social mobility through educational achievement, the local school continues to fulfil necessary functions (notably content transmission, academic tracking, sorting and certification) but, in itself, is insufficient for developing the nation's young with all the necessary attributes, skills and competencies that will enable them to survive and thrive in the knowledge economy and the adult workplace. This general recognition dawned upon policymakers in the final years of the twentieth century when the well-known idiom '*It takes a village to raise a child*' was repeatedly mentioned in official speeches.

Putting this into practice at the ground level, however, has its own challenges. This is because Singapore's education system is highly competitive and places a strong emphasis on individual talent and the acquisition of educational merit through the 'rote and drill', content-heavy, approach to teaching and learning. Students are differentiated by their performance on high-stakes examinations which place a heavier weightage on Science- and Mathematics-related subjects. Education in mainstream schools is therefore characterized by tight deadlines and frenetic workloads for students and teaching staff leaving little room for deeply engaging 'the village' comprising other stakeholders. Despite the declaration that 'every school is a good school', stakeholders such as parents, the larger community and many educators themselves may remain largely unconvinced. Although official ranking of schools has been abolished, many stakeholders such as students, parents and industry players will have their own ideas about which of these 'good' schools is actually 'better' than the others. Their subsequent expectations of schools and attitudes towards educators may be shaped accordingly by these perceptions.

In Singapore, the trend of working with school stakeholders began about a decade ago when mainstream schools began to tentatively reach out beyond their physical and metaphorical walls to engage the family, community groups and business organizations for leveraging better learning for students. With the Ministry of Education (MOE)'s approval and clear encouragement, school leaders started to explore various ways to 'harness' stakeholders and their resources, and teachers in turn considered how to work with these parties to provide educational experiences that would prepare students with skills, knowledge and values for meeting new and anticipated challenges in the local and global landscape. Most schools are now familiar with the profile and practical possibilities of such value-added partnerships, not least for increasing their own competitive advantage as schools of choice that

offer special 'niche' skill areas. This is especially pertinent in a context where schools are increasingly viewed in marketing terms, with standard operational processes, instructional practices, appraisal and accountability structures in the organization deriving from the commercial and business world. Thus, the school community is framed (at least implicitly) as comprising the following components: students and their parents are clients/customers, teachers are service providers, and school leaders are chief executive officers, while the 'bottom line' remains largely exam-centric and grade-based.

The terms 'stakeholder' and 'partnerships' are themselves common currency in the corporate world, with various writers urging corporate leaders to be aware of and sensitive to their stakeholder environment as this is often essential to their success. Castells (2004), for example, has pointed out that strong networks of relationships are strategic assets that could and should be carefully managed and nurtured especially through the powerful information and communication tools available. Conversely, the failure to nurture and establish positive relationships with key (school) stakeholders could shut off the flow of additional material resources as well as knowledge and social capital. In terms of reputational capital, too, weak or negative relationships with parents, a key stakeholder group in all schools, could easily trigger angry complaints and damaging critique of that school on social media websites or by word of mouth, leading to dwindling participation in school programmes meant to increase parent engagement, as just one possible consequence. However, although the importance of having a supportive stakeholder network is equally relevant in the production, consumption and performance of education as it is in other commodity sectors of the economy, the network model may pose some difficulty for organizations where the vertical/hierarchical structure is prevalent, such as exists in most, if not all, local schools. The top-down, unilateral, 'command and control' model may sit somewhat uncomfortably with the more democratic flow of information, resources and power facilitated by the network model, and is a new challenge that school leaders today need strong social, emotional and relational skills to manage and leverage.

These wider issues in the educational arena form the context and frame within which the 'stakeholder engagement' discourse occurs and has shaped the understanding of such engagement for these two main purposes: (a) to support 'weak' or problematic students, thereby mitigating the ascribed characteristics and inadequacies they bring to schooling, and (b) to enhance student competencies by providing them with short-term opportunities to exercise and develop their holistic learning and practical skills further, for example, in work attachments or social service volunteerism. The three cases below illustrate the professional beliefs and perspectives of the selected school leaders, as well as the extent to which they believe in and actively drive stakeholder engagement to meet these organizational objectives. When educational 'gatekeepers' such as school leaders are intentional in the way they set the tone for collaboration with other stakeholders, they can

effectively pass on this positive attitude to their key personnel and teachers. School structures and processes can then be designed, and policies for engagement purposefully carried out to support this intention. The literature shows that a 'whole-school' approach towards engaging the family and wider community in schooling becomes a powerful enabler of students' holistic attainment of human potential and well-being. However, it is also clear that authentic engagement of parents and teachers as well as members of the community within and around the school must be built on relational trust (Bryk and Schneider 2003; Tschannen-Moran 2014) in order to be successfully sustained over time.

Singapore schools, however, may need to move beyond the current school-centred, activity-based model of involvement to engage their stakeholders more meaningfully and authentically. At present, most schools still call the shots for collaborations that are mainly based on the school's goals and needs. Their perspective of stakeholder engagement may thus be limited to one of providing necessary supplementary resources to help the school meet *their* goals. However, parents today expect to have, and do call for, a greater say in school decisions and operations. Adjustment to this 'new normal' may require changes in established school norms and cultures to see and engage families and community groups as more equal rather than subordinate or junior partners. Sergiovanni's (1992) distinction between the *life-world* of schools—values, beliefs, relationships and interactions—and the *system-world*—based on policies and rules—would seem particularly pertinent in such a discussion. The following cases illustrate the extent to which school leaders, as key players, are able to balance these two dimensions of school to develop, enact and sustain genuine partnerships within their community.

Researchers on leadership on partnerships (Auerbach 2012) advocate for a change in the school leader's role from being 'buffers' to 'bridges' between their schools and the wider community. This would necessitate moving away from an instrumental view of engaging parent and community involvement merely to foster better student learning and raising school achievement (a driving force for most local schools), to one where partnerships developing from authentic relationships are recognized as being inherently valuable for everyone in the school community. This theme was somewhat highlighted in the Singapore Leaders Growth Model framework (MOE 2014) where *Engaging with Stakeholders* and *Strengthening the Fraternity* are listed as two key requirements for *The Network Leader*, one of six required domains in school leadership development. Specifically, school leaders in Singapore are now expected to develop 'sound knowledge and understanding of the contexts' of their community, and connect the school to the community in 'boundary-spanning, cross-cultural and socially responsible experiences' building collaborative partnerships and mobilizing stakeholders' 'expertise and practices' to benefit teaching and learning. Given the generalized scope of these new expectations, the specific ways individual experienced leaders interpret, embody and enact them within their schools, as depicted in the three case studies below, provide valuable food for thought.

6.2 Method

The three school leaders were purposively selected based on their reputation for successful stakeholder engagement in the current and/or previous schools they led, and were interviewed for their perspectives for an average of an hour and a half at their respective schools. They are leaders of mainstream 'neighbourhood' schools, one being a new primary school in an emerging neighbourhood while the other two are established secondary schools. As mentioned earlier, given that effective leaders can directly influence and shape the organization's climate and culture, the one-to-one interviews centred on their understanding, interpretation and implementation of the stakeholder engagement policy, and were framed by eight open-ended questions, as follows:

1. What are your views of educational policy reform in the area of stakeholder engagement in schools?
2. How do you interpret and implement this policy in your school?
3. What role do you personally play in this?
4. What are the challenges you face in implementing or enacting this policy?
5. How do you provide support for stakeholder engagement in your school?
6. Who are the key people whom you work with to support this policy?
7. How does your school benefit from this policy?
8. What have you learned from your experience in the implementation or enactment of this policy in your school?

The interviews were conducted and audio-recorded, with participants' consent, by the author who also transcribed and analysed the interviews. Overall themes were identified through initial in situ coding of the verbal responses to the above questions. The leaders and their schools were assured of confidentiality, and pseudonyms* have been used in the discussion. The three main themes that emerged from each leader's story are based on the attribute deemed to be most distinctive of their leadership approach although they do share similarities in other characteristics and values.

6.3 Case Study One: The School Leader as a Connector

Mr. Chin is a fatherly figure, his daily presence highly visible to teachers and students alike '*walking the ground*' on school premises, greeting students by name and engaging them in conversation where possible. His teachers admire the fact that he knows individual students by name and is not above giving even recalcitrant students second chances to turn around. He is also a familiar figure to parents as he stands at the school entrance lobby to welcome students at the start of the day, or seeing them off at the end of it. He is a mid-career educator and entered the field after several years of successful experience in another industry. He highlighted two

reasons why he thought the policy on stakeholder engagement is timely for his school. First, a noticeable and rising incidence of dysfunctional, or busy dual-income families, resulting in more child–parent disconnection in the home domain. Second, the recent funding of S\$2,500 set aside by the MOE for parent support group (PSG) programmes and school–family education activities in school to support the capacity of parents to manage, for example, cyber-wellness issues related to students' accessibility and use of the Internet. He sees his physical visibility to students and parents as an essential part of his leadership role in educating the community for a new partnership model. The following excerpts provide the relevant corroborations:

> I think visibility given to stakeholder engagement is very helpful for us operating on the ground, for a couple of reasons: when the MOE highlights the role of parents and importance of parents working with the school, it provides a balanced view for parents. For example, some parents might think that the onus is on the school to do everything for the child, but in actual fact there is a role to be played by the parents (too).

> In the area of character development, for example, we can play a mutually reinforcing role. With the evolving family structures now, we cannot take it for granted that every parent is equipped with parenting skills. On the other hand, the parenting environment has also evolved, as our society evolves, and so modern parents need to adapt and understand as well as connect to their kids. This is where parenting tips on cyber-wellness, and the use of social media comes in handy.

> With easy access to the 'Internet of Things', it is difficult to manage discerning right from wrong, the appropriateness of information, when parents are not at home… this is where parents can come in. The relationship between parents and the child is very important, (they must learn) how to build trust and connection and provide support so that the child is guided well.

Since the 4 years, he has headed the school, he says he has trained his staff, namely, the Form Teachers, Key Personnel, Discipline Team and School Counsellors in his school to be confident in handling problem situations and to keep him informed of these situations, so that he now intervenes only when they, or parents, directly ask him to. He prefers to '*orchestrate from behind the scenes*' allowing his staff to handle the situations first before stepping in:

> From the tell-tale signs and sometimes, the committing of offences within the school, what [my teachers] do is to bring parent and child together, and using the facts of the case, try to understand the prevailing situation in the parent-child relationship, and then seek intervention to maybe help them to reconnect with each other. Only when they can't solve the problem, then I will step in.

He believes strongly in prioritizing support for the parent–child relationship and gave an example of a student who was under-achieving in his GCE 'O' Level year to illustrate how the school 'connects' parents with their children.

> The teacher noticed he was sleeping in class, so naturally the results were not good. So I got the parents in and it became apparent that the child was spending a lot of time on the computer, so the parent and the child agreed to reduce it. As it turned out, he didn't make it in his O-levels so when he appealed to repeat, I brought in the parents again, and this time round we got to the bottom of the facts, which was that the parents didn't enforce what was

agreed. The parents said that they're working so really they have no control. We managed to get the uncle… to send the boy to the uncle, and we worked out a plan to help him. I think the moment he weaned off his computer, his grades started to go up and he graduated with a good set of O-levels scores, going to the Poly course of his choice. As you can see, if the parents don't cooperate fully, or don't exert their parenting responsibilities, then these half-measures won't work.

If parents are not in tune with the habits, the teenage environment today, we can help by illuminating to them what we already know. If they do not have enough knowledge about intervention strategies, this is where we can suggest ideas (and) provide the concrete support. Sometimes it has even got to do with the parenting. For example, some parents set expectations and have very little empathy for their kid. So they do not uncover the fears that the kid has, or they don't manage to explain some things to their kids, and so that makes the parent-child relationship negative. It's about knowing how that family works. But whether the family will provide a stable environment, sometimes there are factors that the family is grappling with for which we really have no control.

He also credits the MOE stakeholder engagement policy with enabling the development of more positive classroom dynamics between teachers and students, encouraging the development of more conducive teaching environments. The following comments reflect the outcome of this:

When we stand up front to engage the parents at the back end, the teaching environment becomes more conducive because it helps the teacher to understand where the child is coming from.

Mr. Chin clearly walks his talk, leading by example, influencing and motivating his teachers to make efforts to first understand the home and family contexts of their students, making home visits and enrolling the help of social workers at the Family Service Centre to work with the family, if necessary, rather than immediately escalating classroom misbehaviours into a discipline issue. Operationally, he has streamlined school management processes so that the first line of defense and responsibility to manage student challenges lies with the Form Teacher who is in direct contact with students. The Form Teacher coordinates any required intervention with other teachers and the school counsellors, failing which the Discipline Master and subsequently, the entire leadership team may be brought in. When the situation has been successfully managed, the full responsibility for the case is then returned to the Form Teacher. This systematic process not only ensures that '*somebody must be paying attention to and interacting with the child*'. It also gradually builds up the frontline teachers' professional capacities and gives them the leeway to take the initiative in connecting with stakeholders, while also providing them with adequate support to motivate them. For example, Mr. Chin recently employed an additional adjunct teacher from a previous school who is experienced in working with troubled youth to coordinate the supportive structures for the '*more chronic cases*' so as to relieve his school counsellors from the intensive efforts required to follow through on these. Although he was somewhat uncertain as to whether he has '*crossed the boundary*' by making this additional arrangement to provide help for unstable families, he justifies it in the following way:

> I find that the social worker equally needs parents to be cooperative. If they for some reason are unable to cooperate, then the whole situation will just be left unattended. So I needed someone to make sure that whatever help is provided, there is a follow-through.

He also plans to strengthen his teachers' competencies in reaching out to parents by establishing peer mentoring by other more experienced teachers. But it is clear that the overall objective and key focus for this school leader is on student well-being. He strongly supports additional programmes initiated by his staff who provide help for the growing number of children from single-parent and dysfunctional families in his school. He is surprisingly open and possesses sufficient flexibility enough to accommodate individual students who have specific needs. Thus, he even agreed to allow a transfer student to not attend classes for a (non-core) subject he did not like! In return, however, teachers gained the student's (and parent's) agreement to put in his best effort for other subjects that he does well in. They therefore collaborated to '*accommodate and then try to re-integrate him back into the class*'. Although he acknowledges that some of his teachers are '*quite skeptical*' of the effectiveness of this practice, he justifies such customized and intensive efforts to turn challenging students around by making the following comment:

> We have to look at how to save the child, even if we have to give in on some things. The point is that, as long as the child grows, we give in only to take back some of these things. For me, the most important thing is to care and yet, set the expectations. What helps me make my decision is really, anything I can do to help the child settle down in school. If it is within my means and the family is willing to give it a try, I will try to help them.

What ultimately drives him in his leadership approach to stakeholder engagement is an underlying personal belief in the intrinsic worth of every student, and his determination to provide a supportive network for each of them.

> In a sense, even for me, it's a leap of faith. I assume that everybody is a star; it's just that we haven't found a way to polish the star. The idea is to find that path which excites (him) and I suppose the person will grow up and grow out of his bad habits. We definitely can help them directly and most of the time indirectly through our teachers and even through their fellow students and outreach to their parents.

He works tirelessly with his teachers to enable this belief to come to fruition, and directly engages the Parents Support Group (PSG) in his school who he appreciates as '*an important community and help create a presence of parents in the school*' especially for students who are resistant to parental influence in their own homes. He also works closely with the small group of PSG parents who provide an additional resource to coordinate School Matters talks and programmes and makes it a point to attend together with his vice-principal as many of their meetings as he can. He sees the PSG ExCo as '*a trusted voice*' and an effective channel for communicating school concerns to other parents. He makes it a point to connect directly with these active parents at their level, and in so doing, empowers them to connect to other parents.

> I wanted the parents to feel that this was another platform for you to meet the principal, where you can raise anything you like. It worked to help them build a team…When parents come for talks, sometimes they question about the school; sometimes I don't even need to answer (these questions) because the PSG member will just chip in. To me, that's the best way, that would be a very good way to communicate. With your own people, you can build the trust.

Other internal stakeholders that he actively connects with include the relatively young School Alumni whose members are invited to come back to talk to and mentor their juniors, and help out with some of the co-curricular activities. He and his teachers are carefully developing these former students into a sustainable group with an eye to the future, when he feels they can more readily contribute back to the school. A few who are already working and have stable careers have in fact been invited to join the School Advisory Council (SAC) consisting of grassroots leaders, business people and members from higher education institutions such as the polytechnics, and now provide an important alumni voice for current students regarding valuable practical work attachment opportunities in the spirit of holistic education.

> We have someone who's in OCBC (a local bank) so she opens the door for them and helps us in career fairs. In fact they gave us about twelve places, distributing the students into different departments and branches, and they assigned one manager to each student as a mentor for two weeks. This is a very good resource partnership that money cannot buy.

Such work-related opportunities form part of a future-oriented programme set up by a small group of teachers to especially motivate carefully selected, 'better-behaved' Secondary Three students to develop clearer ideas of what they may want to be and do in tertiary studies and future possible careers. These are school efforts to nudge the older students to '*figure out what kinds of career pathways they may want to gravitate towards*'. Where work attachments are concerned, he also finds that parents are '*more than keen*' to support their children to sign up. Mr. Chin uses such school structures and processes to open up new possibilities and opportunities for his generally lower SES students to have brighter futures than they would otherwise have, and hopes that this prospect will help to turn them around for the better. He shared a positive example of a girl who started out as a 'troublemaker' in her earlier years, but who, through her participation in the school's work attachment programme, became convinced that she wanted to be lawyer and became motivated to study hard for that goal. When she missed making the entry-grades in her O-levels examinations, she then took up forensic science in the Polytechnic to support lawyers involved in criminal cases. The principal declares that these little successes make the time-intensive efforts on the part of his school worthwhile and that he and his teachers need to focus on finding the right motivational triggers for the students.

6.4   Case Study Two: The School Leader as Advocate

Madam Han is an energetic, optimistic leader with a no-nonsense demeanour who is cognizant of and takes head-on the multiple challenges facing professional staff in her neighbourhood school, also attended by mostly lower SES students. She makes time to build relationships through one-to-one conversations not only with her teachers but also with students and parents, and is a familiar figure in the immediate community outside her school, encouraging her staff and students to support many events organized by different community groups. She makes it a point to personally participate in wider community events during which she uses her personal influence to create a deeper understanding among community members about her students. This is because of a rather problematic school history that has resulted in a negative perception in the community about students that she acknowledges has been '*hard to shake*'. Her approach and actions thus reflect her realization of the important role the community plays in supporting her students who, like Mr. Chin's, generally lack the educational, social and cultural advantages of those from more affluent families.

> You have a school, you have the parents, but you also need the general community to come and contribute and play a major role because they (the students) are eventually going out to the community as well. So actually it was very heartening for me when greater engagement with stakeholders was put as one the strategic objectives of MOE.

> Looking at where the school is situated and the profile of the students, there was a need to have greater engagement in order to expose them to opportunities as well as to provide them with the experience, that they may otherwise not get from the home. Our immediate neighbours, the religious institutions, the CDC (Community Development Council), this is our district. These are our major stakeholders and they play a critical role so we work with them should there be any support we require. Most of my students and parents are trying to make ends meet so when we look at solutions to the problem, we must make sure that it is not stretching them financially.

She also perceives that her students generally have a 'small world' mentality and need planned exposure to the wider world in terms of understanding and respecting a diversity of practices, cultures and values and encourages her staff to work with her in broadening the students' general outlook.

> The students need to understand that there is a world beyond their home and a world beyond school as well. So there is a greater need for us to create such an understanding and respect for one another among our students. That's why we expose them to the various religious institutions and teach them tolerance and respect through project work and our heritage trail. We hope to bring in the community to work with the students so that they will have a deeper understanding and appreciation of our rich heritage; this will also provide opportunities for the students to take on leadership roles. This is not just for the sake of National Education although it serves that purpose. They have to contribute meaningfully and understand that respecting other traditions doesn't mean your own beliefs and practices are at risk. For example, I had a group of 13-year old students who were uncomfortable about entering a temple, and that alerted us to the fact that this could be an issue. So the teachers pulled them aside and helped to explain that going there and listening does not put

your own religion at risk. They are all going to grow up into adults and if we leave it to somebody else to do this 'unpacking', what happens if nobody does it?

Beyond this intentional effort to strengthen social cohesion, community engagement also provides multiple benefits for her students, such as financial help through bursaries and sponsorships as well as other forms of voluntary support.

> We provide them (community groups) with opportunities to interact with the young ones, and help them to understand the youth of today. I think that is critical as well. For example, last week we had some of the senior citizens, 70-year olds who enjoy working with the plants, here doing gardening so my Green Club members were there to help. It was very heartening to see our students walking them to the toilet, waiting for them outside, being patient. These are things that are going to be critical in an aging society. This is the generation that probably will make decisions about how I should be looked after when I'm old, eventually! So I help them to understand and empathise.

> This kind of helps them to appreciate their own grand-parents a little bit more, and helps them to appreciate our community too, because in this estate, there are a lot of one- and two-room flats (built for low-income families). So when I speak to them, for example, I say 'if you're at the bus stop waiting for the bus and you're sitting down and you see an elderly person, you get up and offer your seat.' So our programmes are all aligned in this direction, they get the same message coming across in different ways.

Parent engagement is increasing in her school, despite the lower educational and socio-economic backgrounds of families, and she observes that parents' voices 'are louder now' with parents wanting to have a say in children's education. However, she has a very positive view about this change and counts herself fortunate that, unlike some of her fellow heads, she has 'safely, say 95 percent positive experiences' with the parents in her school.

> I've noticed that at our Meet-the-Parent sessions, there are more of them turning up than there were in the past, and they want to know exactly what's happening, what their child is being exposed to, their experiences in school, and everything. This is a wonderful thing because I think what we do in school must not be undone at home, so there must be this very close collaboration. In our conversations and communications, I say 'You play a very, very critical role because when you place education and school as important, your child will also place it as important. When you show respect and demonstrate certain values in your actions, our child emulates that as well.' So it is getting them to work with us to shape that individual child that both of us have a vested interest in, despite having my fair share of parents who have their own challenges. These are the ones who are trying to make ends meet, who will not answer our calls, who probably may not even know that the child has not been attending school.

She works with her teachers, counsellors and PSG parents to unilaterally provide a safe place for the students who could be neglected by their parents who are themselves struggling under various life pressures. She is pragmatic about her responsibility in this and understands that

> I cannot control the parents, I cannot demand certain things but… let the school be so inviting that the child wants to come, you know? So there's a place for the child to turn to. It's not that we neglect the parents but we also understand that if they are facing all these challenges, the last thing they want is a phone call from a teacher to say that their son is not handing in homework. We will try to manage it on our own, and sometimes, the parents themselves turn to us. They call us and sometimes they demand that we do something. For

example, a student in a boy-girl relationship doesn't want to listen to the father so the father wants the school to step in and assist. Because my students are not listening to their parents, they (parents) think we can do something about it. We step into help although it's beyond our professional boundaries and we will guide them, put them through counselling and all that but (in the end) 'you are the parent and you will need to monitor them and set curfews and enforce certain rules in your own home.'

There's no (parent) to whom we say 'This is beyond us, we can't do anything'. We meet every one of them but we also explain to them that actually there's just this much I can do. We will channel them in the right direction, make that link and do the liaising for them. Under no circumstances have we told any parent that 'This is your family and your problem' because if they're turning to us, there is a real need and we try to assist as much as we can.

Her focus is on the holistic development of the child and she takes responsibility for 'all of us working together to support each other, and the family plays a part as well'. She readily advocates for needy students and, through her extensive network and strong relationships with her teachers, counsellors and active PSG members, is able to get assistance and support from the community for needy students. Her greatest challenge in this area, she feels,

(I)s probably in creating a deeper understanding among the community that these are students, they are learning, they will make mistakes, so 'please work with us'. Sometimes, they are very quick to complain, and when we check (on the situation), the students are just sitting there and talking, not actually doing anything wrong. Just seeing students gathering in a place seems to irk some of the members of the public. We will receive feedback from them and we always act on it immediately. So, we created a drop-in centre here in school so that they (the students) will always have a place to hang out.

At the same time, on a more positive note,

I tell our grassroots advisor that we have students on Financial Assistance and the support is fantastic, the stakeholders are fantastic! I can turn to anyone and they just write me a cheque and are so willing to support. We also work with other government agencies and self-help groups to surface (some) cases when we see that something is not right and then we follow-up on those cases ourselves, to see that certain things are resolved. We do our best, we don't see it as not our problem. Let's be preventive instead of waiting for something to happen and then we react!

She works closely with her team, having regular conversations especially with her Heads of Department, Key Personnel and Counsellors, to find out more about her students and to discuss together how to handle the difficult challenges so that in the end, the students can benefit. Similar to the other two school leaders featured here, students' emotional and personal development, and viable futures for them, is the driving force for the intensive efforts she makes with them and on their behalf.

It's a personal belief and a deeper understanding of where my students come from and the challenges they face. In my one-to-one conversations and interactions with some of them, especially the ones who are graduating and the problem ones, I find out what their aspirations are, and then help them to set goals for themselves. I have told some of them (and this won't sound very principal-y) 'just concentrate on these three subjects, it will get you into ITE' (Institute of Technical Education). Then I told my teachers, 'I will understand that your (subject) results are not there, don't worry. But I need this child to go on to the next level.'

Mdm. Han is a skilled networker, receiving multiple invitations to attend various community events even on public holidays, and arranges not only to attend these events but also engages her colleagues to go with her, building up their networks, and even to stand in for her at times. Because she recognizes that her physical presence in school is just as important, she has to strategically focus on prioritizing her own participation in these community events where—

> I'm not just making up the numbers, where I have a voice and I have something to contribute. Or, if I can approach them to provide opportunities for the students or if my students are participating or performing, then I will make it point to go.

As mentioned earlier, her relationships with staff seem genuinely warm and reciprocal. Staff appreciate the fact that she takes a personal interest in them and spends time chatting with them. She frequently engages her key personnel in conversation and maintains an open flow of information within the leadership team. This personal approach to relationships is also appreciated by the students with whom she takes time to have conversations, and has discernibly helped to improve the quality of the overall school experience and school culture.

> I just schedule the students, the most problematic ones first, to speak directly to them. I show them their profile on my computer so they know that I have some information on them, like 'you've not been in school for this number of days without valid reasons' and I ask why this happened. Then they confess, yes they've been lazy, not been studying, and they share certain things, and I learn that some of them are working part-time, some of them despite their family circumstances, don't want Financial Assistance, so they need to work to support the family. So I got a deeper understanding of where they are coming from and I try to help them understand that it's not shameful to get financial help. So their voices are heard and they come up with a way to rectify the problem. We help them to reflect and think through, and what we have discovered is, most of the students know what is the right thing to do.

> Because they know we are listening, there will be several occasions where people (students) come forward to say when they've done something wrong. The heartening thing about it is, there have been situations where damage is done, and they come and tell us they did it, either by their own mischief or accidentally. So we recognise and acknowledge that. I tell them, 'I respect you for your moral courage. You will still face the consequences, doesn't mean you own up to it and you get away scot-free, but you earn my respect as a result.' This has helped to change the tone of the school and the relationships between teachers and students.

This commitment on her part to her students inspired her to put in structures in the school enabling her teachers to do the same and to strengthen teacher–student relationships. For example,

> During the silent reading period (twice a week) when the whole school is reading, the form teachers will bring these students down to the canteen, then they sit down and have a one-to-one chat with them. So it's not eating into curriculum time. (teachers can) cover the whole class and the students who are in real urgent need, they will surface to the counsellors. In the initial stages I had students who can be very rude to teachers, they can answer back and all that, but now I think both are prepared to listen.

As part of her leadership approach to partnerships, she values feedback and makes sure she and her team 'close the loop' quickly to pre-empt any issues from escalating, often within twenty-four hours. This has the positive effect of stakeholders knowing that their feedback is taken seriously by the school, thus further building confidence and trust. She has also carefully selected and delegated one key person to be in charge of each important stakeholder group such as the Parent Support Group, the School Advisory Council as well as community partners. This is partly to help her staff develop their leadership capacities, and also partly to ensure continuity for the school's efforts in stakeholder and community engagement.

> In the past I used to do it myself, but I suddenly realized that this is my knowledge, and what I was doing was not right because I was not developing the others. I recognise their strengths, it doesn't rest on my shoulders all the time, so I shared with them that 'you need to own it, it cannot come just from me'. What I'm trying to do is to ensure that sustainability, and I think it will be sustainable because they see the benefits. So I don't have any worries. When I'm away (from school), I don't receive phone calls, I see my colleagues and friends answering, because the people know what to do. I've got a very good team, they know what to do, so in terms of management, we will never be 'person-dependent'. If in your absence things collapse, then you've not been a good leader.

A clear indication of her success as an advocate for her school and network leader is that she receives strong affirmation from her stakeholders, some of whom readily defend the school and her students from complaints within the community. Her good relationship with the grassroots leader in her neighbourhood, for example, who has spoken up for the school in the face of criticism, helps renew her drive to keep on doing what she does. Her parting advice to aspiring or new school leaders in working with stakeholders is—

> Be open. The most important thing is to be open for opportunities that present themselves. You'll be amazed at how many external stakeholders and organisations want to work with schools, and how much benefits they can bring to the school. They need not have any fears that it is something they cannot manage, but learn how to integrate it into the current programmes and don't see it as an 'add-on'. Learn to be good at networking, respond to people in good time and never forget to recognise your partners - build that relationship. The journey we have taken so far and the success we've had as a school is a result of our relationship with all our partners.

6.5 Case Study Three: The School Leader as Equal Partner

As the leader of a relatively new primary school, Mr. Quek has wasted no time establishing his school's visibility in the neighbourhood. Together with his newly formed staff, they 'learned on the job', running a couple of weekend roadshows,

sending out flyers and publicity brochures, meeting and engaging local grassroots leaders for their support, and marketing the school through social media such as Facebook, to 'sell the school' in the neighbourhood. He firmly believes that the person of the school leader is crucial to today's generation of well-educated and informed parents, and together with his staff, both welcomes and works closely with pupils' parents, many of whom are typical dual-income earners. For example, he warmly invited them to suggest ideas for creating the school's values in the form of attractive colourful animal icons that would appeal to the young children. The vision that drives him is to build a *family*, not just a school, and asserts his belief that the children are not just the parents' responsibility but also the school's. He feels that modern young parents want to be equal partners with the school unlike the previous generation which unquestioningly trusted the school to do what they thought was necessary, resulting in less direct parent involvement in schooling. With fewer children being born in the current climate of dropping birth rates, the educational stakes have risen and parental trust now, he feels, has to be earned, not automatically assumed.

> Parents now want the best for their children as the result of which, they want to make sure that the school they select for their children is something they really have in mind and it would help them to prepare the children for the future they want the children to have. We have lots of conversations with parents, even parents-to-be - actually, as early as three years before the child gets into school, they already start thinking about it. And the interesting thing about parents' decision for schools is who the school leader is, not so much the programme. They are very informed today so schools will really have to communicate (well) to the parents.

His vision is to see his school nurturing two cultural strands in tandem, a culture of care *and* a culture of learning, both of which he thinks are equally important to parents. He prides himself on being a personal example of promoting these cultures, setting himself to 'lead by example'. Although he deems himself an introvert, he has cultivated an evidently approachable and nurturing persona, putting a strong emphasis on developing quality relationships through personal interaction with individuals and small groups, and 'constructive dialogue' both with his staff as well as with others beyond the school. He has a good working relationship with his vice-principal whom he has put in charge of both the PSG and Co-Curricular Activities (CCA) and who has complementary strengths to his own, and in whom he wants to develop further leadership competencies. He is very aware that building teacher mindsets and a school culture based on quality relationships of trust requires his taking the leadership initiative, time (even up to 5 years) and consistency, but nonetheless sees this as well worth the effort. Once he sees some evidence of this, he plans to leverage on it to pre-empt difficult challenges and what he terms 'fire-fighting' issues, in future. He cited Fullan's (2004) leadership principles for leading a culture of change through moral purpose, understanding change, rela-

tionship building, knowledge creation, sharing and coherence-making as well as Sergiovanni's (1992) balance between 'system-world' and 'life-world'. Regarding the former, he commented—

> I am very shaped by the School Excellence Model (SEM); it is a guiding tool for me to see how I lay down the different process and management system. SEM is a tool that school leaders should tap on for running the school.

He has also translated his understanding of Sergiovanni's concept of 'life-world' into the four relational principles of *L-O-V-E*, namely *Leading by example, Observing and listening actively, Verbalising care and concern, and Enthusing others*. His staff are seen as his key stakeholders since they have a stake in building the school and so he meets them individually or in small groups on a daily basis so that he can get to know them better as individuals. He takes all opportunities to express his appreciation personally as well as understand and address the different needs they may have.

> If you say (school is) 'family' then you need to treat each person like a family member. They are not a 'digit' or a pawn in your toolbox to produce results. They are individuals who have their own likings, their own dispositions, strengths and weaknesses, so you tap on the strengths.

Apart from the parents, he also actively engaged staff in contributing ideas for the formulation of the school's values, vision and mission in the early days of the school. These were then disseminated to all parents at the start of the school term so that they could support and reinforce them on the home front. He discussed his 'framework for parental involvement' consisting of six roles that he hopes parents can play, namely parenting, communication, teaching at home, volunteering, decision-making and community support. As an example of how the school utilizes this framework, available MOE funding is drawn on to conduct parenting talks and workshops to help parents build up their skills for positive parenting and being equipped to teach their children at home. The school also employs a variety of communication channels to keep parents up-to-date on what's going on in school. These include a parent–teacher handbook, maintaining a school website, and he personally sending out regular emails, stories and a bi-monthly newsletter. Parents are also invited to (and do) email the school leader directly if they need clarification on any matters that they are unsure about. A few involved parents, both mothers and fathers, have also begun volunteering to help in lunchtime and recess duties as well as working with struggling readers. To further support the vision, he has put in place clear systemic structures and processes to provide a unique 'ecosystem' for pupils with an on-site preschool and an after-school centre for latchkey students who lack home supervision. Counsellors run holiday programmes to strengthen the social–emotional skills of pupils who would otherwise be left alone at home, thus preparing them better for school once the term re-starts. He has also used this parenting framework to align his connections with neighbouring religious and community organizations whom he willingly grants permission to regularly use his school's facilities for their activities such as charity drive events and inter-racial

engagement. His current School Advisory Council, unsurprisingly, comprises not just parents but also a few grassroots leaders from the community around the school. He explained his school's 'values-in-action' and corporate social responsibility thrust based on what he termed an 'A-B-C concept', namely, Assisting the needy, Building community and Contributing to an environmentally friendly school.

> We felt it is important to get in touch with the neighbourhood, to be a good neighbour, not antagonize them by disturbing them, and don't be a nuisance. We also need to fall back on the community's assistance for families that need help. For example, when it comes to counselling, we counsel the child but we (also) involve the Family Service Centre, we work very closely with them to provide services, financial assistance and support for families.

The key challenge he feels he faces as a leader in implementing the MOE stakeholder engagement policy is the time required in creating trust through quality relationships whether these are with parents or teachers.

> It is about relationships - that is the core theory of success - when you have a positive relationship, then everything will be okay. I tell parents, 'if you're not happy with certain things, come to me'. If parents know where we are coming from, they're not so difficult because they know it will be resolved. So it helps, you see? We will address it and see what we can do. Let us resolve within our family, for the sake of the children. What helps me to cultivate that trust is probably because of my presence. I try my best to start school with the children in the morning unless I really have to go to HQ or something. It's when your presence is felt and people know how to catch you, that you don't have a bigger problem eventually because fire-fighting is more painful than being proactive.

> But it takes time, it's very tiring, because you've got to talk, to meet and have that conversation. Changing the culture doesn't take place overnight, it takes long processes and you need to be consistent, to practice what you advocate. The people I have identified for leadership, they also have to come and see me because I need to change the way they think and talk. The 'big ideas' and the language has to be very different. You also have to show the person who is understudying (you) what it looks like, so (he) doesn't need to second-guess me. When you have someone who doesn't know you, there's no trust, so… they (now) know my habits. I lead by example so they can learn and model the way I want it to be but I also listen to them and synthesize and choose the best ideas. As a leader, you need to do more than your teachers, then they'll respect you. The important thing is, whatever decision you make, if you can as far as possible, don't destroy the trust and don't destroy the relationship.

Mr. Quek thus sees himself not just as a school leader but also, as part of his dominant metaphor of school, as the 'head of the family' and takes full responsibility for what his teachers do.

> If anything goes wrong, I have to cover for them. I tell them 'you are guilty unless proven innocent' and I will help you to discover and admit your mistakes, but it's not right for the teacher to have to admit these mistakes and the principal is not involved. The stake is that we are building a family here. I should not have policies that stop people from doing the wrong things; I should have policies that encourage them to do more of the right things.

6.6   Discussion and Conclusion

The three principals featured here embody well the Ministry of Education's attributes of the 'network leader' in their proactive and effective creation of connections with stakeholders, building bridges between their schools and the wider community, and advocating strongly for their less-advantaged students in order to optimize opportunities for these students' success. Their leadership in stakeholder engagement comes across clearly in the three descriptive attributes highlighted in the discussion. Regardless of level of schooling, family background and student population, and indeed perhaps due to the particular profiles of the families and neighbourhood communities that they work with, they have tailored their school systems and processes to meet the needs and demands of their own particular constituency. Fundamental to the structures and processes they have put in place, effective and frequent communication with stakeholders is clearly key to their success, the contents of which are often focused on sharing the responsibilities and challenges of student learning. They believe that learning is not limited to the classroom or within school walls but has to be expanded more holistically outside into the real world, particularly for older children. They boldly and intentionally leverage on their networks and personal positions to gain richer learning opportunities for students. In turn, they open up opportunities for the community, including parents, to participate in and contribute to school events and activities. The person of the school leader, being the official 'face' of the school organization, is especially important in conveying to both internal and external stakeholders how approachable they are, and how accessible opportunities for participation may be. Beyond the formal structures, or 'system-world', they understand that there lies the perhaps messier, but nonetheless, richer informal 'life-world' of the school, which can undergird beneficial stakeholder engagement for students. This 'life-world' in turns depends on the level of trust they are able to forge with all stakeholders in the community within which they lead. This they effectively succeed in doing through leading by example, building good teams and forging authentic trustful relationships around them through daily personal conversations and interactions with internal and external stakeholders.

In successful stakeholder engagement practices, the importance of personal modelling by a school leader (and teachers) must therefore not be underestimated. The leader, in particular, sets the tone in building a supportive whole-school partnership culture that pervades the staff room and school community. Effective school leaders can do much to transform even an existing negative culture, if they set their minds and hearts, and prioritize time, to building good relationships. Through daily social exchanges within school, social trust among school leaders, teachers and parents can in turn effectively improve much of the routines of school that can help motivate students to learn better. A skill in building trust is thus not to be viewed as a 'soft' skill but rather, one that can actually drive school reform. When a school leader demonstrates this in his or her personal demeanour and actions, teacher capacity in the area of social–emotional, and relational, capital can

be strengthened, certainly to the overall benefit of their students. This would truly strengthen the partnership aspect of being a school leader (Auerbach 2012)—by transforming the school leader's role from being defensive 'buffers' to indefatigable 'bridge-builders' between their schools and the wider community.

6.7 Questions for Reflection and Discussion

1. What do you think were some significant attributes and beliefs of each of the principals featured in the chapter that shaped and influenced their views towards the stakeholder engagement policy?
2. What were some of the key leadership challenges you think they would have faced, and if you were in their position, how would you handle these?
3. How and to what extent do you think you would approach the design and practice of authentic stakeholder engagement policy in your own school? What are your reasons for this?
4. If you were to undertake your own research in the area of stakeholder engagement, how would you frame an exploration of peer and/or teacher–student relationships?

References

Auerbach, S. (Ed.). (2012). *School leadership for authentic family and community partnerships: Research perspectives for transforming practice*. New York: Routledge.

Bryk, A. S., & Schneider, B. (2003). Trust in schools: A core resource for school reform. Creating caring schools. *Educational Leadership, 60*(6), 40–45.

Castells, M. (2004). *The network society: A cross-cultural perspective*. Northampton: Edward Elgar.

Fullan, M. (2004). *Leading in a culture of change*. San Francisco: John Wiley and Sons.

MOE. (2014). *The leader growth model*. Singapore: Ministry of Education.

Sergiovanni, T. J. (1992). *Moral leadership: Getting to the heart of school improvement*. San Francisco: Jossey-Bass.

Tschannen-Moran, M. (2014). *Trust matters: Leadership for successful schools* (2nd ed.). San Francisco: Jossey-Bass.

Professional Learning Communities

Salleh Hairon, Catherine S. K. Chua and Diwi Abbas

Abstract

Professional learning communities received a formal status in Singapore education in 2010 after the ministry of education piloted its model of professional learning community in a range of schools. Although it may seem that the ministry of education has adopted a school-based approach to professional learning community where school leaders provide the necessary structure and culture to support the practices of professional learning community, and teams of teachers called 'professional learning teams' provide the pedagogical development and innovations to impact classroom practices, the actual work of professional learning community lies in the latter. However, the implementation of professional learning community as a nationwide initiative and endeavour is not without challenges. In this chapter, a range of challenges are put forth for consideration—one of which is the importance of helping teachers to adopt a positive belief towards professional learning community, which would only come about when the wider range of challenges are addressed.

7.1 Introduction

Professional Learning Communities (PLCs) were introduced to the Singapore teaching fraternity in 2009. It was wrought out of policymakers' intent to create teaching professionals with the disposition to take the lead in collaborative

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professional learning to support school-based curricular development (Hairon and Dimmock 2012). Although the policy was introduced in 2009, the historical development of PLCs in Singapore can be traced back to the turn of the twenty-first century. In 1998, the Teachers Network (TN) was formed as a unit within the Training and Development Division (TDD) of the Ministry of Education (MOE) (Tang 2000; Tripp 2004). Its aim was to develop policies that support teacher professional development, and to build a fraternity of reflective teachers dedicated to excellent practices through a network of support, professional exchange and learning. It also aimed to serve as a catalyst and support for teacher-initiated development through sharing, collaboration and reflection leading to self-mastery, excellent practices and personal fulfilment. It advocated a bottom-up approach to change as reflected in its slogan 'For Teachers, By Teachers' (Shanmugaratnam 2005). In 2000, it introduced a protocol to support professional development conversation—coined as 'Learning Circles', in which teachers would take the lead in collaborative learning using an action research framework to improve classroom teaching and learning.

In 2011, the Academy of Singapore Teachers (AST) replaced TN. Nevertheless, the vision and mission of AST still retained the goal of teachers taking the lead in professional learning within the teaching fraternity in order to achieve high standards in teaching and student learning. The establishment of AST also coincided with the early developments of a PLC model for Singapore school. Its aims comprised the 'Three Big Ideas', namely, (1) improving student learning, (2) building a culture of teacher collaboration and (3) focusing on student learning outcome (TDD 2010). The model adapted DuFour's PLC framework (DuFour et al. 2010) relying on questions to guide PLC discussions. The model focuses on 'Four Critical Questions':

1. What is it we expect students to learn?
2. How will we know when they have learned?
3. How will we respond when they do not learn?
4. How will we respond when they already know it?

In addition, the model incorporated Fullan's 'Triangle of Success' (Fullan 1993), which includes 'School Leadership', 'System-ness' and 'Deep Pedagogy'. Professional Learning Teams (PLTs) comprising groups of teachers were created to engage in collective learning to improve teaching and learning so as to deepen their theories and practices of teaching—representing 'Deep Pedagogy' (TDD 2010). Coalition teams consisting of a group of senior leaders (e.g. principal, vice-principal and/or middle managers)—representing 'School Leadership', were also created to provide conducive school structures and culture to support PLTs—representing 'System-ness'.

The 'Three Big Ideas', 'Four Critical Questions' and 'Triangle of Success' form the key elements of the model. In this model, PLC is conceptualized as a 'whole school', whereby groups of teachers collectively learn within small groups called PLTs. Each PLT can have the option of choosing a range of collaborative learning

tools, such as Learning Circles, Action Research and Lesson Study. Learning Circles, which was introduced by TN in 2000, was subsequently subsumed under the new PLC framework and is considered as one of the learning tools to be used by teachers, along with Lesson Study and Action Research. Nevertheless, Learning Circles ostensibly bear much of the features of PLCs—broadly defined as 'professionals coming together in a group—a community—to learn' (Hord 2008, p. 10), and can therefore be considered a PLC, even though it was not referenced as such. A Learning Circle comprises a group of teachers engaging in action research to solve problems that have been collectively identified in relation to classroom teaching. This platform for collaboration, reflection and inquiry sought to help teachers enhance their teaching competency and initiate school-based curricular development and innovation with the support of school leaders.

A consistent theme that has emerged in the formation and development of TN and AST is the importance of teachers in supporting curricular and instructional development and innovation in Singapore schools. While policymakers have focused on a new set of student learning outcomes such as the twenty-first-century competencies, they continue to expect the maintenance of high academic standards in student outcomes. Attaining high standards in both academic and non-academic student outcomes is essential to maintain the country's economic competitiveness in the global market. Schools are therefore expected to provide appropriate curricula that meet a more diverse set of student outcomes. Furthermore, these student outcomes may vary from one school to another because the MOE encourages every school to establish its own unique curriculum in order to satisfy students' learning needs, and to create greater diversity in student learning experiences across the education system. Underlying these policy shifts is policymakers' awareness that the pre-occupation with preparing students to do well in the national high stakes examinations is no longer sufficient to meet the demands of Singapore's rapidly emerging twenty-first-century knowledge-based economy (Dimmock and Goh 2011). In order to achieve this, schoolteachers are obliged to invest in curricular and instructional development and innovation with the support of school leaders. With this backdrop in mind, the importance of PLCs in developing teacher capacity is amplified. This also implies the importance of enhancing PLC capacity within schools. Teachers are encouraged to have the knowledge and skills necessary for participation in PLCs. School leaders are to develop the knowledge and skills needed to support PLC practices. More specifically, the importance of teacher leaders in providing the necessary support for PLCs to function effectively.

7.2   Challenges Facing PLCs

Notwithstanding the compelling benefits of PLCs such as improvement in teaching practice and student learning outcomes, potential challenges have been raised. Based on a research study of 51 schools in 2010, PLC Hairon and Dimmock (2012) call attention to three main potential challenges to the implementation of school and

system-wide PLC policy initiative: (1) teachers' workload, (2) ambiguity of PLC processes and effectiveness, and (3) hierarchical work structure. The first challenge is understandable bearing in mind that teachers' teaching and non-teaching work has increasingly widened and intensified not only in the Singapore context, but also in countries that seek to fulfil widening student outcomes. Under such conditions, it is understandable that teachers prioritize teaching more than professional development. This mindset becomes more ingrained when professional development is perceived as not having or having weak impact on the day-to-day teaching and learning. This could be due to several factors. First, the impact of professional development on teaching and learning is indirect. Second, the impact of professional development on teaching and learning takes time. Third, the impact of professional development on teaching and learning is not fulfilling individual teachers' classroom teaching and learning needs. Fourth, the use of weak or inappropriate assessment tools to evaluate teachers' instructional practices.

The second challenge of ambiguity with regard to the PLC concept and processes also contributes to teachers' lack of interest in professional development. What really is a PLC? What are the features of PLC? What do these features look like in practice? What do we do in PLCs? Who can we follow? The ambiguity of the concept and its operations further contribute to the lack of faith teachers have in PLCs as a vehicle for improvements in teaching and learning. The third challenge raised pertains to the centralized nature of the education system. The key argument raised is that a hierarchical work culture undermines the spirit of self-directedness, which is an integral feature of PLCs. In this regard, teachers might face difficulties in reconciling the pursuit of self-directed learning through PLCs and having to show deference to the authority's and school leaders' mandate and prerogatives pertaining to teacher learning.

Further potential challenges have also been documented by Hairon et al. (2014) in their qualitative study of 11 primary government schools in 2013. First, insufficient time for quality PLC discussions among teachers necessary for deepening their pedagogical knowledge in the context of teachers' busy work schedule and their pursuit of work–life balance. Second, weak PLC group composition, whereby teachers within PLC groups may not share similar interests and goals. This could be due to differing subject specializations or varying student ability groups. Third, weak facilitation (or leadership) in PLC discussions, which potentially weakens in-depth discussion to improve teachers' pedagogy. Fourth, weak leadership support in terms of providing strategic direction for PLCs in relation to its contribution to the overall school improvement processes and outcomes. Fifth, weak organizational support for PLCs insofar as PLCs are perceived as project-based, whereby teachers are required to perform learning tasks to be delivered within a set period of time along with certain deliverables (e.g. a 4-page report). The project-based nature of PLCs does not sufficiently take into account teachers' day-to-day teaching requirements and experiences. It is not unusual therefore for teachers to ask if their involvement with PLCs is meant to serve their professional development or to serve somebody else's agenda. Sixth, teachers' lack of strong belief in the effectiveness of PLCs, which is the eventual outcome of the five potential challenges listed above.

The two case studies below seek to further contribute to our in-depth understanding of PLC enactment in the Singapore education system. For each case, we shall highlight key experiences of school leaders, specifically the voices of principals and vice-principals. The key learning experiences will address three broad research questions: (1) How are PLCs implemented in schools? (2) What are the perceived benefits of PLCs? (3) What are the potential challenges that schools faced in the implementation of PLCs? In the conclusion, we shall raise key critical questions for reflection and consideration.

7.3 Method

The findings presented below were drawn from case studies of two government primary schools in Singapore in 2014. Care Primary School is a single session primary school with a student population of about 1482 students and teacher population of about 87 teachers. Yishak Primary School is a double session school with a student population of about 1278 students and teacher population of about 85 teachers. The two schools were chosen based on purposive sampling, and participation in the study was via invitation. Both schools are onboard the PLC journey espoused by MOE, and employ key processes such as structured time for PLC discussions and learning tools such as Learning Circles, Action Research or Lesson Study. This was followed by getting informed consent from participants from the two schools. The findings from the case studies were based on interviews with the principals and vice-principals of the two schools. The interviews were conducted within a 1-year period at the start and end of one school calendar year. The interviews were audio-recorded and transcribed verbatim. Thematic coding was then done thereafter. The transcripts were then systematically coded to generate relevant themes according to the three main research questions.

7.4 Care Primary School

The school commenced its PLC journey using the MOE PLC model in 2012. The school leaders set aside one hour of curriculum time each week for teachers to collectively learn from one another in their respective small teams known as Professional Learning Teams (PLTs). The strategic direction and agenda for PLC were set by the Coalition Team comprising the principal, vice-principal and School Staff Developer (SSD). The school leaders, in consultation with the SSD, appointed facilitators to lead PLT discussions from their pool of teachers who were deemed to have potential leadership capabilities. As the key driver for the school's PLC implementation, the role of the SSD is to ensure that teachers are well supported in their PLC activities which are guided by a lesson study framework comprising lesson planning, lesson observation by peers, post-lesson discussion, revision

of lesson plan, second lesson observation by peers and final post-lesson discussion. Initially, teachers were exposed to the use of action research as a collaborative learning tool to solve problems and improve classroom teaching. This fits seamlessly with the MOE's PLC framework. Over time, however, the school leaders observed that teachers had difficulty in developing skills and expertise in action research. This led to the school leaders' decision to make use of lesson study in 2013.

7.4.1 Structure Supporting Collaborative Learning

PLC was generally well received by the school leaders. They appreciated the value of PLC in providing a supportive structure for teachers to share and learn from one another, and to develop collaborative spirit among teachers.

> I feel that when teachers come together, they value-add to each other in terms of their learning, in terms of their expertise in the classroom. By coming together and looking at it in a more consistent way using the PLC platform to discuss their teaching and learning in the classroom, I think they would have value-added to each other definitely. [Principal]

> I think PLCs put in place structures that allow for good quality conversations particularly among staff, provided they have a very clear purpose in mind and with the intent of really focusing on student learning. I feel that the collaborative spirit really helps teachers reflect on their own thinking—on the ways they actually conduct lessons in the classroom…on their own pedagogy. And generally I think they can really learn very well from each other provided that there is clarity of purpose and they're very clear about what they want to do, and the PLC structure does allow for that. [Vice-Principal]

This collaborative spirit was, however, perceived as dependent on a clear focus on student learning. In addition, it was perceived as requiring deliberate and gradual cultivation by the school leaders on teachers' way of learning.

> So through constant conversations with staff, I have touch-base sessions on a term by term basis with my staff which I use as a platform to let them know that perhaps there are better ways of doing things. So, really try to address their mental models. But it cannot be done overnight. It will slowly evolve. But there are some baby steps that we have taken in terms of trying to create that culture where there is really this collaborative spirit. [Vice-Principal]

In cultivating this collaborative spirit, the school leaders have also observed that teachers need assistance to stay focused and purposeful during the PLT discussions. Accordingly, the school leaders took several steps to encourage commitment from teachers in this particular aspect. They put in place a variety of supporting structures, norms and ground rules to help keep the PLC sessions on track. These include setting the agenda for the sessions and instituting literature review in the PLC discussions. The following comments illustrate this point:

> That's the reason why we introduce the agenda and that's why we introduce the focus because we felt that otherwise the conversations have a tendency to go in ways that are not productive." [Vice-Principal]

> We refined the structure a little bit, in the sense that we got the teachers to go through some literature review with regard to the things that they wanted to do, so that they are a bit more aligned to what the research literature has done in a particular area or what the literature says about this idea that they wanted to embark on. [Vice-Principal]

Another form of assistance is monitoring on the part of the school's management team to ensure that the whole school supports the development of PLC in the school.

> So at my management meeting, they (Senior Management Team) will know about the structure. They will also provide further inputs, further refinements to that structure before we actually let the teachers know about it. So it's not just my coalition team you know, it's my entire management team as well. [Vice-Principal]

The role of middle managers was perceived to be crucial in supporting quality teacher discussion and learning on a school-wide basis through PLCs.

> I find that the structure in our school where we have the HODs as advisors has also been quite useful, their role is really to see the direction of the PLC, the type of questions that are asked, and the engagement level of the teachers. So in a way…the structure drives the behaviour as well. [Principal]

> The idea is really to build on their strengths, that's the key idea and the PLC structure definitely allows for this to happen. I firmly believe that structure will drive the behavior. Once you put the structure in place, it will allow teachers to actually have this conversation. But the level of conversation may not be so rich because of their limited experience. [Vice-Principal]

7.4.2 Collaborative Learning for Professional Development

The PLC structure was perceived to have the potential to impact on teacher professional development.

> I felt that many of the teachers had the perception that the school doesn't look or focus on their professional development. So when some of these structures were put in place, they feel that their professional development is attended to and they do get opportunities to develop themselves. [Vice-Principal]

7.4.3 Collaborative Learning for Camaraderie

The PLC structure was perceived to enable teachers to bond together through the building of strong supportive relationships among teachers.

> When teachers see that they have peer support via [PLC] conversations, they are disposed to learn from each other. I have had teachers who gave me feedback. They experienced a lot of resource support, and emotional support as well from the teachers who say – "It's okay you know. It happens in my classroom too." And so, these kinds of conversation help to allay teachers' fears as well. [Vice-Principal]

7.4.4 Teaching Strategies for Student Learning

The collaborative learning that took place in PLCs was perceived to translate to improvements in classroom teaching strategies. The use of lesson study helped in the translation of collaborative learning to collective actions by teachers with respect to teaching strategies. The lesson study cycle helped teachers to refine not only lesson plans but also the research foci (focus of enquiry) over time in a continuous cycle—hence, a continuous cycle of reflection and application. This cycle supported the continual refinement of research focus, and therefore, lesson focus and teaching strategies, and their underlying pedagogies.

> I hope that my students benefit most, to be honest. I mean, the whole idea of this structure (PLC)…that it enhances teachers' professional development, the end product is definitely how they deliver it to the students and how it engages them in their classrooms. I think that's the key point of PLC. [Vice-Principal]

7.4.5 Assessing Effectiveness of Teaching Strategies

The school's involvement with researchers from the National Institute of Education (NIE) also exposed one PLT to the use of Rasch analysis. The Rasch analysis provided teachers with information pertaining to individual students' ability with regard to individual test items' difficulty. There was widespread affirmation from those involved in the research project that the use of Rasch analysis played a very important role in supporting teacher learning. It supported teachers in the following ways: (1) insights into test items difficulty in relation to one another, (2) insights into individual students' ability, (3) information on individual students' learning gaps, (4) identifying teaching strategies to close students' learning gaps, and (5) monitoring the growth of students' ability over time. The Rasch analysis provided teachers with a more accurate measurement of assessing students' ability. It challenged teachers' assumptions on what they think their students should and should not be able to do in assessment tasks.

> When you know how the Rasch analysis gives you feedback, then you know where a certain pupil is, or who are those that are the outliers that are performing way above the rest, or those that may not be getting it (understanding the concept). So it gives us a lot of feedback in terms of those who might need help. The other thing that we eventually got to see was the options that they chose. So, I thought it was a very detailed way of doing formative assessment. You know exactly what the child is like, what he was thinking about, or what was the routine the children were following as they were solving those questions. [Teacher]

7.4.6 Challenges

Several challenges had been highlighted by the school leaders. The first challenge was the lack of time, especially with regard to refining lesson plans and finalizing the lesson study projects. In addition to this, teachers faced the competing challenge

of engaging in PLCs in the midst of their heavy and hectic teaching schedules. It was a struggle to balance the practice of PLCs with the fulfilment of teaching responsibilities. This proved to be a challenge to support and foster quality PLC conversations—as indicated by the following comments:

> Time is always an issue. To be very honest, in order to reflect, you need a bit of time and space. If you have a whole lot of things that are waiting for you on your table, it's really not possible. You can't just say to yourself 'I'm going to sit down and reflect.' It's very artificial. [Vice-Principal]

> I think probably the first challenge I see–from the PLC meetings that I have attended—would be the quality of the conversations. At times they can be very focused on getting things done. I think probably it's the time–one hour. The teachers come in from a particular class lesson, they might have had a bad time. And then they come in, and they're supposed to engage in quality conversations. This may be also a bit of a challenge. Structure, timing, quality of conversations are some of the challenges we face. [Vice-Principal]

The second challenge highlighted by the school leaders was the lack of consistency on school-wide teacher ownership and commitment to PLC aims. Although the school leaders reported that they consulted with teachers on how best to manage the implementation process of PLC, they were cognizant of the different levels of teacher commitment and capacities on PLC matters. There was some evidence of continuing pockets of resistance to PLC implementation, especially amongst the experienced teachers.

> Teachers with more years of experience have mental models different from teachers who are new. It is really about changing the more experienced teacher – 'I've already done this, so why are we doing this?' For them it could be a waste of their time. For the younger teachers, it's a good platform because they appreciate the importance of peer support and all that's coming in. So it's really about framing their thought pattern in that sense. To be honest, not all teachers are on board. So these are key challenges. [Vice-Principal]

The third challenge highlighted was teachers' lack of skills in making effective use of data to help in constructing appropriate strategies. This was specifically with reference to the data collected from observations made on students within the lesson study process.

> Some groups (of teachers) don't use data and evidence to guide what they are doing. They often depend on their own intuitions regarding students and classroom practices. As they're not very data driven, their analysis is not in-depth enough. [Vice-Principal]

7.5 Yishak Primary School

The school introduced lesson study in 2007 and achieved some degree of success with it. However, the School Staff Developer (SSD) observed that not every member of the team was actively contributing to the process, and that the *'majority are taking a backseat'*. He therefore recommended switching to action research

which he believed to be a better tool to equip every teacher to become more engaged in inquiry, becoming reflective practitioners. Although the culture of collaborative teacher learning has been around for several years, the school only received the official status of MOE PLC in early 2013.

PLC meetings are conducted one hour weekly, out of which about a quarter of the time is spent on grade level pedagogical matters and three-quarter of it spent on action research projects. PLC meetings are led by level facilitators who are usually Senior Teachers or aspiring Senior Teachers. The Coalition Team consists of the SSD, two Senior Teachers and level facilitators. The vice-principal plays the role of advisor. The coalition team looks into matters of professional development of teachers. The principal and vice-principal have the primary role of setting the direction for PLC. Nevertheless, the vice-principal plays a more active role in supporting PLCs. This is because he was the former SSD, and in that capacity he appointed the level facilitators in 2012 after recognizing the need for more support for the PLC teams. The new SSD was appointed at the start of 2013 and plays the role of monitoring and guiding the level facilitators to ensure that the PLC processes are in place and running efficiently.

7.5.1 Structure Supporting Collaborative Learning

The school leaders saw PLCs as a structure for teachers to learn collaboratively in the pursuit of a common goal—that is, improving teaching and learning.

> We want to make every teacher innovative. In the spirit of innovation, the teacher will explore and the teacher will grow as he explores…The PLC provides a platform to support the teachers, because in the PLC structure you are not alone. You have your own group of like-minded people to discuss, to have a discourse on themes and methods. [Vice-Principal]

PLC is perceived as a platform to discuss issues other than administrative matters, and where pupils' data on learning are scrutinized to close the learning gaps through improving teachers' pedagogical knowledge. PLC affords collaborative exchange of ideas amongst experienced teachers who have years of experience behind them and beginning teachers who are armed with fresh innovative ideas. The PLC also serves as a structure for teachers to clarify their misconceptions, and for disagreements to be aired and resolved.

The collaborative learning that occurred through PLCs proved to be more relevant when compared to attending workshops conducted externally. PLCs were reported to have added value to the school's ICT programme and has contributed to the increase in the level of student engagement as reported in the Quality of Student Experience (QSE) survey.

7.5.2 Collaborative Learning for Camaraderie

PLCs were perceived to benefit teachers in helping teachers resolve conflicts and disagreements, promote staff bonding, enable sharing of resources and ideas, allow more experienced teachers to share their wealth of experience and less experienced teachers to share innovative ideas with one another.

> PLC is a platform whereby the teachers show care to one another, by giving one another support in that journey. [Vice-Principal]

PLC was generally perceived as not only fostering and nurturing staff bonding, but also rich collaborative learning amongst teachers. In this sense, rich learning and building strong relationships are tightly intertwined.

7.5.3 Assessing Effectiveness of Teaching Strategies

Similar to Care Primary school, Yishak Primary school also participated in projects with researchers from the National Institute of Education (NIE), where one PLT was introduced to the use of Rasch analysis. The exposure to the use of Rasch analysis also provided teachers with insights into areas of weaknesses of students' learning, and hence, a better understanding of their students within the level and between classes.

> I think Rasch analysis helps to give a perspective which they (teachers) never considered before. How is it that a child thought to be high performing failed to solve these questions? And vice versa, those who were thought to be less able managed to solve those question? So, the analyses helped them to understand deeper, and motivated them to question and to enquire; 'why is this so?' And I think it's good to have teachers enquiring about students' practice and students' performance. [Vice-Principal]

7.5.4 Challenges

One of the challenges faced by the school was insufficient time allotted for PLC discussions. First, PLC time spent on discussing teaching and learning in smaller groups specific to action research projects lasted about 30−40 min so as to accommodate for grade level administrative matters. Second, the double session structure was perceived to constrain timetabling for PLC meetings. Third, there was the temptation for teachers to use some of the PLC time for administrative matters. There was therefore a fight for time over matters of teaching and administration. Ensuring that time for PLC sessions would be kept sacred and devoted to only PLC conversations proved problematic.

> The only thing that I try to discourage is using these PLC sessions for administrative matters. Sometimes they try to bargain with me–how about 5, 10 min? I think 5, 10 min is all I can give them. [Vice-Principal]

The second challenge reported by school leaders was the different levels of engagement of teachers in PLCs. This was contributed by several factors. Some of the action research projects were rigorously assessed at the end of the year. Some were reported to lack substance (e.g. lacking depth in literature review). Some teachers were reported to have the view that PLC discussion was not relevant to them. They perceived that the learning that takes place through PLC discussions is intended to serve a project—an agenda that is different from their day-to-day classroom teaching and learning. Much time was used to read up on relevant literature, thinking through the research design, constructing the instrument, collecting data, analysing data, preparing the report and presenting the findings at the end of the year.

The third challenge has to do with facilitating PLC discussions, which was seen as an unenviable task. It was reported that getting every group member to agree and be accountable to one another is a very difficult task. Furthermore, although the school leaders put in place a structure where level facilitators would help to oversee the running of PLC discussions and to ensure that the discussions are directed and focused, they were nevertheless concerned about the lack of ownership amongst team members. The vice-principal was cognizant of the need to use a distributed model of leadership to help to strategically develop a collaborative learning culture.

> I think PLC can be improved by the teachers being more self-directed, rather than waiting for the level facilitators to lead them. I want to see more of that emerging from individual teachers. When someone points out something 'This is what we can do'; others can come into say 'Can we consider another method' or 'Why is this method adopted?' [Vice-Principal]

The need for each teacher having genuine ownership on learning through PLC points to the fourth and final challenge—that is, nurturing positive teacher belief on PLC and its impact on student learning.

> So along with the two concerns – new approach in how we group teachers, and teachers who are new to the level, new to the subject, new to the school – is their (teachers') belief – the strong belief in really wanting to bring out the best in every child … Because I've been with them four years already. So I know that each time right at the PLC level they started to go into identifying the real needs of the child. [Vice-Principal]

7.6   Discussion and Conclusion

The findings from the two case studies highlight how PLCs are very much shaped by context. In an education system that values standardized quality of schooling, along with the value for hierarchy, efficiency and collectivism, Singapore school leaders and teachers may feel obligated to implement PLCs using the education ministry's PLC model. The desire to make 'Every School A Good School'—a motto created by the education minister, Mr. Heng Swee Keat, resonates across the different layers of educators such as school leaders, teachers and headquarters

officials. Underlying this motto is essentially the desire to help every student learn to his or her maximum potential. This important calling provides one of several motivations for school leaders and teachers to implement PLCs in schools, and in supporting the implementation of PLCs system-wide.

The two case studies also highlight several benefits that PLCs afford, and further provide an explanation as to why PLCs are valued by both schoolteachers and leaders. PLCs provide an apt structure and culture for teacher collaborative learning with the purpose of improving student learning via improvements in teaching strategies especially with the aid of appropriate assessment tools. In the course of doing so, teachers grow in their knowledge and skills, and professional relationships among one another. The importance of building the structure and culture for teacher collaborative learning, however, cannot be devoid of leadership, albeit the more dispersed or distributed type.

Although the importance of leadership in supporting PLCs has been highlighted before (e.g. Huffman and Jacobson 2003; Hipp and Huffman, 2010; Hairon et al. 2014), the findings from the two schools suggest that challenges still persist to potentially hinder the enactment of PLCs. The findings from the study also give us a better understanding of school leaders' priorities and concerns on PLC matters. One of the priorities that school leadership has pertaining to the implementation of PLC is the provision of organizational structures in the form of timetabled time, facilitators and the choice of learning tools (e.g. action research and lesson study, or more widely known as the 'theory of action' espoused by Cochran-Smith and Lytle 2009). However, the mere existence of these structures does not necessarily lead to sustainability in terms of school-wide teacher buy-in, ownership and participation. School leaders have to become more incisive in the operationalization of PLCs in schools—and to ask more incisive questions pertaining to effective implementation of PLCs. The following are questions that school leaders need to address with regard to timetabled time for PLCs: When shall PLC meetings be conducted—at the start, in the middle or end of the school day? How often should PLC meetings be held—once a week, twice a week or once a month? How long should the PLC meetings last—30, 60 or 90 min? What is the optimal time for teacher learning in PLC meetings? Where is the appropriate venue for PLC meetings?

With regard to group composition, school leaders need to address the following questions: What is the optimal size of each PLC group—4−6, 7−8, or 9−10? How should teachers be grouped in PLC—similar subjects, grades or topic of inquiry (e.g. problem-based learning)? Should PLC group be homogenous or heterogeneous in composition? Who should be facilitating PLC meetings? On what basis should facilitators be selected—teaching experience, personality or career development? How are facilitators developed—workshops, courses, shared learning among other facilitators? What resources do they need? Who will develop them? What are the sources of their influence—experience, maturity, expertise, position? What is the title that will best reflect their role—facilitators, team leaders, supervisors, mentors? Will there be a co-facilitator, and if so, for what purpose? What motivates facilitators, and how can they be rewarded?

The importance of building facilitators is akin to the importance of building teacher leadership. This would require school leaders to enact distributed leadership which can be defined as influence-related practices emanating beyond a single leadership position. Distributed leadership has also been reported to have four dimensions—bounded empowerment, developing leadership, shared decision and collective engagement (Hairon and Goh 2014). Bounded empowerment has to do with relinquishing decision-making power to others but within a bounded scope. Shared decision has to do with promoting decision-making actions vertically and horizontally in the organization. Collective engagement has to do with promoting interactions among staff members in their day-to-day work. Lastly, developing leadership requires school leaders to invest in the development of leadership capacities in staff members. And it is in this aspect that teacher leadership is developed and enhanced. Teacher leadership can be defined as 'the process by which teachers, individually or collectively, influence their colleagues, principals and other members of school communities to improve teaching and learning practices with the aim of increased student learning and achievement' (York-Barr and Duke 2004, 287–288). Also, three dimensions for teacher leadership have been identified (Hairon et al. 2014; Hairon et al. forthcoming)—(1) building collegial and collaborative relationship, (2) promoting teacher learning and development, and (3) enabling change in teachers' teaching practices.

With regard to the use of learning tools or theories of action (e.g. action research, lesson study), the following questions need to be addressed by school leaders: Which theory of action is most suitable for teachers in their school context? What specific knowledge and skills need to be acquired by PLC group members? How do teachers develop these knowledge and skills—workshop, courses or community of practice? Who could help develop these knowledge and skills? What resources do PLC group members need to develop these kinds of knowledge and skills? How do we help teachers not to treat the use of learning tools as a project, but more of a process of teacher learning to improve classroom teaching and learning?

Beyond matters of structure, school leaders are equally challenged on matters of culture—that is, shaping teachers' beliefs and values pertaining to PLCs. In this regard, school leaders could ask the following questions: What cultural values do I want to promote that support PLCs—respecting diversity, trust, constructive criticism, consensus decision-making, lifelong learning, quest to know the truth? How can I role model these values? Who else in my school could role model and promote these values? What school policies could be put in place to promote and support these values? What existing values run contrary to the espoused values that I want to promote for PLCs? What can I do to discourage these contrary values?

It is also instructive to take note that the societal pragmatic value pervades almost all, if not all, schools in Singapore. In this regard, teachers' buy-in, ownership and participation in PLCs can be highly achieved when they can experience how PLC activities impact their classroom teaching and learning. The key question which school leaders need to ask is—What should I do to ensure that teacher learning in PLCs translates to individual teachers' classroom teaching? This question is the principle or master question undergirding all other questions that

have been raised above. For example, the optimal size of a PLC must be one that will help teachers translate teacher learning in PLCs to individual teachers' classroom teaching and learning. Likewise, the development of facilitators and their functioning must be one that will help teachers translate teacher learning in PLCs to individual teachers' classroom teaching and learning. This principle or master question basically answers the basic question that distinguishes PLCs amongst other forms of learning communities—What do PLCs seek to accomplish? The response is to improve teachers' teaching and students' learning. At the heart of our argument is that teacher learning in PLCs must translate successfully into individual teachers' classroom teaching and learning. There is no better way to bring about teachers' positive belief in PLCs, and in sustaining the practice of PLCs both school-wide and nationwide.

7.7 Questions for Reflection and Discussion

1. What do you think are the essential elements of a PLC?
2. What does your school hope to achieve through PLCs?
3. What support needs to be given for PLCs to be effective?
4. What aspects of PLCs need to be researched further?

References

Cochran-Smith, M., & Lytle, S. L. (2009). *Inquiry as stance: Practitioner research for the next generation*. New York: Teachers College Press.

DuFour, R., DuFour, R., Eaker, R., & Many, T. (2010). *Learning by doing: A handbook for professional learning communities at work* (2nd ed.). Bloomington, IN: Solution Tree Press.

Dimmock, C., & Goh, J. W. P. (2011). Transformative pedagogy, leadership and school organisation for the 21st century knowledge-based economy: The case of Singapore. *School Leadership and Management, 31*(3), 215–234.

Fullan, M. (1993). *Change forces: Probing the depths of educational reform*. London: Falmer Press.

Hairon, S. (2014). *Uncovering effective PLC conversations: An ethnographic study of three PLCs in Singapore schools*. Paper presented at the 27th ICSEI Congress, Yogyakarta, Indonesia.

Hairon, S., Goh, J. W. P., & Chua, C. S. K. (2015). Teacher leadership enactment in PLC contexts: Towards a better understanding of the phenomenon. *School Leadership and Management, 35* (2), 163–182.

Hairon, S., & Dimmock, C. (2012). Singapore schools and professional learning communities: Teacher professional development and school leadership in an Asian hierarchical system. *Educational Review, 64*(4), 405–424.

Hairon, S., & Goh, J. W. P. (2014). Pursuing the elusive construct of distributed leadership: Is the search over? *Educational Management, Administration and Leadership, 43*(5), 693–718.

Hairon. S., Goh, J.W.P., & Diwi, A. (2014). *Challenges to PLC enactment in Singapore hierarchical school system*. Paper presented at the AARE-NZARE 2014 Conference: Speaking Back Through Research, Brisbane, Australia.

Hairon, S., Goh, J. W. P., & Lin, T. B. (2014). Distributed leadership to support PLCs in Asian pragmatic Singapore schools. *International Journal of Leadership in Education, 17*(3), 370–386.

Hipp, K. K., & Huffman, J. B. (2010). *Demystifying professional learning communities: School leadership at its best*. Lanham, MD: Rowman and Littlefield Educational.

Hord, S. M. (2008). Evolution of the professional learning community: Revolutionary concept is based on intentional collegial learning. *Journal of Staff Development, 29*(3), 10–13.

Huffman, J. B., & Jacobson, A. L. (2003). Perceptions of professional learning communities. *International Journal of Leadership in Education, 6*(3), 239–250.

Shanmugaratnam T. (2005). Speech by Mr Tharman Shanmugaratnam, Minister for Education, at the Ministry of Education Work Plan Seminar 2004 at Ngee Ann Polytechnic Convention Centre. Retrieved September 22 2005 from http://www.moe.gov.sg/media/speeches/2005/sp20050922.htm.

Tang, N. (2000). Teachers' network: A new approach in the professional development of teachers. *ASCD Review, 9*(3), 48–55.

Training and Development Division (TDD). (2010). *Schools as professional learning communities*. Singapore: Training and Development Division, Ministry of Education.

Tripp, D. (2004). Teachers' network: A new approach to the professional development of teachers in Singapore. In C. Day & J. Sachs (Eds.), *International handbook on the continuing professional development of teachers* (pp. 191–214). Maidenhead: Open University Press.

York-Barr, J., & Duke, K. (2004). What do we know about teacher leadership? Findings from two decades of scholarship. *Review of Educational Research, 74*(3), 255–316.

Design Thinking

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Yew Leong Wong and Benjamin Wong

Abstract

Among the competencies that are widely regarded as vital for survival and success in the increasingly volatile, uncertain, complex, and ambiguous world that we live in today is design thinking. Traditionally the main driving force behind innovation in business and industry, design thinking is now also seen as key to creating better solutions to social, economic, technological, and political problems. Unsurprisingly, educators and educational researchers have also begun exploring the potential of design thinking in improving curriculum and pedagogy. In this chapter, we briefly explain the methods, processes, and dispositions that constitute design thinking and present two principals' attempts to introduce design thinking into their school. The case studies provide insights into the possible ways, benefits, and challenges of infusing design thinking into a school's curriculum and operations.

8.1 Introduction

We live in an increasingly volatile, uncertain, complex, and ambiguous world today. The skills and capabilities that brought success to individuals and organisations in the twentieth century can no longer be relied upon to produce the same results in the twenty-first century. Among the competencies that researchers and industry analysts have identified as vital for survival and success in the new world order is design thinking (Davies et al. 2011; Gardner 2008; Pink 2005). Traditionally the main driving force behind innovation in business and industry, design

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thinking is now also seen as a key to creating better solutions to social, economic, technological, and political problems (Brown 2009; Brown and Wyatt 2010; Edwards 2008; Kimbell 2011a, b; Martin 2007, 2009). A growing number of educational researchers and educators have also begun exploring the potential of design thinking in improving curriculum and pedagogy (Carroll 2014; Laurillard 2012; Noweski et al. 2012; Tsai et al. 2013; Wagner 2014).

In Singapore, tasked to develop new strategies to safeguard the country's economic future in the twenty-first century, the Economic Review Committee (2003) reached a similar conclusion when they identified the design cluster as one of three key drivers for economic growth. Since 2003, the Singapore government has deployed a substantial amount of resources to develop the design capabilities of workers and organisations, both within the traditional design sector and beyond. Structures that enable firms to leverage good design for competitive edge and environments supportive of innovation have also been established (DesignSingapore Council 2009; Economic Strategies Committee 2010). An important element among these strategies is the introduction of design thinking into schools (Ministry of Education 2010, 2013; Design Masterplan Committee 2016). This includes the nurturing of design competencies in students and the use of design tools and processes in the review and redesign of curriculum, pedagogy, administrative processes, and school leadership.

Of course, there are many strategies for generating innovation. Lean thinking and *kaizen* are currently two of the more well-known ones in business management and product development. Understood reductively to mean a specific model, process, or set of methods, design thinking appears to be yet another innovation strategy. The question naturally arises: why choose design thinking over other available strategies? However, that is not how 'design thinking' is understood in this chapter, nor is that the conception that those policymakers mentioned in the previous paragraph had in mind. Design is here understood as the intentional creation of new types of things that fulfil a practical function or address a real human need and emphasises the experiential quality of the design artefact (Cross 2011; Papanek 1984; Parsons 2016; Simon 1996). 'Design thinking' therefore refers to designers' cognition and values when they do this creative work. Design thinking is not a mere strategy for producing innovation. Rather, it is a way of seeing, thinking, and working that is consistent with and incorporates various strategies for identifying and understanding human issues and individuals' needs, generating and testing new ideas, and refining and implementing solutions. So, it would be a mistake to think that design thinking is here being put forward as a preferred strategy for generating innovation. Instead, design has been identified as the field or practice that has innovation as its chief concern, and the proposal is that the competencies and dispositions that form the core of this discipline should be part of the basic skillset of every individual in the workforce, and that the developmental process should begin in schools.

As an approach to tackling human issues, design thinking typically begins with an attempt to understand the issue at hand through the perspectives of the people affected. The needs and motivations of the different groups of stakeholders in the

issue provide the basis for identifying and defining the various problems that constitute the issue. Ideas and prototypes for possible solutions are generated, explored, and tested with the experiences of the target users firmly in mind to ensure that the eventual solution fully addresses people's needs and is a product or service that people would want to use.

Different design schools and companies characterise the design process differently. For example, the Rotman School of Management at the University of Toronto presents the design process as the interactions among the three gears of (business) design: Empathy and Need-finding, Prototyping and Experimentation, and the creation and implementation of a solution (Business Strategy). On the other hand, the design firm IDEO and Stanford University's Hasso Plattner Institute of Design (popularly called the d.school) describe the design process as a flexible and iterative movement through the stages of empathy, define, ideate, prototype, and test. These different characterisations are simply a matter of naming convention and branding. In practice, design thinkers generally employ a similar suite of tools and methods in an iterative and non-linear process that they strive to keep human-centred and multi-perspectival. This observation is corroborated by numerous academic investigations into how designers think and work (for an introduction to these studies, see the following review articles on design theory and research: Cross 1999, 2001; Johansson-Sköldberg et al. 2013; Kimbell 2011b; Razzouk and Shute 2012).

A human-centred and multi-perspectival approach to dealing with human issues promises to deliver innovative solutions that better meet people's needs, thereby bringing about improvements in the quality of life. Human issues are complex, with the needs of different groups of people intricately interconnected and often pulling in opposing directions. For example, in some Third World countries, poor rural families that have little or no access to modern hospital facilities need a safe, effective, and affordable way to keep their premature babies alive. The absence of such means puts pressure on these families to have more babies in anticipation of the death of some of their children. But this tends to raise the population growth rate in areas that are already struggling to feed the existing people living there. Seeing issues through the perspectives of different groups of people draws attention to frequently overlooked or neglected needs and increases the likelihood that tensions among the different needs are revealed. Design thinkers' commitment to being human-centred and to improving lives motivates them to select these needs and tensions for 'solutioning'. Ideas that can address these needs and resolve these tensions effectively are game-changers that have far-reaching positive social impacts: consider, for instance, the impact of a solution that allows major drug companies to reap significant profits from the drugs they have developed and yet make the drugs affordable and available to the impoverished people who need them the most.

In commercial endeavours, such solutions usually translate into huge profits for companies; in politics, they mean greater popularity and more votes; and in humanitarian efforts, they may attract more funding for future projects. It is

therefore easy to understand why many businesses, governments as well as social and humanitarian enterprises are beginning to find design thinking attractive.

In Singapore education, many Ministry of Education (MOE) officers, school leaders, and teachers find design thinking useful for generating better policies, management strategies, administrative processes, and curricular programmes as they seek to improve the experiences of staff and students in schools. Furthermore, design thinking promises immense educational value when introduced into school curricula. Wong (2011) has explored the different skills and competencies that constitute design capabilities (see also Noweski et al. 2012). Here, we wish to draw attention to the few that seem to resonate most strongly with educators.

The human-centred and multi-perspectival nature of design thinking make design thinking projects a natural vehicle for developing in young students basic socio-emotional skills, such as self-awareness and awareness of others, communication skills, collaboration skills, and the ability to empathise with others. In older students, these skills form the foundation for developing ethical reasoning and decision-making skills. When students can empathise with the experiences of other people, exposing them (through design thinking projects) to the needs and motivations of people who live in situations unfamiliar to them enables them to not only acquire an acute awareness and deep understanding of different social issues, but also ignite in them a passion for social endeavours and advocacy. Students participating in design thinking projects also gain insights into how the knowledge and skills they are learning in the various subjects may be useful in understanding and solving real-world problems, thus giving meaning and purpose to their learning (Carroll 2014).

Participating in design thinking projects also allows students to hone their critical and inventive thinking skills by providing them with opportunities to use these skills to analyse complex data and generate innovative solutions to intricately interconnected problems. Recent reports place Singapore students among the top performers in the first OECD PISA problem-solving test (MOE 2014; OECD 2014). In this test, students were required to respond creatively to ill-structured problems in unfamiliar contexts. Although it is encouraging to know that Singapore students can perform well when given such problems, we recognise that our students still have some way to go before they can be said to be truly innovative. Being able to creatively solve problems that have already been identified is one thing; being innovative by identifying new problems to solve through seeing issues from multiple perspectives is quite another. We saw above that the ability to identify problems and define them in new ways is a fundamental skill in design thinking. Therefore, design thinking may just be the key to unlocking the innovative potential of the next generation of Singaporeans.

Although it is not immediately obvious, the appeal of design thinking to educators goes far beyond the reasons mentioned above. Bronowski (2011) points out that of all the creatures on earth, human beings are the only ones that consciously and deliberately shape and reshape their environment to suit their needs and purposes. We do not adapt to our environment the way other creatures do; instead, we adapt our environment to us. This is the source of our evolutionary edge. But the

shaping and reshaping of environments is no more than an expression of design instincts and capabilities. In addition, we have a natural drive to be better at whatever we do well in (Bronowski 2011, p. 93). So, we seek to perfect and extend our design capabilities by constantly challenging and pushing at our limitations. This has not always worked out well for us. Design thinking's human-centredness and commitment to improving lives suggest that it may just be what is required to curb our excesses when we exercise our design instincts. Design thinking, so considered, is that which allows us to become human, thus making it an necessary component of education (Wong 2011).

In this chapter, we present two Singapore principals' attempts to introduce design thinking into their respective school. We hope to learn from a study of these two cases some insights into the following questions:

1. What are some possible ways of infusing design thinking into a school's curriculum and operations?
2. What potential benefits might we gain from infusing design thinking into a school's curriculum and operations?
3. How should attempts to infuse design thinking into a school's curriculum and operations be managed so that the chance of success is improved?

The two principals were purposively selected on two criteria. First, they are directly involved in the introduction of design thinking into their school. From the conception of the new strategic direction for the school, the development of the implementation strategy (which included the introduction of design thinking programmes), and the necessary professional training of teachers through to the evaluation of the implemented initiatives and programmes and the steps taken thereafter to improve the initiatives and programmes implemented, the two principals in our study take personal responsibility for both processes and outcomes. We were interested to learn about school leaders' perspectives on the issues and challenges that are likely to arise from an attempt to introduce design thinking, as well as some possible ways of resolving those issues and challenges. It was therefore important to us that the subjects of our study were school leaders who were directly involved in every stage of the implementation process (as opposed to those who simply delegated the task to another member of the school).

Second, the two principals selected for our study are leaders of two different types of schools. The first school is a mainstream government co-ed school that catered to students from diverse backgrounds. There are significant variations in the students' academic abilities and interests, as well as their socio-economic backgrounds. The school offers the standard academic curricula for secondary education in Singapore: Express, Normal (Academic), and Normal (Technical). It does not offer any specialised academic programmes. The second school is an established single-sex school. Most of the students are academically inclined and come from middle- or high-income families. These two types of schools have different needs and face different challenges. We wanted to find out the extent to which these differences matter in any school-based implementation of design thinking.

The data for the two case studies were largely based on interviews with the two principals. Where necessary, some teachers and students who played key roles in the implementation of design thinking programmes at the two schools were also interviewed. The subjects were interviewed separately, 1 to 2 years after the schools had introduced design thinking into their curricula and their teachers' curriculum development and lesson design processes. Data collected from the interviews were systematically analysed with the three research questions in mind. The case reports presented here use pseudonyms for the names of the subjects and their schools. Information pointing to distinctive features of the schools was also modified to ensure that the identity of the schools remains masked. This part of the ethics procedures was given particular attention due to the relatively small population of Singapore schools.

8.2   Case 1: Design Thinking as Change Strategy

Mr. Goh is a seasoned principal at an established high school. He has led the school for several years now. He introduced design thinking to the school as part of a broad strategy to help teachers explore new pedagogical practices. He hopes to make the school more distinctive by fostering a design culture among teachers and students. Mr. Goh first encountered design thinking when he was working at the Ministry of Education. There he met consultants from an international research institute who espouses the educational potential of design thinking. Later, he became acquainted with the deputy principal of a local polytechnic, whose teachers were undergoing training in design thinking. The deputy principal offered to train a team of teachers for Mr. Goh.

8.2.1   The Strategy for Change

The dominant concern of Singapore teachers is to prepare students for the national examinations. Teachers will do all they can to ensure that students perform well in these examinations. Remedial classes are often conducted for students who struggle in a subject. However, Singapore educators increasingly recognise that an examination-focused approach is not particularly useful in preparing students for the more complex and dynamic work conditions of the future. What is needed is a more holistic, student-centred approach, one that gives students room to pursue self-directed learning and encourages them to explore and experiment with new ideas and to experience and learn from failures.

   Although Mr. Goh recognises the need to move away from traditional pedagogical practices, he is also aware that this would require a fundamental mindset change among teachers. Being familiar with the research literature on change management, Mr. Goh knows that it was going to be difficult to change settled teaching practices. The challenge is even greater in Singapore because its school

system continues to be successful. The importance placed on high-stakes national examinations means that teachers tend to rely on tried-and-tested approaches. Mr. Goh understands that teachers would be unwilling to risk departing from their settled teaching methods. Moreover, it is one thing to change mindsets, and quite another to gain the expertise needed successfully implement new pedagogies. So, although change was desirable, Mr. Goh knows that it has to happen slowly and gently. The teachers must be given time to adapt and develop.

Mr. Goh firmly believes that the intended changes could be reconciled with the emphasis on high-stakes examinations. The school offered a typical 4-year secondary-school programme that culminates in the Singapore-Cambridge GCE 'O' Level Examinations for students between the ages of 13 and 16. The reality is that it did not require 4 years of uninterrupted and sustained instruction to prepare students for this examination. A well-managed curriculum would give teachers enough time to cover the required syllabus and leave sufficient space for experimentation.

Mr. Goh's strategy is to start the lower secondary students and their teachers on design thinking activities and other alternative pedagogies. If the new pedagogies were effective, teachers would be bought over. Meanwhile, students who were exposed to the new pedagogical practices would not only gain new learning experiences but also come to have different expectations about teaching. They would expect teaching and learning at the upper levels to be just as meaningful and innovative as what they had experienced at the lower levels. Students' expectations would nudge teachers at the upper levels towards pedagogical experimentations. Over time, a new culture of teaching and learning would emerge in the school. However, it bears repeating that this process cannot be rushed.

8.2.2 Why Design Thinking?

A pragmatic person by nature, Mr. Goh, is willing to experiment with any new pedagogical approach so long as it delivered the desired results. In Singapore, teachers and school leaders are constantly exposed to new ideas about teaching and learning. For Mr. Goh, design thinking stood out. What struck him about design thinking when he first encountered the approach is its emphasis on empathy with others. At a basic level, acquiring empathy requires one simply to observe and listen to people. This fundamental attitude is especially relevant in the Singapore context, because teachers tend to talk more than they listen, and students are given few opportunities to express themselves. At the pedagogical level, the emphasis on empathy would require teachers to listen more to the students, learn about their needs, and take them into consideration when designing lessons.

All design thinking models maintain that products and services should be designed to meet users' needs. This means getting to know the users well. Close interaction with users may even reveal needs that the users themselves are unaware of. In such cases, the designers would engage even more deeply with users, first to identify and articulate the users' needs, and then to collaborate with the users to create the desired products or services. In this sense, design thinking is not so much

about enacting a specific pedagogical practice than fostering a way of thinking that is focused on finding practical solutions to problems. Mr. Goh hopes that as teachers grow accustomed to this way of thinking, they would become more open to reviewing their pedagogical practices and be more willing to experiment with new approaches to teaching and learning.

Mr. Goh believes that students make a crucial transition when they move from primary to secondary school. What students generally remember of their final year in primary school is the intense preparation for the national Primary School Leaving Examinations (PSLE). Like their teachers, students also have settled beliefs about school and schooling. Many are very 'worksheet-driven' and examination-focused. They can be resistant to new ideas that appear to have no direct bearing on their examination performance. Therefore, it is important that teachers act quickly, but gently, to change this mindset. Mr. Goh's research into design thinking gives him confidence that it can help change habits and expectations in students during their early secondary-school years.

As Mr. Goh learned more about design thinking, he became more convinced of its value as a tool for bringing about broad-based changes in teaching and learning. The following potential benefits of design thinking in teaching and learning stand out:

1. Design thinking fosters mindset change in its practitioners by encouraging them to approach problems from multiple perspectives. Participating in a design thinking project, one quickly learns that problems are never simple. They can be framed in multiple ways. Furthermore, the way a problem is defined plays a significant role in determining the nature and scope of possible solutions. The complex nature of problem-solving suggests that it is important to cultivate critical and inventive thinking skills. The multi-perspectival nature of design thinking also helps practitioners to appreciate the need for teamwork and collaboration in problem-solving.
2. Engaging in design thinking fosters the development of desirable dispositions. The ability to empathise with people very different from oneself is a primary benefit. Another benefit comes from the ideation and prototyping activities. The early ideas and prototypes are unlikely to be well-structured or adequately address the problems being tackled. So, ideation and prototyping help students learn how to handle messiness and failures. Furthermore, the iterative nature of design thinking develops the quality of perseverance in its practitioners, because they simply must keep going until they succeed. They learn to regard every solution as only provisional and become more open-minded about and respectful of the ideas and individuality of others.
3. Design thinking helps to develop in its practitioners various fundamental skills, such as observation skills, communication skills, interview techniques, and perspective-taking. To understand people's needs, designers must observe and interact closely with them. Observation skills and interview techniques are honed when one engages in design thinking. Through the exercise of these skills, practitioners learn that adopting different perspectives when interpreting

what they have observed or heard can help them make sense of the variety of data they have collected.

4. The creation of a product or service requires the involvement of many people with different skills and abilities. By engaging in design thinking, one acquires the competencies required for effective collaboration, including the skills needed for working across subject disciplines. Within the school context, using design thinking to develop innovative curriculum helps to facilitate collaboration among teachers from different disciplines. Students participating in design thinking projects will come to appreciate the value of both the arts and the sciences in the creation of solutions to problems.

8.2.3 Implementing Design Thinking

Anticipating resistance to change, Mr. Goh ensured that change occurred only slowly and gently. He sought to create a safe environment that would be supportive of experimentation and change. Beginning with the students in the lower levels, he got teachers to engage them in small-scale design thinking projects. He wanted teachers to make these projects interesting and meaningful to students. These activities would be low stakes: students were not formally assessed, and no serious consequences would follow were the projects to fail. Teachers therefore felt comfortable enough to take some amount of risk in their design and facilitation of these projects.

However, teachers must first be trained in design thinking. Fortunately, for Mr. Goh, there were several young teachers who were curious and eager to learn about design thinking as a possible pedagogical tool. This small team of volunteers was sent to a local polytechnic for a 3-day workshop. At the workshop, the team was tasked to infuse creativity into their lessons. The team quickly realised that the design thinking model taught was developed primarily for Business and Engineering students at the polytechnic. It had to be modified to address the needs of secondary-school students and teachers, but the consultants had little knowledge of secondary schools in Singapore. In the spirit of design thinking, the consultants and the team worked together to develop activities and protocols that would be suitable for secondary-school students and teachers. Students from the school were also brought in to evaluate the work done by the team and played a part in the design process.

Having now developed an adaptation of the design thinking model for the school's use, Mr. Goh decided to introduce all teachers in the school to design thinking. At a 2-day strategic planning exercise, teachers were asked to improve various programmes by following a prescribed process. Only at the end of the exercise were the teachers told that they had participated in a design thinking project. The teachers responded well to the experience because the learning activities were fun and engaging. Consequently, they became well-disposed to the use of design thinking in the school.

8.2.4 Fostering Innovative Teaching Through Design Pedagogy

The next step was to introduce design thinking to students at the lower secondary level. The first thing the pioneer design thinking team had to do was recruit and train teachers who would be serving as facilitators in the lower secondary projects. Part of the training involved designing lessons to familiarise students with the different stages of the design thinking process. Students were enlisted to test the prototypes. The new teacher recruits found themselves improvising and innovating as they gradually rolled out the design thinking programme to students.

The students' response to design thinking was better than the teachers had expected. However, although the students were excited and enthusiastic, they needed more structure and guidance in their engagement with the process. The teachers subsequently introduced a 7–3 learning framework: 'teacher-talk' activities accounted for thirty per cent of the learning; in the remaining seventy per cent of lesson time, students worked in groups on their projects. The teachers also found it useful to set simple communication rules to provide order to the conversations that took place during the lessons.

At the beginning, teachers allowed students to suggest their own projects. However, they soon discovered that many of the students' ideas were too wild and unsuitable. The teachers had to learn to reject these ideas without dampening the students' enthusiasm and at the same time guide the students to develop projects that were more manageable and practical, such as making improvements to the school canteen, finding ways to alleviate the poor traffic conditions in and around the school in the mornings, and redesigning the signage at the nearby bus terminal so as to make them more helpful to commuters. Some of the projects developed, such as those related to the elderly and the disabled, coincided with the requirements of the school's community service programmes.

One of the most challenging jobs teachers faced was the question of how to effectively develop observation skills and empathy competencies in students. These capabilities are closely related. To create a product or service that meet users' needs, designers must empathise with the users' needs and motivations. This requires designers to observe users' behaviours and gain insights into how they use and feel about the existing solutions. Having watched students in action and consulted with teachers afterwards, Mr. Goh is now more convinced than ever that this part of the design thinking process nurtures fundamental life skills.

One can try to understand users' needs through observation by simply watching users in action or taking photographs and making videos of them to arrive at an initial impression of what they do and experience. These raw data must then be interpreted. To verify or support an interpretation, one needs to speak to the users involved. This requires one to connect with users in a way that makes them want to open up and reveal valuable insights into their emotions and motivations. Students typically have trouble designing appropriate questions to draw such insights from users. The questions that students ask tend to be too direct and closed-ended. They do not invite users to share significant insights into their experiences. For example, in a wallet

design exercise, students tended to ask questions about the users' current wallet, such as how much it cost, where it was bought, and what they liked about the wallet. They were unable to probe deep into users' emotional experiences and connections to their wallets. To help the students, the teachers role-played both good and bad interview techniques and made them into videos that students could easily access.

Students also tend to have an insufficiently broad notion of the users they should target for observation and interviews. For example, in a project to improve the signage at a bus terminal, students did not realise that it would be helpful to also observe and speak to people who rely on signs to get things done in supermarkets, food courts, malls, etc. Successfully guiding students to make good observations and ask good questions during interviews not only activates students' ability to see things through the eyes of others but also develops in them the ability to engage multiple senses in their interactions with their surroundings and teaches them not to take their living spaces and environments for granted. It reinforces in students the learning that things around them can always be improved to produce positive impacts on people's lives.

Teachers also had to help students understand what it means to empathise with others and how to develop empathy with others. They initially struggled with this problem: how could they get students to feel something that do not normally experience? Eventually, they developed several simulation exercises to help students empathise with the conditions of others. For instance, to give students an experience of what it is like to have limited dexterity in one's hands, they made students use chopsticks while wearing thick gloves; to help students understand what it is like to have limited mobility, they had students move around the school with their legs tied closely together. Making students go through such exercises enabled them to draw on these experiences when they observe and interview users.

For both teachers and students, the ideation and prototyping stages are the most fun and engaging. Suitable locations in the school had to be found for students to brainstorm ideas and build their prototypes. Students needed big spaces to do very messy work. While teachers did not have to worry excessively about the budget, building and maintaining an appropriate store of ideation and prototyping materials (e.g. post-it notepads, coloured pens, craft paper, cardboards, PlayDoh, etc.) was still a challenge.

Although the ideation stage can be very unpredictable and free-ranging, the prototyping stage imposes a degree of discipline and reality into the design thinking process. Ideas are only good if they can be translated into workable solutions. To help students learn this, teachers gave them a great deal of freedom and personal responsibility to develop their own solutions. In constructing their prototypes, students realised that the challenge was not about getting the right or wrong answer, but to come up with something that works after going through several unsuccessful attempts. In addition, after coming up with a functioning model, they had to test it with users for feedback, which often necessitated further modification. Sometimes, the prototypes were even rejected. Students learned to see that what works for them may not necessarily work for the user. More importantly, at this stage, the students as designers learned to appreciate the value of feedback and to treat users as co-creators.

8.2.5   A Preliminary Assessment and Review

Design thinking is not yet pervasively practiced in the school. However, it has been tried out during the school's strategic planning exercise and all teachers have a basic understanding of it. A core team of teachers, however, has a deep understanding of design thinking and they gain more experience in using it with each passing year as they experiment with different ways of infusing design thinking into the school's curriculum. As for the students, design thinking programmes have been implemented in the lower secondary levels for the past 4 years. Mr. Goh has observed students becoming more confident in speaking and engaging with their teachers during lessons. He has also personally supervised a handful of lower secondary students in independent study modules and has observed how creative the students have become.

Mr. Goh is optimistic that design thinking would eventually lead to mindset changes among the teachers. Already, he has observed some teachers attempting to make changes to their pedagogical practices. He once saw a Mathematics teacher try to implement a problem-based learning approach in her lessons. Although she was cautious and tentative in her attempts, and she struggled to hold back from immediately correcting her students' misconceptions, this was an instance of the kind of change Mr. Goh has envisaged for the teachers. The process is slow, but it is evolving in the desired direction.

Mr. Goh cannot be certain that this and other changes he has observed among some of his teachers are the direct result of the design thinking. However, he firmly believes that the use of design thinking in the school has contributed significantly to the culture of change that is beginning to emerge, and that design thinking has given some teachers the confidence to experiment with new approaches to teaching and learning.

As a general principle, Mr. Goh will not bring in programmes that are likely to be abandoned when he leaves the school for another appointment. He wants to have solid programmes that will be sustained over long periods of time. For this to happen, teachers must be convinced of the value of the programmes. Indeed, teachers must become champions of these programmes. The school has a core team of design thinking champions, and they have been effective in promoting design thinking in the school. As with any major educational change, Mr. Goh thinks it would take around 5 years to lay the groundwork, another 5 years to implement the changes, and a further 5 to finally experience the full results. It takes a long time to make meaningful changes. So, there is no need to rush the teachers. It is important to give them time and space to make the adjustments.

8.3   Case 2: Mr. Musa's Design Thinking Journey

Mr. Musa is a new principal at a popular neighbourhood secondary school. He has been actively promoting design thinking since joining the school.

8.3.1 Design Thinking: Mr. Musa's Learning Journey

Mr. Musa first heard about design thinking from a friend who studied engineering at Stanford University. The friend had attended a course at the university's Hasso Plattner Institute of Design (popularly called 'd.school') that required him to participate in a multidisciplinary project to provide solutions to poor rural communities in Third World countries. Mr. Musa remembers clearly how impressed he had been when he heard about design thinking's emphasis on developing empathy with users to better understand their needs and motivations. He had the opportunity to learn more about design thinking and its possible applications in a school when he was selected for the Leaders in Education Programme (LEP) at the National Institute of Education. The LEP is a 6-month full-time executive programme to prepare participants for principalship. It so happened that the programme offered a course in design thinking. Participants in the course were also required to work on an innovation project at a school. Mr. Musa's project was to develop an Arts education programme for the school he was attached to and he used design thinking tools and processes to carry it out. Upon completing the LEP, Mr. Musa was given a scholarship by the Ministry of Education to pursue a master's degree. He gained admittance to Stanford University's graduate programme and chose to explore the educational potential of design thinking as his course of study.

While at Stanford, Mr. Musa interned for 9 months at the Research in Education Design (RED) Lab. There he worked with fellow graduate students from various disciplines on a STEM (Science, Technology, Engineering, and Mathematics) project that targeted middle school children from disadvantaged backgrounds. The graduate students on this project had the privilege of working with design thinking experts in a rich learning environment.

The open, experimental nature of the project meant that the team encountered more failures than successes, but the failures were highly instructive. Often, ideas that seemed interesting and powerful to the team did not work when they were applied to the middle school children. For example, the graduate students had the idea that sharing their learning journeys in the sciences with the children would inspire them in their studies. When the team tried to dazzle the children with their stories through colourful presentation slides, they failed; but when they experimented with hands-on activities, like magic tricks, they were more successful at reaching the children. Simple activities like carrying buckets of water to simulate the experiences of impoverished people with limited access to clean water were more effective than teacher-centred presentations in motivating the children's interest in using STEM to solve real problems. (For more details on this project, see Carroll 2014).

His time at Stanford confirmed Mr. Musa's intuitions about the educational value of design thinking and the challenges one might face when using design thinking to teach. Like many other pedagogical models, design thinking encourages idea generation, but what distinguishes design thinking from the other models is its focus on users' needs. Therein also lies one of the most challenging aspects of design thinking: coming up with practical ideas that users themselves would

recognise as useful responses to their needs and problems. A big part of the challenge is that users often do not fully understand what their own needs are. Often, designers notice discrepancies between what users think or say they need and what they do. Trying to meet users' needs therefore also involves helping them realise what their real needs are.

The experience with the middle school children also alerted Mr. Musa to the need for more structure in a design thinking project for learning. Many of the failures he and his teammates encountered had to do with the fact that as an after-school programme the design thinking project was vulnerable to disruptions caused by the children being held back for detention or simply failing to show up for various reasons. Even when there is stability in attendance, one must pay attention to the dynamics of the groups the children are in. Ideas that work with one group of students may not work with another. A lot depends on how the children relate to one another within their groups. This means that teachers who use design thinking need to be sensitive to how the students interact among themselves. This affirms the value of user-centredness in design thinking, even in the teaching of design thinking itself. To Mr. Musa, one of the great benefits of design thinking is its ability to foster over time a user-centred mindset in its practitioners, which ought to be cherished as one of the desired outcomes of education.

8.3.2   Design Thinking for Teachers and Students

Mr. Musa was appointed the principal of a popular neighbourhood school shortly after graduation. By this time, he was already deeply committed to design thinking as an important educational tool. Although the process of mastering design thinking is long and involved, it pays to expose educators to design thinking as early as possible and to do so in a way that ensures that it will be well received. Current trends in education and recent policy initiatives all point towards the relevance of design thinking as one of the main tools of education reform.

Increasingly, teachers need to see themselves as designers of students' educational experiences. There is more to teaching than delivering content. Teachers today need to focus more on helping students learn, and to transform them into self-directed, and hopefully also lifelong, learners. These objectives can be achieved by giving students the best possible learning experiences in school. Design thinking can play a huge role in helping teachers create those experiences.

In the context of facilitating educational change in Singapore, design thinking helps to move teachers away from the traditional teacher-centred approach to learning. Design thinking directs teachers to consider the educational experience from the perspectives of the people receiving it, rather than from the perspectives of those delivering it. Design thinking motivates teachers to tailor lessons that better meet the learning needs of students.

Design thinking is also an important tool for student development. As a set of different competencies brought together to address real-world issues, engaging in design thinking projects becomes a natural means to nurture in students a range of

critical and inventive thinking skills, and to do so in an organic, meaningful, and purposeful way. Having seen first-hand how children work on design thinking projects, Mr. Musa knows that students will engage enthusiastically in creative and practical tasks directed at producing workable solutions that people would want to use. This may have something to do with the energising nature of active proto-typing. Children become very caught up when they are designing a product and using various materials to give concrete expression to their ideas. The excitement can be quite palpable for the children: 'Hey, I made this! I tried it out on somebody and got a reaction'.

Design thinking can also be used to develop students' character. Having to work in teams, students learn to value and respect the contributions of others. Children in their early teens can be quite self-absorbed. Engaging them in design thinking requires them to look beyond themselves to understand the situations others are in. Mr. Musa learned from his experiences in the LEP that both the designer and the user benefit from being part of a design thinking project. The designer and the user work together to co-create solutions in a design thinking project. They are col-laborators rather than creator-and-beneficiary. In trying to help others, the designer receives help from the very people he is seeking to benefit. He is therefore humbled in the process. The user, on the other hand, is dignified in the process, because he is an active contributor to the *solutioning* process, and not a mere helpless or passive recipient. The designer and the user are also both beneficiaries. The user receives a solution to a problem he has; at the same time, the designer gets a chance to hone his skills and learns more about himself and his abilities through his empathetic creative engagement with the user.

8.3.3 Implementing Design Thinking with Staff

A month before his official appointment as principal, Mr. Musa was given the opportunity to take charge of a school management retreat. He used that as the occasion to introduce the school's key personnel (KP) to design thinking. After a short lecture on design thinking, he brought the KP to a youth centre downtown. He did not set a specific task for the KP, but merely told them to observe what the youths were doing. There were no specific targets to be met. The activity was meant to be fun-filled: a day of watching youths having fun.

Mr. Musa's intention was to get the KP to see the world from the perspectives of the youths. To his pleasant surprise, they did return with many interesting obser-vations. For example, they saw a group of young people practicing their dance moves in front of a mirror. The youths were at it for over 2 hours. The KP noted how self-motivated the young people were, and this brought home the point that the school children could be just as motivated and disciplined if they were given learning tasks that were meaningful to them. They would not have to be constantly monitored. They also observed how two young men, one clearly a more experi-enced dancer than the other, were constantly engaged in conversation and trying out new moves. They were learning from each other.

The experience at the youth centre was used to challenge the KP to review the teaching and learning experiences in the school. Mr. Musa brought in teachers and students to engage the KP in conversation. Again, the aim was not to deliver real concrete results, but to immerse the KP is the design thinking experience. From their interviews with the teachers and students, the KP were able to identify needs that were later refined into design challenges. They learned from the teachers that management decisions ought to be communicated in ways that would make teachers feel that they are valued partners in the provision of a service. The KP learned from the students that some of them were disengaged from learning because they felt socially marginalised and unvalued by the school community. That they were able to acquire these insights in a short day-long activity helped convinced the KP of the value of design thinking. Mr. Musa emphasised here that it is important to create a safe, non-threatening environment that all parties feel comfortable in for meaningful conversations to take place.

8.3.4   Implementing Design Thinking with Students

The positive response from the KP paved the way for the setting up of a special department. It was sheer luck that one of the KP was very familiar with design thinking and was keen to take charge of this department. The department would train teachers in design thinking and help them facilitate design thinking projects with students. In 2013, Mr. Musa worked with the department to pilot a design thinking project with a class of high-ability secondary two students. The project was timetabled as part of the school's Thinking Programme. Mr. Musa met the class once a week for an hour and a half each time over 2 months to work on a project involving the disabled. The students were divided into groups and assigned to work with a disabled person per group. They were tasked to understand the person's needs and design a solution to better meet the person's needs.

One of the groups had to deal with a particularly challenging case. All the students had been put through the design thinking process as thoroughly possible. So, they were all quite prepared to engage their disabled partners with their interview questions; they were also ready to carry out their respective individual roles, like interviewer, note-taker, and so on. But in this case, the disabled person was a lady who could not speak. She was also very self-conscious. She would answer the students' questions by typing into her phone, but if she made a mistake mid-way through a sentence, she would delete the entire sentence and start again. So, in the 25–30 min, they had with the lady, the group managed to ask only one question; meanwhile, the other groups had gone through 3–4 questions.

The students were concerned that they did not get sufficient information from their interview. This experience became a learning point for both Mr. Musa and the students. As they pondered the problem, Mr. Musa realised that the experience itself was instructive. The students did not complete their interview with the disabled lady, but why had this happened? What could they learn from the experience? What insight could they glean from how the interview session had progressed?

What the students experienced would no doubt be experienced by anyone who ever communicated with the lady. This was the insight. So, the students' design challenge emerged naturally: how might they improve the way the disabled lady communicated with people?

This experience reinforced Mr. Musa's belief in the pedagogical value of design thinking. He was further heartened when he saw the efforts the students put in to address the design challenge. The prototype was a simulation of a web-based application that the disabled lady could use on her phone. The application contained icons for things that she would typically require in her daily activities, like food, the restroom, the bus stop, and so on. With the application, she would no longer have to type out whole sentences when communicating these needs to others. The application would also contain common phrases that she would normally use, so this would further shorten the time she needs to type out her responses. The students refined this idea during their further interactions with the lady, who clearly liked and appreciated the idea. Even though the final product was just a paper prototype, the entire experience clearly demonstrated the educational potential of design thinking for all the stakeholders involved: the teachers, the students, as well as the disabled users.

8.3.5 Design Thinking and the Value of Social Mixing

A second pilot project involving students from the Express and the Normal (Technical) streams was recently conducted in the school. Students in the Normal (Technical) stream are academically less accomplished than their counterparts in the Express stream. Most of the students in the Normal (Technical) stream will eventually continue their schooling at either the Institute of Technical Education or one of the polytechnics. On the other hand, many of the Express stream students will progress to the Junior Colleges and subsequently to the universities. From his experience with middle school students during his time in Stanford, Mr. Musa knew that the Normal (Technical) students would be no less able than the Express students in participating in a design thinking project. However, Mr. Musa had another agenda in bringing together the students from the two streams.

As part of their learning of the design thinking process, the students had to complete a prototyping activity. This was a short eighteen-minute activity involving some simple materials: twenty sticks of uncooked spaghetti, one metre of string, and one metre of tape. The task was to build a free-standing structure using these materials. The only requirement was that the completed structure must be strong enough to hold up a marshmallow. Students from each stream were divided into eight groups. Seven out of eight groups from the Normal (Technical) stream completed the task successfully, but only three out of eight Express stream groups were successful. The Normal (Technical) students demonstrated to themselves and others their ability to excel at ideation and prototyping. They experimented more freely than their Express counterparts and were less concerned with whether their ideas would work before testing them. On the other hand, the Express students

tended to be more self-critical and self-conscious about the quality of their ideas and were consequently inhibited from exploring a wider range of possible solutions.

The aim of the exercise was not to pit one group of students against another. An unfortunate side effect of academic streaming is that students from different streams tend to keep to themselves. The exercise was intended to show the students that they had varying abilities and could therefore learn from one another and help one another accomplish a common goal. In other words, the design thinking exercise helped the students overcome social prejudices and learn to work together in multiability teams. To that end, the school has deliberately created cross-programme groups with students from different levels and different streams working together in each of these groups. Mr. Musa hopes that through the design thinking projects students from the different streams will develop friendships with one another and learn to respect one another as valued members of the school community.

8.3.6 The Road Ahead

The school has collaborated with a local polytechnic to run design thinking workshops for students and teachers. All teachers went through the design thinking workshop in 2013, and 16 volunteered to be design thinking facilitators. All lower secondary students participated in the design thinking workshop in 2014. Secondary one students participated in projects that involved users within the school community, while secondary two students worked on projects involving users from outside the school. The teachers are currently working on how to further develop the design competencies of the current secondary two students when they progress to secondary three. The tentative plan is to allow them to propose their own projects.

The training for both teachers and teacher facilitators will continue as there are many aspects of design thinking they have yet to completely master. Mr. Musa believes that training and development is very important, especially for the teacher facilitators, because their abilities as facilitators impact significantly on learners' (whether students or teachers) experiences in design thinking.

Good facilitation is key to convincing teachers that design thinking is not just another of the many problem-solving tools that they have been inundated with. It takes time to master the design thinking competencies, so it is important to ensure that teachers' attitude towards design thinking is a positive one at the outset. Allowing them to experience the power and value of user-centredness and rapid prototyping is particularly useful in this regard.

It might seem strange to draw attention to rapid prototyping, but it is a unique and valuable feature of design thinking, especially in context of Singapore education. Our students are often afraid to make mistakes because of the examination culture. In an examination, students have only one chance to get it right, so students tend to obsess over getting things right the first time around. Schools today are supposed to prepare students for the knowledge-based economy where creativity is becoming increasingly important, but students' risk-averse attitude in learning

inhibits and consequently limits their creative potential. Participating in rapid prototyping helps students overcome their fear of failure and develops their ability to learn through experimentation. These qualities are vital to the development of the inventiveness they will need for future professional successes.

The value of user-centredness may seem self-evident, but what this means in practice can be challenging from a design thinking perspective. To be user-centred is to observe and listen to the user and take the users' experiences into account when creating a solution to the issue being addressed. In the context of teaching and learning, the value of user-centredness challenges teachers to develop deep empathy with their students' experiences to gain insights into their needs and motivations. Teachers must constantly reflect on their practices and their interactions with students. These things do not come naturally to teachers who have been brought up in a system in which the teacher is traditionally viewed as the authority and the font of knowledge.

Mr. Musa understands that teachers' design capabilities must be given the time they require to mature. As a school leader and an advocate of design thinking, Mr. Musa knows he must create an environment that is supportive of exploration and experimentation. The process of developing a new culture is a slow one. One must begin with small successes to build confidence. The more natural the process of evolution, the more deeply rooted the new culture will be. For the time being, Mr. Musa continues to take the lead in facilitating school projects as he seeks to use these platforms to foster a design culture. Over time, the team of teacher facilitators he has been grooming will share some of the burden.

Although design thinking is not suitable for every aspect of the curriculum, it is a huge step in the direction of providing students with a holistic education. More so than any other pedagogical tool, design thinking effectively integrates the cognitive, affective, and kinesthetic aspects of learning. Along with its emphasis on empathy and teamwork, design thinking also helps to develop several twenty-first-century competencies. Mr. Musa believes that design thinking appeals to the idealism of youths, the sense that one can do something noble or meaningful for society, or in a more modest way to make a difference to the life of another person. In a world that so often emphasises competition and materialism, such idealism provides an important balance.

8.4   Infusing Design Thinking into Schools: Lessons from the Cases

The two cases reveal important lessons for any educator who is hoping to infuse design thinking into his or her school's curriculum and operations. Although we cannot conclude from the cases that the specific strategies adopted by the two principals would work in any school, nor understand the cases as describing all the possible ways of integrating design thinking into a school's curriculum and

operations or all the benefits that could be gained from such an integration, the cases do highlight some possibilities for consideration and sound useful words of caution.

8.4.1 Possibilities

Both Mr. Goh and Mr. Musa experienced some success in their experimentations with design thinking. In both cases, design thinking was used by the teachers as a tool for creating better learning experiences for their students, as well as by students to complete authentic and purposeful learning activities and tasks.

The idea of the teacher as a designer of learning experiences is not a new one in educational theory and research. In modern educational practice, it has its roots in Dewey's philosophy of education (e.g. see Dewey 1902/2008), but it can be traced further back to ideas explored in Rousseau's *Émile, or On Education* (1762/1979). What the two cases demonstrated was that design thinking provides teachers with the practical tools, methods and processes they need to create the child-centred learning experiences promoted by Dewey and Rousseau. The tools, methods and processes of the designer enable the teacher to develop deep empathy with the student's needs, aspirations, and motivations; they help the teacher understand what the student finds meaningful and purposeful, as well as identify more accurately the types of learning activities that the student will respond well to.

Both cases also show that students can engage and learn well through participation in design projects. When service learning and community involvement classes were re-imagined as design projects, students find greater meaning and purpose in the learning activities and acquire greater awareness and deeper understanding of important societal issues than before. We will return to this observation in the next subsection. What we wish to draw attention to here is that the cases make plain that the tools, methods, and processes of the designer cannot be adapted in an uncritical fashion for use by students. Professional designers possess a variety of cognitive skills and competencies that the students in both cases were just being exposed to. While designers can expertly use the tools, methods, and processes to tackle the design challenges they have undertaken, the students must first learn these tools, methods, and processes before engaging with the project, or learn them as they work on the project. So, the cognitive processes of the designer must be broken down and made visible to the students if the students were to experience success with them. Teachers must also be flexible and adaptive when guiding students to use these tools, because design problems are complex, and the design process is fluid and open-ended, which means that the teachers and students are likely to encounter unanticipated developments during the design process.

Both cases also taught an important lesson about pedagogy. In the two schools studied, the students appear to learn better through first-hand experiences than by listening to the stories of others. This learning point extends beyond the matter of infusing design thinking into schools. It is a fundamental insight into how learning takes place. This observation is perhaps unsurprising to those who have been

involved in physical education and character development programmes, because the dominant pedagogy in those areas is 'learning by doing'. What the two cases studied here have shown, however, is that learning through first-hand experience can also enhance the learning of content that is more theoretical in nature, such as STEM content and societal problems and issues.

8.4.2 Potential Benefits

The benefits of infusing design thinking into schools were obvious in both cases studied. When the teachers used design thinking to develop learning activities and programmes, they were better able to see the educational situation from the perspectives of the students, allowing them to develop insight that they had missed previously, and consequently enabling them to create better learning experiences for their students. When the students used design thinking to tackle their service learning or community projects, they were able to develop greater insights into the needs, aspirations, and fears of various demographic groups in society, thereby acquiring a far superior understanding of societal issues than they had been able to previously. Teachers' practices become more targeted and effective, with greater diversity in the types of learning activities employed in the classroom; students' learning becomes more authentic, meaningful, and purposeful, ultimately leading to better performances.

The two cases corroborate some of the findings reported in two studies conducted in the US and Germany—Carroll (2014) and Noweski et al. (2012). Both studies found that the skills and competencies that constitute design thinking map closely onto those commonly included in 'twenty-first century competencies', such as innovation and creativity, the ability to work well under uncertain or ambiguous conditions, experimentation, learning from failure, working effectively in multi-disciplinary teams, empathising with the situation of others, etc. In this sense, design thinking promises to be a kind of 'all-in-one' solution for schools that are trying to work out how to fit the teaching and learning of various twenty-first-century competencies into an already packed curriculum.

Mr. Musa's story further suggests that design thinking may have the power to bring about significant mindset shifts in both teachers and students, at least in the Singapore context. Singapore society is highly performance-driven. This, together with the further preoccupation with the economic well-being of the country, has resulted in a strong preference for graduates with knowledge and abilities in subjects and areas related to the sciences, mathematics, economics, and business management. Students who are strong in these areas have over time come to be perceived, by both teachers and students, as the 'better' students. Mr. Musa's experiment with the Express and Normal (Technical) students in his school using the Marshmallow Challenge dispelled this misconception. Both teachers and students who participated in the experiment came to see that the two groups of students have different strengths and weaknesses and can produce impressive results when they work together in complementary ways. The centrality of rapid

prototyping in the design thinking process further encourages experimenting and learning from mistakes. So, in design thinking, we may have found a way to gradually shift the society away from a narrow definition of academic and professional success and towards a more inclusive mindset that allows diverse talents and abilities to flourish and a perspective that understands failure as just another step towards (as opposed to away from) success.

8.4.3 Management of People and Processes

In both cases studied, design thinking was introduced into the school by the principal. Both leaders had a good grasp of change management processes and strategies, which accounted to a large extent for the successes reported in the two cases. Both principals understood that the process cannot be rushed, because the successful introduction of design thinking into a school requires proficiency in new competencies and pedagogies, as well as shifts in cultures, mindsets, and values. The two principals therefore adopted patient approaches, beginning with a small group of teachers and students, who will subsequently 'infect' the rest of the school through the sharing of success stories and practices. They were both happy to reap small successes in the first instance and only looked forward to greater successes for the future.

It is also clear that both school leaders recognised the importance of helping the initial group of teachers and students achieve success, no matter how small, in their first projects. In a performance-driven society like Singapore, nothing kills a good idea as surely as failure in the first attempt at implementation. So, the development of design competencies among the initial group of teachers is vitally important. Subsequently, a supportive environment must be created to allow teachers to explore and experiment. This was why service learning and community involvement lessons were selected for the initial experiments. These areas are traditionally regarded as low stakes by teachers and parents, because students are not tested in them. So, the teachers felt free to try out ideas and were not deterred by fear of failure. Underpinning this approach is the understanding that teachers cannot be asked to abandon their existing mindsets and values overnight. So, both principals took pains to draw connections between the benefits of design thinking and academic performance, probably the one aspect of education that Singapore teachers generally hold as the most important.

A distinctive feature of the Singapore education system is that the principals are rotated to another school or ministry appointment every 5–7 years. Since the introduction of design thinking into a school requires a shift in culture, mindsets, and values, and this can happen only slowly over a number of years, then it is critical that at least a small group of the school's teachers come to take ownership over the process of change, otherwise any change or progress achieved during the leadership of one principal may be very quickly undone once he or she leaves the school.

8.5 Conclusion: Future Directions for Exploration

A few questions are raised by the two cases reported here. By way of conclusion, we will articulate the questions that strike us most strongly.

To begin with, in both cases, the efforts were initiated and carefully managed by the school leader. So, the cases can be instructive for any principal or head of department who wishes to introduce design thinking into his or her school or department. But this leads us to wonder how an individual teacher who is convinced by the benefits of design thinking might go about weaving it into his or her own lessons. In schools or departments where the principal or head of department wields a tight control over the purpose, content and organisation of learning experiences, how might a teacher go about experimenting in his or her classroom and convincing his or her superiors?

In both cases, the principals and teachers experimented with non-academic subjects. This was a deliberate strategic move to overcome possible resistance from both teachers and students in a performance-driven culture. To what extent could design thinking improve learning experiences in academic subjects? This question concerns, not the use of design thinking by teachers to design better lessons, but the use of design projects as a pedagogy to facilitate learning of academic content. There is no doubt that students can learn content in academic subjects through a project that requires them to solve a complex problem. The question is this: how much more and how much better will they learn? Some of the studies cited at the beginning of this chapter (e.g. Carroll 2014; Noweski et al. 2012) provide strong indications that teaching students design thinking, as well as teaching subject content through design thinking projects, can bring about better learning experiences and stronger academic performances. These studies found also that when students learn a set of subject content through design thinking projects, they begin to see how that content is related to the content of some other topics in the same subject, as well as the content of some other subjects. Students also come to appreciate in a very real way how the materials they are learning in the classroom are relevant to their daily experiences and the issues and problems they read or hear are going on in the world. What would be interesting and useful to find out are two further things: (a) whether these results can be replicated across different educational contexts, and (b) how effective design thinking projects are in facilitating and improving learning relative to other pedagogical strategies for achieving similar objectives.

Teaching through design thinking projects is not a straightforward matter. New learning materials will have to be created to teach content for which teachers already have teaching resources. Teachers will have to be trained in the new pedagogy. Design thinking projects based around real-world problems are likely to be multidisciplinary in nature and require significantly longer classroom time for students to engage with them in meaningful and effective ways. In short, introducing design thinking projects into the classroom to facilitate the learning of academic content, if done in any meaningful way, will require significant changes

to existing organisational structures, such as the redesign of curricula and learning materials, the timetabling of lessons, the deployment of teachers, the organisation and facilitation of learning groups, and so on. These issues must be examined and worked through carefully to ensure that the introduction of design thinking into the classroom will produce positive results.

Both cases emphasise the benefits design thinking may bring to the students' development of cognitive skills, especially their ability to create innovative solutions that meet human needs. There appears to be an absence of attention to design ethics in both cases. Here, design ethics go beyond considerations of user-centredness. They include questions about how users' needs ought to be met, whether the needs should in fact be met or whether they should be redirected and reshaped, as well as the ethical implications of how the solutions themselves may shape future human behaviour and thought (Fry 2009; Kroes and Verbeek 2014; Vermaas et al. 2008). To what extent is the absence of attention to design ethics in these two cases representative of how educators in general understand design thinking and the prospect of bringing design thinking into school curricula? And if the cases are indeed representative in this respect, to what extent should we be concerned about this absence of attention to design ethics? These issues suggest promising directions for further research into the introduction of design thinking into education.

8.6   Questions for Reflection and Discussion

1. How might one successfully implement design thinking in a school? What are some potential opportunities and challenges? How might one take advantage of these opportunities? How might one turn the challenges into opportunities? Considering the strategies that both Mr. Goh and Mr. Musa have adopted, what might some alternative strategies be?
2. Considering the skills and competencies that constitute design thinking, how might we use design thinking to support or enhance teaching and learning in schools? The examples discussed in the two cases take the form of design thinking projects that are conducted separately from academic lessons; the skills, dispositions, and values targeted seem to be non-academic in nature. How might design thinking be used to support or enhance academic learning?
3. What might some potential limitations of design thinking be when used as a pedagogical tool?
4. What further important research questions need to be explored and answered to better inform schools' efforts to introduce design thinking into the curriculum?

References

Bronowski, J. (2011). *The ascent of man*. London: BBC Books (Originally published in 1973).

Brown, T. (2009). *Change by design: How design thinking transforms organizations and inspires innovation*. Boston, Massachusetts: HarperBusiness.

Brown, T., & Wyatt, J. (2010). Design thinking for social innovation. *Stanford Social Innovation Review, 8*(1), 30–35.

Carroll, M. P. (2014). Shoot for the moon! The mentors and the middle schoolers explore the intersection of design thinking and STEM. *Journal of Pre-College Engineering Education Research, 4*(1), 14–30.

Cross, N. (1999). Design research: A disciplined conversation. *Design Issues, 15*(2), 5–10.

Cross, N. (2001). Designerly ways of knowing: Design discipline versus design science. *Design Issues, 17*(3), 49–55.

Cross, N. (2011). *Design thinking: Understanding how designers think and work*. London: Bloomsbury.

Davies, A., Fidler, D., & Gorbis, M. (2011). *Future work skills 2020*. Palo Alto: California: Institute for the Future for University of Phoenix Research Institute.

DesignSingapore Council. (2009). *Dsg-II: Strategic blueprint of the DesignSingapore initiative, 2009–2015*. Singapore: DesignSingapore Council, Ministry of Information, Communications and the Arts.

Design Masterplan Committee. (2016). *Design 2025: Singapore by design*. Singapore: DesignSingapore Council, Ministry of Communications and Information.

Dewey, J. (2008). *The child and the curriculum, including the school and society*. New York, NY: Cosimo Classics (Originally published in 1902).

Economic Review Committee. (2003). *Report of the economic review committee*. Retrieved from http://www.mti.gov.sg/ResearchRoom/Pages/ERC%20Reports.aspx.

Economic Strategies Committee. (2010). *Report of the economic strategies committee*. Retrieved from http://www.mti.gov.sg/ResearchRoom/Documents/app.mti.gov.sg/data/pages/885/doc/ESC%20Full%20Report.pdf.

Edwards, D. (2008). *Artscience: Creativity in the post-Google generation*. Cambridge, Massachusetts: Harvard University Press.

Fry, T. (2009). *Design futuring: Sustainability, ethics and new practice*. Oxford, UK: Berg Publishers.

Gardner, H. (2008). *Five minds for the future*. Boston, Massachusetts: Harvard Business Press.

Johansson-Sköldberg, U., Woodilla, J., & Çetinkaya, M. (2013). Design thinking: Past, present and possible futures. *Creativity and Innovation Management, 22*(2), 121–146.

Kimbell, L. (2011a). Rethinking design thinking: Part I. *Design and Culture, 3*(3), 285–306.

Kimbell, L. (2011b). Designing for service as one way of designing services. *International Journal of Design, 5*(2), 41–52.

Kroes, P., & Verbeek, P.-P. (Eds.). (2014). *The moral status of technical artefacts*. Dordrecht, The Netherlands: Springer Science+Business Media.

Laurillard, D. (2012). *Teaching as a design science: Building pedagogical patterns for learning and technology*. London: Routledge.

Martin, R. L. (2007). *The opposable mind: Winning through integrative thinking*. Boston, Massachusetts: Harvard Business Press.

Martin, R. L. (2009). *The design of business: Why design thinking is the next competitive advantage*. Boston, Massachusetts: Harvard Business Press.

Ministry of Education. (2010). *Nurturing our young for the future: Competencies for the 21st century*. Retrieved from http://www.moe.gov.sg/committee-of-supply-debate/files/nurturing-our-young.pdf.

Ministry of Education. (2013, September 25). *Every secondary school to develop two distinctive programmes for a holistic student-centric education* [press release]. Retrieved from http://www.moe.gov.sg/media/press/2013/09/every-secondary-school-to-develop-two-distinctive-programmes-for-a-holistic-student-centric-education.php.

Ministry of Education. (2014, April 1). *Singapore students excel in thinking flexibly and creatively to solve complex and unfamiliar problems, says PISA study* [press release]. Retrieved from http://www.moe.gov.sg/media/press/2014/04/singapore-students-excel-in-thinking-flexibly.php.

Noweski, C., Scheer, A., Büttner, N., von Thienen, J., & Erdmann, J. (2012). Towards a paradigm shift in education practice: Developing twenty-first century skills with design thinking. In H. Plattner, C. Meinel, & L. Leifer (Eds.), *Design thinking research: Measuring performance in context* (pp. 71–94). New York: Springer Science & Business Media.

OECD. (2014, April 1). *Singapore and Korea top OECD's first PISA problem-solving test.* Retrieved from http://www.oecd.org/education/singapore-and-korea-top-first-oecd-pisa-problem-solving-test.htm.

Papanek, V. (1984). *Design for the real world: Human ecology and social change* (2nd ed.). London: Thames & Hudson.

Parsons, G. (2016). *The philosophy of design*. Cambridge: Polity.

Pink, D. H. (2005). *A whole new mind: Why right-brainers will rule the future*. New York: Riverhead Books.

Razzouk, R., & Shute, V. (2012). What is design thinking and why is it important? *Review of Educational Research, 82*(3), 330–348.

Rousseau, J.-J. (1762/1979). *Émile, or on education*, trans. Allan Bloom. New York: Basic Books.

Simon, H. (1996). *The sciences of the artificial* (3rd ed.). Cambridge, MA: MIT Press.

Tsai, C.-C., Chai, C.-S., Wong, B. K. S., Hong, H.-Y., & Tan, S. C. (2013). Positioning design epistemology and its application in education technology. *Educational Technology & Society, 16*(2), 81–90.

Vermaas, P. E., Kroes, P., Light, A., & Moore, S. A. (Eds.). (2008). *Philosophy and design: From engineering to architecture*. Dordrecht, The Netherlands: Springer Science + Business Media B. V.

Wagner, T. (2014). *The global achievement gap: Why even our best schools don't teach the new survival skills our children need—And what we can do about it* (revised and updated edition). New York: Basic Books.

Wong, Y. L. (2011). Developing opposable minds: Why design learning should become an integral part of the core curriculum in 21st century education. In W. Choy & C. Tan (Eds.), *Education reform in Singapore: Critical perspectives* (pp. 128–145). Singapore: Prentice Hall.

Information Communication Technology

9

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Abstract

This chapter consists of the narratives of two principals in Singapore on how they had interpreted and communicated Information and Communication Technology (ICT) policies to their teachers, and how they had helped their teachers to design and introduce ICT activities and programmes in their classrooms. As the process of globalization and technological advancement has brought tremendous changes in Singapore, the Singapore government launched the first ICT Masterplan in 1997 with the aim to equip Singaporean students with the necessary skills and dispositions pertaining to ICT so that they are able to thrive in this ICT rich global economy. In order to strengthen this ICT initiative, the technological pedagogical content knowledge (TPACK) was adopted and introduced as a framework to Singapore schools to help educators build the necessary knowledge and skills to facilitate ICT integration in school (Koh et al. 2015). The TPACK contains three basic forms of knowledge, namely the technological knowledge, pedagogical knowledge and content knowledge and in order for TPACK to be successfully operationalized in school, school leaders need to ensure that the vision and philosophy, curriculum, professional learning, infrastructure and resources, communication and partnerships and research and development are provided for in their schools.

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9.1   Introduction

In this chapter, the narratives of two principals have been drawn to understand how Information and Communication Technology (ICT) policies have been translated and operationalized in schools in response to global change. The evolution of globalization as a phenomenon has definitely brought tremendous changes in Singapore, particularly the adoption of technology on students' learning. The government believes that it is important to harness technology so that Singapore will be able to stay ahead in the global economy. For example, in order to attract foreign investments in Singapore, there has been a strong emphasis on the need to strengthen and enhance technological capacity (Budget 2017: *Response by*, 2017).

To achieve this aim, the Ministry of Education (MOE) took on the responsibility to better develop these skills by ensuring that the education system was restructured and moved towards embracing ICT at all levels in schools. In response to this new demand, the first ICT Masterplan was launched in 1997 to transform Singapore into an information hub (Koh and Lee 2008). This was to prepare Singaporeans to perform effectively in the IT-enriched economy through the extensive use of advanced technologies so that they will acquire the necessary skills and dispositions pertaining to ICT. Besides schools, the government has been investing in ICT infrastructure and transforming the country into a "Smart Nation". More recently, in 2014 the government announced that it will be investing S\$500 million in the ICT for Productivity and Growth Programme (IPG) over the next three years so as "to accelerate the adoption of ICT solutions among SMEs [Small and Medium Enterprises] and boost SMEs' productivity and growth" (IDA 2014). The aim is to enhance the use of technology by providing the resources for businesses to be more innovative in embracing technology to increase productivity. The swift response by the Singapore government to the demands of the fast-moving IT industry is resulting in part to its highly centralized approach in running the country since it gained independence in 1965. The MOE similarly adopts a combination of a centralized and school-based autonomy approach in managing the education system. Its main role of MOE is to formulate and implement "education policies on education structure, curriculum, pedagogy, and assessment" and oversee "the management and development of Government-funded schools, and the Institute of Technical Education, polytechnics and universities" (MOE Singapore 2017).

9.2   ICT Masterplan in Singapore—Phases One to Four

To maintain a world-class workforce, the government ensures that education in Singapore keeps pace with advances in technology. This is because the current knowledge-driven economy requires innovative workers who are able to create new products and services, often with the help of the latest technology (O'Shea 1999). As technology is a key driver of development, the MOE introduced the first Information and Communications Technology Masterplan (ICT Masterplan 1) in 1997 as a form of investment to prepare Singaporean students for the twenty-first century. The underlying philosophy of the ICT Masterplan is to ensure

that Singapore education prepares its students to meet the future needs of society. In order to strengthen the ICT Masterplan, the government also introduced the concept of *Thinking Schools, Learning Nation* (TSLN) in the same year with the aim to ensure that the education system is geared towards the needs of the twenty-first century (MOE: About us 2017). These changes in the education system were to "reshape and restructure the Singapore society in the interest of nation-building" (Yip et al. 1997, p. 4). TSLN was conceived as a means to increase the country's productivity by creating a total learning environment that allowed students to become active learners. By doing so, it sought to develop the creative and critical thinking skills of students, and to equip them with the desired technological skills needed for the future development of the country (Chua 2006).

The second phase (ICT Masterplan 2) lasted from 2003 to 2008. It focused on strengthening the use of ICT by integrating it into the curriculum. Its aim was to build on the technology infrastructure provided in phase one and transform students' learning experience by enhancing critical and creative thinking. To complement the integration of ICT in schools, MOE introduced five future schools in 2007 (*FutureSchools@Singapore*) to lead in innovative teaching methods and engaging lessons (MOE 2007). This extended to eight future schools in 2011 (Yang 2016). These schools were intended to prototype what future schools would look like. Unlike conventional schools, these pioneering schools are picked "as test beds for the use of educational technology, are according to the MOE, "trailblazers" in engaging in information and communications technology (ICT) projects" (Yang 2016). In addition to these future schools, the government also introduced the *Teach Less, Learn More* (TLLM) initiative to give mainstream students more time to learn, integrate and apply what they have learned in schools to real-life situations, and this initiative also involved the use of IT in schools (Chua 2006). The third phase was from 2009 to 2014. ICT Masterplan 3 built on the first two phases and focused extensively on the integration of ICT into school curriculum with the aim to cultivate twenty-first-century skills, particularly self-directed and collaborative learning and critical thinking skills. There were four goals for this phase: (1) Strengthen competencies for self-directed learning; (2) Customize learning; (3) Deepen learning; and (4) Expand learning beyond classroom (Info-communications Media Development Authority 2018).

In addition, school leaders were given greater autonomy to create ICT supportive environment that would enable teachers to innovate, share and improve innovative teaching pedagogies in the use of ICT (MOE 2008). The ICT Masterplan has moved into its fourth phase in 2015. Building on the previous Masterplans, the fourth ICT Masterplan tasks school leaders as culture builders and teachers as designers. It focuses on creating a new culture of teaching and learning for the twenty-first century with the emphasis on subject mastery and responsible use of technology. Greater emphasis has been placed on providing more learning space and opportunity to allow students to have greater access to digital teaching and learning resources. Schools are further encouraged to be more innovative in harnessing technology on teaching pedagogies so as to provide high-quality teaching and learning experiences for all students regardless of their academic background (Ng 2014).

9.3 The Translation of ICT Policy from Macro to Micro Level

Effective policy implementation becomes critical because inconsistency in macro and micro planning can result in undesired policy outcomes. Policy communication can take many forms (Fowler 2013); it can be written, expressed from ministry to principals and principals to teachers, or it can be communicated in group settings such as in the annual Work Plan Seminar during which the Minister of Education will give his annual speech on the ministry's plans for education. The transmission of policy message across multiple levels of the school system depends on how education policy is communicated and disseminated to individuals by the ministry at the macro level and the principals to the teachers at the micro level. In view of this, the role of the school leader is critical because s/he will have to go through a process of unpacking, understanding and interpreting these ICT policies before communicating it to the rest of the staff (Spillane et al. 2002; Klein 2001; Weick 1995). Thus, communications between the principal and teachers will help determine the outcomes of ICT policies.

Clemons and McBeth (2008) defined implementation as a series of "organizational activities directed towards the carrying out of an adopted policy by administrative bureaucracies at the nation, state, and local levels" (p. 79). Transferring this definition to ICT policy implementation, this means that there will be a series of activities that are communicated to schools. Principals will then have to engage teachers, and to provide the support needed to bring about school-related ICT programmes (Schneider and Hollenczer 2006). The translation from school principals to teachers is usually done through the middle leaders such as department heads who are usually the content subject specialists in their respective departments. They would then look into how best ICT can be integrated in the curriculum along with the appropriate support. Between MOE and school principals, cluster superintendents also have a part in monitoring and supporting the implementation of ICT in schools as part and parcel of their role in terms of providing supervisory oversight to their respective cluster of schools.

9.4 Building Technological Pedagogical Content Knowledge (TPACK) Throughout the System

In response to the ICT macro policy, the technological pedagogical content knowledge (TPACK) (see Mishra and Koehler 2006; Chai et al. 2013) has recently emerged at the micro level as a framework that is frequently used to unpack the form of teachers' knowledge necessary for effective ICT integration to happen. The TPACK knowledge is dynamically constructed by researchers and teachers through design thinking by relating and synthesizing the three more basic forms of knowledge, namely the technological knowledge, pedagogical knowledge and content knowledge (Koh et al. 2015). While the three basic forms of knowledge

with pedagogical content knowledge (Shulman 1986) are foci of teacher education syllabi, technological pedagogical knowledge, technological content knowledge and TPACK require active sense-making by the teachers. It is also obvious that as technology changes rapidly and in a major way, TPACK has to be constantly redesigned. The design capacity of school teachers and leaders has hence draw attention from researchers (for example, see Boschman et al. 2015), and Tsai and Chai (2012) have identified that design capacity is the third-order barrier for ICT integration.

Chai et al. (2014) further argued that creating TPACK should not rest on the teachers alone. Rather, all educators should be creating TPACK in the forms of cultural knowledge, national policies, education technologies, school structures and lesson designs. In terms of the strategic dimensions that school leaders have to consider, Lim et al. (2011) have identified six aspects. They are vision and philosophy, curriculum, professional learning, infrastructure and resources, communication and partnerships and research and development. Principals, in particular, need to articulate an appropriate vision based on their school history, mission, current state of development, students' and teachers' profile. The vision needs to be co-owned by all stakeholders, and therefore the process of co-visioning needs to carefully consider all stakeholders' interest without compromising students' benefits. In order for the vision to be impactful, it should be intrinsically motivating to educators rather than extrinsically driven. Once the vision is soundly established, instructional leaders will need to translate it into desirable teaching and learning practices. In order to achieve this, it is critical for principals to communicate their school vision in a manner that gains trust rather than incites fears and fatigue. This would inevitably require professional learning to address a diversity of challenges and issues, such as the building of physical or organizational structure and resources; changing the beliefs and practices of teaching and learning, and building the design capacity of teachers (Tsai and Chai 2012). On top of that, leaders are encouraged to establish partnerships with others, especially with educators from higher education, as this will enable schools to stay in close contact with the latest development of pedagogical ideas. Lastly, research and development could be a much healthier and effective way to seek continuous improvement than evaluation and judgment. Essentially, school leaders are encouraged to be a knowledge creator, and ensure that the curriculum is generally constructivists oriented.

This chapter illustrates how two principals interpreted and communicated ICT policies to their staff, and together with their staff translated them into desired activities, practices and programmes for their schools. The narratives provide insight into how Singapore schools can support, empower and enable the development of ICT skills and competencies in the context of the modern classroom.

9.5 Method

The following section presents the findings drawn from two case studies of two mainstream schools. The two principals were purposively selected as both schools are renowned for their ICT integration both locally and internationally. The schools are Crown Secondary School and Aspire Primary School.[1] Both principals gave consent to the interviews for the purpose of explicating their experiences in school change. Two interviews were conducted for each principal; the first to gather the initial set of data while the second to provide the initial analysis for members checking, and to probe deeper in unclear areas. Each interview lasted for about an hour, and the data were analysed through inductive coding (Thomas 2006). The findings, presented in narratives, show how each principal had interpreted and translated ICT policies into specific strategies and programmes, and how they had impacted teaching, learning and students' outcomes in their schools.

9.6 Crown Secondary School

Ms. Sinha[2] is a principal in a secondary school with students performing well academically at national examinations. The school believes in the use of technology to bring about engaged learning as a means to develop twenty-first-century competencies. The school has established an effective 1:1 computing programme. The staff use technology extensively and ICT has become an integral part of the school's culture and identity. The narrative collected surfaced four key findings:

1. Technology as instrumental tool of education
2. ICT infused curriculum
3. A strong and innovative ICT culture
4. Working in teams

9.6.1 Technology as Instrumental Tool of Education

Ms. Sinha believes that technology is a critical component of education but it should not dominate or determine the education process. Instead, the school places a heavy emphasis on students' outcomes by adopting student-centred approaches in their teaching pedagogies. She explained that as with other mainstream government schools the primary focus is to ensure that students continue to perform well in the national examinations, in this case, the GCE "O" Levels examinations. To her,

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[1]The names of the schools have been changed to maintain confidentiality.
[2]The name of the principal has been changed to maintain confidentiality.

technological tools are merely one of the enablers that strengthen teaching pedagogies which in return will help the school to achieve better students' outcomes.

> Considerations about the use of technology in schools and how effective technology can be in education cannot start with a discussion on technology. We always foreground what are the students' outcomes that we want to see and we always start with the big picture in mind. Technology should be used to serve these larger issues, and not dictate the direction of education.

Ms. Sinha stressed that the focus must be on the "big picture" and not on the technology itself. The "big picture" refers to the holistic development of the students; that they are to become excellent and well-balanced individuals. The "big picture" also includes the use of technology to develop twenty-first-century competencies and dispositions through the school's programmes.

As a result, the school does not have a specific ICT programme. Instead, it uses a wide array of ICT tools and students use these tools and applications to learn better.

> Along with the instructional programmes, there is Character and Citizenship Education and undergirding all these would, of course, be the subject areas outcomes, the 'O' level exams and the associated outcomes for the new syllabuses. There are the character outcomes, which are difficult to measure and we don't want to measure that; and for our school we also put in 21st century competencies as student outcomes that we want to develop. So with that as the premises we then ask ourselves how that translates into the instructional programme, the CCE programme and how do we infuse the teaching of the 21st century competencies into the total curriculum.

Clearly, the school has put in much effort to realize its strategies for developing appropriate and effective ICT tools to enhance teaching and learning across the curriculum.

9.6.2   ICT Infused Curriculum

The staff is encouraged to infuse ICT into the curriculum. While Ms. Sinha refrains from prescribing specific pedagogies, she would constantly encourage staff to create engaging ICT lessons for students. This is in keeping with her conviction that the adoption of ICT in education should be to support, empower and enable educators to develop twenty-first century teaching pedagogies. The key is to ensure that ICT is used meaningfully and in a sustained manner by both teachers and students. Teachers are given a suite of pedagogies that they can choose from and build into their teaching packages with a view to achieving the desired student outcomes.

> When ICT is properly infused, it should fade into the background. In traditional teaching nobody talks about the importance of the chalk board. Similarly, ICT should always be available and accessible to support teaching and learning. I worry if the teachers talk only about technology.

ICT resources such as broadband connectivity are readily available at the school. The challenge for Ms. Sinha is to ensure that ICT is infused in a meaningful way into the school's programmes and curriculum. How can teachers use ICT to make lessons more engaging and to bring about greater depth in learning as envisaged by the TLLM initiative? And learning, in this case, has to be understood broadly to include non-academic subjects and activities. Ms. Sinha always makes it a point to remind staff that "technology is not to improve academic achievements only. Technology use is for the development of attitudes and dispositions as well". This message reflects Ms. Sinha's belief that the appropriate dispositions and attitudes have to be cultivated in order for ICT to be successfully and extensively infused into the school curriculum. This change has to come from the teachers. Essentially, the teachers must believe in the value of using ICT as broad based tool for school improvement and student development.

An example of an innovative programme was the "Com Arts Program", a secondary one programme that seeks to integrate literature and English. The aim of the programme is to give opportunities for students to express themselves better in English and to build their confidence as effective communicators. The programme adopted the "Trail Shutter" Application, a free web-based toolkit.[3] The toolkit allows for the integration of English lessons into out of school activities. It has features that enable teachers to design their own interactive mobile learning trails for the students and for students to design learning trails for one another. Besides speaking and literary skills, the programme also helps to advance students' creativity, authentic learning and appreciation of history, as well as their ability to use various literary devices. Students can be quite enthusiastic in the use of such software, and here too Ms. Sinha stresses that ICT should play a supporting role and not be the main focus in the learning experiences of students.

9.6.3   A Strong and Innovative ICT Culture

According to Schein (1992), culture is defined as organizational behaviour that has developed based on shared assumptions of the organization. This behaviour reflects the organization's values, norms, habits of thinking and of acting collectively or individually. In school, a positive and effective school culture is important in promoting teacher involvement and in implementing curriculum reforms that aim at school improvement.

> The school is fortunate to have had a long runway in one to one computing. We started in 2003, so it's been 10-11 years. So the use of ICT has become a part of our culture.

Besides establishing the physical and technological infrastructure, creating a supportive culture is important in determining the success of the ICT policy. A positive culture encourages active collaborative work and the fruitful exchange of ideas

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[3]Key features include animated 3D object, MCQ, fill-in-the-blanks- short answers, OneMap, chat, etc.

among teachers and students (Fullan 1993), and this will in return improve student learning. In Crown Secondary school, the principal places a strong commitment to establish a collaborative work culture among teachers and an open culture to innovation and new things.

> Our school has also a very innovative technology development culture. So I have a very strong team of technology savvy teachers who are always scanning the environment to discover and try out new technologies. And when they find something appropriate they introduce other teachers to these innovations. Overtime we have accumulated many useful resources: some we developed in house and others are like free web tool materials.

According to Ms. Sinha, it is important that the principal takes the lead in setting the tone for the right approach to technology as a pedagogical and developmental tool, and to ensure that its pervasive applications all work to achieve the desired student outcomes. Together with the principal, a team of teachers has been formed to take the lead to constantly reinforce the importance of identifying and introducing up to date and relevant technologies to other teachers. Nonetheless, Ms. Sinha stressed that establishing such positive culture takes time.

> Change management is never easy. But I think our teachers have gotten used to ask how can we do things better… that is a good sign of the kind of culture we seek to cultivate.

9.6.4 Working in Teams

Professional Learning Teams (PLTs) refers to collaborative teams of teachers who work together to engage in collective learning with the aim to improve their teaching. PLTs spend considerable time addressing students' learning needs to arrive at the best strategies to improve their students' learning. PLTs are basically "teacher initiated and teacher led" (Sather 2006, p. 2), and such team-based professional learning focus on "new practices and work together to advance improvements" (Sather 2006, p. 4). In this connection, Ms. Sinha said that in her school PLTs,

> have to do with establishing a culture of professional development, and of collegiality, of sharing and of innovation, and of being able to engage in professional discourse on learning outcomes and how to get there.

To her, such interactions and professional discourses are important for teachers because the professional community promotes intellectual and professional development, which will then keep the teachers updated on new teaching pedagogies.

> There is protected PD [Professional Development] time for team teaching and team design. We also make sure that there is communication across the teams. We have senior people who are in teams working and communicating with other teams.

Communication across teams is essential in ensuring the success of the ICT infused curriculum in Crown Secondary School. As there are programmes and projects that

involve the work of various teams, good communication and coordination helps to eliminate misunderstandings and to keep teachers focused on improving students' outcomes. Nonetheless, despite a strong ICT culture, there are still challenges in implementing ICT activities and programmes.

9.6.5 Challenges

Time Factor

Unlike the traditional drill and practice mode of teaching, the use of ICT as an effective pedagogical tool means that more time is needed for the teachers to design interactive lessons that encourage in-depth learning. In this regard, Ms. Sinha explained that,

> Time is a major factor. It takes a lot more time to develop learning trials and set up all the different things. This adds to the workload of teachers, who have to make sure that they have covered the curriculum and syllabus. It also takes a little more time for the kids to learn the process of discovery and inquiry and to go on that process rather than following strict rules and procedures–A, B, C. This is it. Go and study. Do more worksheets and then come back.

Many of the ICT infused lessons require students to approach learning differently. Instead of merely absorbing knowledge, they are now expected to enquire, question and learn in a more indirect way. Ms. Sinha remarks that *"working with this approach is less efficient but actually if it is done properly, it will be more effective"*. These new approaches to learning also point to a further challenge; namely, teachers' competency.

Teacher's Competency

The tasks of teachers have evolved as twenty-first-century teaching requires twenty-first-century attitudes, skills and competencies. According to Darling-Hammond (2006): "Today's classroom call for teachers to prepare virtually all students for higher order thinking and performance skills once reserved to only a few" (p. 300). In keeping with this perspective, Ms. Sinha says,

> The skills of teachers are quite crucial; the facilitation skills, the types of questions the teacher needs to be able to ask, the setup of the lessons, guiding the students. As we implement ICT, we have to be sure that the learning outcomes been achieved through the lesson and not in spite of the lesson, and that very much depend on the skills of the teachers. For this reason teacher professional development is crucial. And therefore it is important that the school provides resources to enable teachers to learn continually and to improve themselves.

The Issue of Sustainability

The incorporation of technology into the classroom is one of the most important challenges for educators today. It is not merely about the placement of hardware in the classrooms but rather about how teachers use ICT to facilitate learning (Lebaron et al. 2009). To further complicate this challenge, technology tends to become obsolete quickly. Teachers not only have to keep up to date with the latest technological developments, but they also need time to become effective users of these new technologies. Hence, the issue of sustainable technology must be addressed. Ms. Sinha is deeply aware of this challenge in the use of ICT: "once you put technology at the forefront, once you start using it, it becomes outdated". Therefore her strategy for sustainability of ICT practices in Crown Secondary school is to establish partnerships with industries.

> My teachers are teachers, they are not technological innovators, they are not programmers, they are also not agents for private companies who will be able to sell things, they are just teachers. So we work with the industry partners. They have the responsibility to sustain the software and to move forward with the technology. As for us, we focus on the use of technology.

9.7 Aspire Primary School

Mr. Wen[4] was appointed the principal of Aspire Primary School seven years ago. Aspire Primary School is a school known for its strong academic performance, and is a popular school in its neighbourhood. The school aspires to be a leading school both in academic performance and in nurturing students' twenty-first-century competencies. Through the collective effort of the school's senior management team with inputs from researchers at the National Institute of Education, the school was able to obtain funding to equip primary 3 and 4 students with mobile computing devices. In addition, the school puts emphasis on the development of technological pedagogical content knowledge (TPACK, see Mishra and Koehler 2006) among its teachers through continuous professional development activities. Teachers at the school possess good knowledge and deep experiences of ICT integration. The narrative collected at Aspire Primary School surfaced five key findings:

1. Pervasive twenty-first-century learning.
2. Distributed leadership.
3. Redesigning curriculum.
4. Developing Teachers' TPACK.
5. Leveraging on collaborative partnership.

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[4]The name of the principal has been changed to maintain confidentiality.

9.7.1 Pervasive Twenty-First-Century Learning

Recognizing the socio-technological and cultural changes that have prevailed since the proliferation of computing devices, the principal stated that "with these changes teaching and learning cannot be done in the same way anymore." Accordingly, Mr. Wen initiated strategic discussions with staff and collectively they reached consensus that the school should embark on fostering twenty-first-century competencies among students facilitated through mobile technologies for pervasive learning. In the principal's words,

> My role is to lead the key personnel, including the vice principals and the HODs (heads of department) to contextualize the MOE (ministry of education) 21st century competencies framework for our school. This involves looking at what we have in terms of technology capacity, manpower capital, and the students' general learning and family profiles. We went through rounds of intensive discussion and we agree to focus on values and key 21st century competencies students need to have without compromising their foundational knowledge.

After setting the strategic direction of promoting values-driven twenty-first-century competencies, the school also set the basic standards for academic achievement in order not to compromise on students' foundational knowledge. This approach, which is anchored on a values-based education, is both futuristic and pragmatic at the same time. Mr. Wen recognized the challenges teachers may face to design and implement twenty-first-century-oriented pedagogy while maintaining basic standard, but he did not think that the status quo would do justice to students' educational needs. Neither would relaxing the demands of foundational knowledge or ethics be acceptable. It was recognized that twenty-first-century learning is about improving and innovating foundational knowledge with more knowledge creation-oriented pedagogies without compromising the ethical dimension. The school thus devoted its effort to resolve the tensions between foundational knowing, ethical values and twenty-first-century learning through design efforts described below.

9.7.2 Distributed Leadership

In order to create a culture of change in school, the principal and staff must work together; the responsibilities for change should not be borne by the principal alone, but shared among staff at all levels (Tyack and Tobin 1994). This is because the creation of an IT-rich environment will be extensive since it includes setting up the physical and technological infrastructure, restructuring curriculum and class time, innovating instructional and assessment practices. Such a major undertaking is well beyond what a single leader can hope to accomplish on his own. Distributed leadership at multiple levels is necessary and this has been reported to lead to organizational improvement (Harris and Spillane 2008). Mr. Wen played a leading role in the initial conceptualization of the overall strategic thrust, while staff contributions helped to improve and refine the strategic vision. In the actual

implementation, Mr. Wen liaised with external stakeholders, such as MOE, industry partners, parents and researchers from local as well as foreign institutions of higher education. His ability to establish good working relationships with these parties greatly facilitated the school improvement process. The vice principals, on the other hand, were responsible for setting up, monitoring and maintaining the school's technological infrastructure to ensure that learning "anytime and anywhere" would be a reality within the school compound. Each of the heads of the department took charge of one or two curriculum restructuring projects. Senior teachers of various subjects experimented with new pedagogies and coached their younger colleagues in the use of these pedagogies. One of the teachers who was tasked to lead the knowledge building (KB) project said,

> Having to create new practices and procedures in my teaching, this is a rather drastic shift towards student-centered learning as part of 21CC skills. It takes a lot of getting used to especially relinquishing control of the students' everyday learning. A KB teacher is no longer a 'vessel' of knowledge to the students and requires a unique set of skills to manage the classroom in order to facilitate students' knowledge creation. In every lesson, students are required to use various KB principles in their research and discussion.

9.7.3 Redesigning Curriculum

As noted above, teachers face challenges when they attempt to shift the curriculum towards constructivist pedagogy. Windschitl (2002) has shown that there are at least four dimensions of change needed in such reform, most notably the conceptual and pedagogical dimensions. The conceptual dimension involves teachers' understanding of the philosophical, psychological and epistemological underpinnings of the innovative pedagogies they are engaged in; while the pedagogical dimension is about mastering the pedagogical skills needed for successful implementation. Mr. Wen recognizes these challenges and he has taken a design and redesign approach to address these needs. Recognizing that conducting workshops would only transmit basic knowledge, Mr. Wen is firmly of the view that instructional leaders should "get their hands dirty". According to Mr. Wen, "The types of teaching and learning we want must be developed in a knowledge creation context. The teachers have to at least contextualize the pedagogical models according to the profile of the students in our school…they have to learn through designing, implementing, redesigning so that they have deep understanding of the pedagogies and mastery of the relevant skills".

Mr. Wen helped put together teams of teachers and researchers to engage in long term projects to redesign the school's curriculum and pedagogy. For example, the primary three and four social studies programmes were redesigned to use the knowledge building approach (Scardamalia and Bereiter 2006) as a means to cultivate a deeper sense of national identity among students. The students were challenged to address questions such as "Is Singapore a good country? Why?" and "How can we achieve sustainable development?" The students were also taught

basic internet search skills and collaborative ways of speaking that focused on claims, evidence and warrants. A team of teachers together with a professor from the National Institute of Education took two years to develop a series of lesson plans and resource materials for the redesigned programmes. They are currently documenting the pedagogical skills enacted in the classrooms with a view to implementing this pedagogical approach to social studies across all levels. In science, the 5E models of inquiry (Bybee et al. 2006) were implemented with mobile phone applications, and the teachers redesigned all the lessons in primary three and four to create a seamless science curriculum. The English and Chinese language departments have also created whole level lesson plans to engage students in web-based and apps supported language learning. Such systemic and sustained change has helped to transform the school, and now the school is helping other schools to redesign and transform their curriculum.

9.7.4 Developing Teachers' TPACK

Mr. Wen engaged experts in TPACK to provide talks and conduct workshops, and subsequently implemented the TPACK framework for teachers to co-design ICT-based lessons.

> The PD plan looks into the teacher's capacity building in three areas i.e. curriculum, pedagogy, and technical aspects. In delivering the PD to the teachers, we worked closely with Prof D (anonymous), the curriculum developer and the team of ICT support staff.

Given the diverse curriculum redesign work and the teachers' knowledge requirements, the TPACK framework was utilized to help teachers in active sense-making and designing of new lessons that were supported by technologies.

The TPACK framework draws on the intersection of three knowledge domains, namely, pedagogical content knowledge, technological pedagogical knowledge and technological content knowledge, to design pedagogically sound lessons supported by technology. The TPACK framework helps to activate various forms of teachers' knowledge such as their knowledge about students' learning difficulties about the subject matter (pedagogical content knowledge). It also guides teachers to search for possible solutions especially from technology-related knowledge domains (for example, see Koh and Chai 2014). To deepen the pedagogical transformation afforded by TPACK, the principal initiated a series of discussions on changing the school's standardized lesson planning template. The template was subsequently modified to help the teachers in developing their pedagogical methods and enhancing their use of technology.

These initiatives show clearly that the school is not focused on ICT for its own sake; rather its focus is on the pedagogical value that technology-based lessons would bring to build students' learning capacity and content mastery. Structured timetable for curriculum reform supported the creation of ICT integrated lessons. As a consequence of these reforms, teachers are now more aware of the possibilities

of transferring technological applications tested in one subject to another subject, and they are also learning to draw upon pedagogical methods used in one subject for the teaching of other subjects. For instance, teachers from the mathematics department formulated a series of lessons by adapting the 5E model from science as the pedagogical framework. The art teachers, on the other hand, having observed the discussion platform used for social studies realized that they could use the same platform to support students' ideation for their artwork. The principal welcome and encouraged such cross-disciplinary appropriation of teaching and learning strategies. Using TPACK as a framework for making sense of technology has also been manifested in many of the subject areas taught in the school.

9.7.5   Leveraging on Collaborative Partnership

The TPACK framework shows that creating new teaching and learning practices with technology involves multiple areas of expertise (i.e. technological/pedagogical/content knowledge and their intersections). Chai et al. (2014) have also shown that classroom-level TPACK creation is dependent on agents and events beyond the classroom. These include policy formulation at both national and school levels that determine the general technological and pedagogical vision, service providers for appropriate and timely technological solutions and parents for their understanding and support of new teaching and assessment initiatives. Mr. Wen's resourcefulness in locating and gaining supporters and collaborators from industry partners, university researchers as well as officers from MOE HQ is remarkable. As he says: "The world is changing so fast and school leaders have to recognize that it is necessary to collaborate. We simply do not have all the knowledge and resources that we need to innovate".

Meetings and workshops that involved the teachers, ministry officers, well-known researchers from both local and foreign universities, as well as top executives from the IT sector frequently take place in his school. Mr. Wen actively seeks a collaborative partnership that would enhance the school technological capacities, as well as the teachers' content and pedagogical capacities. The common goal of the school's partners and collaborators is to improve students' learning experiences. Several of the school's research projects have yielded published articles in international journals. These publications attest to the innovative pedagogies that have been successfully implemented in the school (see for example, Chai et al. 2016; Norris et al. 2011; Wong et al. 2011).

9.7.6   Challenges

The main challenges to school reform are well documented: teacher expertise, time and systemic issues such as the assessment regime. These challenges have been encountered in the school and there are ongoing refinements to school processes to address these challenges. In the case of Aspire Primary School, there is a further

challenge posed by working with multiple collaborators. Additional time and effort are needed to coordinate the activities of the various teams of collaborators. The interests and needs of collaborators may not be in sync all the time: therefore care and sensitivity are needed to resolve these tensions. In addition, many parents tend to be overly focused on academic results; for this reason, they may not fully understand and appreciate the school's efforts in innovating curriculum with technology (Hung et al. 2003). Deep engagement and effective communication with parents is necessary in these cases to assuage their anxieties.

9.8 Discussion and Conclusion

While the two case reports surface different ways between the two principals in describing their journey, the themes of their discourse are very similar. Their experiences have illustrated the need to plan and design appropriate actions based on the available resources of the schools in order to elicit the desired changes in the classroom. Their accounts reaffirmed Chai et al.'s (2014) perspective about the meso-level (local community and institution) design of TPACK that institution leaders need to perform. Both principals envisioned that education in an era where technology is changing rapidly needs to be reframed to foster students' twenty-first-century skills without compromising content mastery. Basically, they explored and drew on various financial resources to build the school infrastructure, and focused on developing teachers' capacity to integrate ICT. The dimensions that the principals focused are in line with Lim et al.'s (2011) account of the six aspects of strategic dimensions for institutional change. Nonetheless, the principals are also cognizant about the challenges that schools and teachers face, which correspond to Windschitl's (2002) observation.

Schools need to change and keep pace with technology advances. The educational landscape is growing more and more complex. The acronym volatile, uncertain, complex and ambiguous (VUCA) has been used to describe the environment that is taking shape in our midst. In such a context, school leaders will be constantly confronted by many perplexing challenges and dilemmas. The two principals seem to possess considerable qualities that have enabled them to navigate the complex terrain of the new educational landscape. As noted in this chapter, one outstanding quality they have in common is the clear vision they have on the use of ICT in advancing both the teaching and learning process. Although they are aware of the factors that can inhibit ICT integration in their schools such as insufficient time, they still hold positive attitudes towards ICT integration into the school's curriculum.

From the findings, both internal and external factors have been found to be significant in facilitating the ICT implementation process. The first internal factor is competent and distributed leadership (Harris and Spillane 2008; Hairon and Goh 2015). Together with their key personnel, the principals took the lead in interpreting the ministry's ICT policy prescriptions and adapting them to the school's context.

They also helped shape the framework that enabled their teachers to operationalize these prescriptions into specific activities in their respective schools. The principals worked closely with their department leaders to create an environment in which teachers were able to work freely and collaboratively with external partners to test out new ideas and innovations. In effect, the distribution of leadership went all the way down from the principal through the key personnel to teacher leaders (Hairon et al. 2015). Both principals are very clear about how ICT should be used in their schools without compromising their school's excellent academic standards. They both took the view that ICT should not dominate the teaching and learning process but used in appropriate ways to improve the teaching and learning process. The need to engage in school-based development and innovation without compromising academic rigour has been observed to be the current challenge for school leaders and teachers in the current Singapore education reform (Hairon and Dimmock 2012).

The second internal factor is the acceptance of the pedagogical uses of ICT by the teachers. Curriculum innovation will not happen if the teachers are unwilling to participate in the policy translation process (Fullan 2001). In both schools, the teachers are motivated to incorporate and use various innovative ICT programmes in their teaching pedagogies. As shown in both narratives, both principals have built a culture of collaboration among staff which has helped to enhance ICT integration into the school curriculum. A positive ICT culture reduces barriers to ICT integration.

Successful ICT integration in the school also depends on external factors, which include parental support, students' knowledge of ICT, and support from ICT industries. The vast majority of parents in these two schools are aware of the extensive use of ICT in schools and in their children's school work. At the same time, the schools have been successful in maintaining their good academic results, and this has reduced parents' resistance to the extensive use of ICT. In addition, the students are well equipped with basic ICT skills and this has made it easier for the teachers to incorporate technology into the curriculum. Lastly, both principals have been successful in garnering the support of external ICT vendors for the provision of resources and expertise. Such support helps to reduce the time teachers spend searching for appropriate ICT resources and in planning lessons. More importantly, industry support addresses the issue of sustainability; the industry will focus on maintaining and upgrading the software, while teachers concentrate on integrating technology into the curriculum.

The overall conclusion of the two narratives is that successful ICT integration in schools depends largely on school leadership. School leadership plays a critical role in understanding and interpreting the intentions of the ministry's ICT policies, before communicating them to the teachers. The principal's perceptions and beliefs regarding ICT policies will affect the teachers' perceptions of ICT policies as well as the development of the relevant competencies. Principal's actions in providing appropriate goals, distribution of roles and responsibilities to middle leaders and

teachers, and support structure form another form of communication to their school staff members, which would significantly impact the necessary changes to the curriculum and teaching practices. All of these would, in turn, will affect students' outcomes and outcomes of ICT policies.

9.9 Questions for Reflection and Discussion

1. What is your view about the role of ICT in education? Should it be transformative or merely instrumental? Why?
2. What are the differences in the perspectives of the two principals with respect to the infusion of ICT in the school curriculum, and how do these influence teaching and learning in their respective schools?
3. What other perspectives should one consider with regard to the use of ICT in education?
4. How can school leaders better build their capacity to envision the technological pedagogical culture of learning for all subject matter?
5. What further research questions need to be asked in matters of using technology in pedagogy in schools?

References

Boschman, F., McKenney, S., & Voogt, J. (2015). Exploring teachers' use of TPACK in design talk: The collaborative design of technology-rich early literacy activities. *Computers & Education, 82,* 250–262.

Budget 2017: Response by Minister for Communications and Information Dr Yaacob Ibrahim. (2007). Retrieved from: https://www.gov.sg/microsites/budget2017/press-room/news/content/response-by-minister-for-communications-and-information-dr-yaacob-ibrahim.

Bybee, R. W., Taylor, J. A., Gardner, A., Van Scotter, P., Powell, J. C., Westbrook, A., & Landes, B. (2006). *The BSCS 5E instructional model: Origins and effectiveness.* Retrieved from https://bscs.org/sites/default/files/_media/about/downloads/BSCS_5E_Full_Report.pdf.

Chai, C. S., Koh, J. H. L., & Tsai, C.-C. (2013). A review of technological pedagogical content knowledge. *Education Technology and Society, 16*(2), 31–51.

Chai, C. S., Koh, E., Lim, C. P., & Tsai, C.-C. (2014). Deepening ICT integration through multilevel design of technological pedagogical content knowledge. *Journal of Computers in Education, 1*(1), 1–17.

Chai, C. S., So, H.-J., Tsai, P.-S., Rohman, E., & Aw, I. L. P. (2016). Building epistemic repertoire among primary 3 students for social studies. In C. S. Chai, C. P. Lim, & C. M. Tan (Eds.), *Future learning in primary schools: A Singapore perspective* (pp. 109–128). Singapore: Springer.

Chua, S. K. C. (2006). Singaporean education planning: Moving from the macro to the micro. *Current Issues in Language Planning, 7*(3), 214–229.

Clemons, R. S., & McBeth, M. K. (2008). *Public policy praxis* (2nd ed.). NY: Pearson Longman.

Darling-Hammond, L. (2006). Constructing 21st-century teacher education. *Journal of Teacher Education, 57*(3), 300–314.

Fowler, F. C. (2013). *Policy studies for educational leaders* (4th ed.). USA: Pearson.

Fullan, M. (1993). *Changing forces*. Bristol, PA: Falmer Press.

Fullan, M. (2001). *The new meaning of educational change*. NY: Teachers College Press.

Hairon, S., & Dimmock, C. (2012). Singapore schools and professional learning communities: Teacher professional development and school leadership in an Asian hierarchical system. *Educational Review*, *64*(4), 405–424.

Hairon, S., & Goh, J. W. P. (2015). Pursuing the elusive construct of distributed leadership: Is the search over? *Educational Management Administration and Leadership, 43*(5), 693–718.

Hairon, S., Goh, J. W. P., & Chua, C. S. K. (2015). Teacher leadership enactment in PLC contexts: Towards a better understanding of the phenomenon. *School Leadership and Management, 35* (2), 163–182.

Harris, A., & Spillane, J. (2008). Distributed leadership through the looking glass. *Management in Education, 22*(1), 31–34.

Hung, D., Tan, S. C., & Chen, D.-T. (2003). IT integration and online learning in the Singapore schools. *Educational Technology, 43*(3), 37–45.

Infocomm Development Authority of Singapore (IDA). (2014). *ICT for productivity and growth (IPG) programme*. Retrieved October 24, 2014, from http://www.ida.gov.sg/Collaboration-and-Initiatives/Initiatives/Store/ICT-for-Productivity-and-Growth-IPG.

Info-communications Media Development Authority. (2018). *Singapore unveils third Masterplan for ICT in Education*. Retrieved March 28, 2018, from https://www.imda.gov.sg/infocomm-and-media-news/buzz-central/2008/9/singapore-unveils-third-masterplan-for-ict-in-education.

Klein, G. (2001). The fiction of optimization. In G. Gigerenzer & R. Selton (Eds.), *Bounded rationality: The adaptive toolbox*. Cambridge, MA: MIT Press.

Koh, J. H. L., & Chai, C. S. (2014). Characterizing TPACK transformations in the design of school-based pedagogical innovation. In C.-C. Liu, et al. (Eds.), *Proceedings of the 22nd International Conference on Computers in Education*. Japan: Asia-Pacific Society for Computers in Education.

Koh, J. H. L., Chai, S. C., Wong, B., & Hong, H.-Y. (2015). Technological pedagogical content knowledge (TPACK) and design thinking: A framework to support ICT lesson design for 21st century learning. *The Asia-Pacific Education Researcher, 24*(3), 535–543.

Koh, T. S., & Lee, S. C. (2008). Digital skills and education: Singapore's ICT master planning for the school sector. IN S. K. Lee, C. B. Goh, B. Fredriksen, & J. P. Tan (Eds.), *Toward a better future: Education and training for economic development in Singapore since 1965* (pp. 167–190). Washington, DC: The World Bank.

Lebaron, J., Robinson, J. M., & McDonough, E. (2009, December 8). *Research report for Gessometa review of ICT in education phase two*. Retrieved on December 8, 2010 from http://www.gesci.org/assets/files/Research/meta-researchphase2.pdf.

Lim, C. P., Chai, C. S., & Churchill, D. (2011). A framework for developing pre-service teachers' competencies in using technologies to enhance teaching and learning. *Education Media International, 48*(2), 60–83.

Mishra, P., & Koehler, M. J. (2006). Technological pedagogical content knowledge: A framework for teacher knowledge. *Teachers College Record, 108*(6), 1017–1054.

MOE: About us. (2017). Retrieved March 27, 2017, from: https://www.moe.gov.sg/about.

MOE. (2007). *MOE selects first five futureschools@Singapore.* Retrieved September 20, 2014, from http://www.moe.gov.sg/media/press/2007/pr20070522.htm.

MOE. (2008). *MOE launches third masterplan for ICT in education*. Retrieved September 19, 2014, from http://www.moe.gov.sg/media/press/2008/08/moe-launches-third-masterplan.php.

Ng, K. (2014) Singapore education minister shares 4 principles on ICT use in education. Retrieved September 20, 2014, from http://www.futuregov.asia/articles/2014/apr/10/singapore-education-minister-shares-4-principles-i.

Norris, C., Hossain, A., & Soloway, E. (2011). Using smartphones as essential tools for learning. *Educational Technology, 18,* 18–25.

O'Shea, M. P. (1999). *Recognising the challenges of the new millennium: The changing face of art education in Singapore.* Paper presented at the Proceedings from the InSea 30th World Congress "Cultures and transitions", Brisbane Australia.

Sather, S. (2006). Implementing professional learning teams. *Principal's Research Review: Supporting the Principal's Data-Driven Decisions, 1*(5). Retrieved September 30, 2014, from http://www.nassp.org/portals/0/content/54161.pdf.

Scardamalia, M., & Bereiter, C. (2006). Knowledge building: Theory, pedagogy, and technology. In K. Sawyer (Ed.), *The Cambridge handbook of the learning sciences* (pp. 97–115). New York, NY: Cambridge University Press.

Schein, E. H. (1992). *Organizational culture and leadership* (2nd ed.). USA: Jossey-Bass Publishers.

Schneider, E. J., & Hollenczer, L. L. (2006). *The principal's guide to manage communication.* Thousand Oaks, California: Corwin Press.

Shulman, L. S. (1986). Those who understand: Knowledge growth in teaching. *Educational Researcher, 15*(2), 4–14. https://doi.org/10.3102/0013189x015002004.

Spillane, J. P., Diamond, J. B., Burch, P., Hallet, T., Jita, L., & Zoltners, J. (2002). Managing in the middle: School leaders and the enactment of accountability policy. *Educational Policy, 16* (5), 731–762.

Thomas, D. R. (2006). A general inductive approach for analyzing qualitative evaluation data. *American Journal of Evaluation, 27*(2), 237–246.

Tsai, C. C., & Chai, C. S. (2012). The "third"-order barrier for technology-integration instruction: Implications for teacher education. *Australasian Journal of Educational Technology, 28*(6), 1057–1060.

Tyack, D., & Tobin, W. (1994). The 'grammar' of schooling: Why has it been so hard to change? *American Educational Research Journal, 31*(3), 453–479.

Weick, K. (1995). *Sensemaking in organizations.* Sage Publications.

Windschitl, M. (2002). Framing constructivism in practice as the negotiation of dilemmas: An analysis of the conceptual, pedagogical, cultural, and political challenges facing teachers. *Review of Educational Research, 72*(2), 131–175.

Wong, L. H., Chen, W., Chai, C. S., Chin, C. K., & Gao, P. (2011). A blended collaborative writing approach for Chinese L2 primary school students. *Australasian Journal of Educational Technology, 27*(7), 1208–1226.

Yang, C. (2016). Students, as digital natives, are more involved when technology is used in teaching, say educators. *The Straits Times.* Retrieved March 27, 2018, from http://www.straitstimes.com/singapore/education/more-schools-tap-tech-tools-for-learning.

Yip, J. S. K., Eng, S. P., & Yap, J. Y. C. (1997). 25 years of education reform. In J. Tan, S. Gopinathan, & W. K. Ho (Eds.), *Education in Singapore: A book of readings* (pp. 4–32). Singapore: Prentice Hall.

School Culture

Antonia K. W. Teng and Yenming Zhang

10

Abstract

This chapter gives insight into how principals of SAP schools can leave a legacy that promotes the uniqueness of SAP schools in preserving traditions whilst reinventing themselves to thrive in a globalized world as well as in nurturing bilingual and bicultural students with a sense of responsibility to the nation. This chapter asserts the importance of school leaders as culture builders. In this regard, the chapter draws from Sergiovanni's notion of the "cultural force of leadership", and Schein's notion of the "cultural leadership". Three cases of three school principals were used to compare and contrast the cultural nuances that are manifested in the day-to-day school activities and events. From these cases, it is evident that effective school leaders play a significant, deliberate and conscious role in building school culture, which serves as catalyst and capital for continual and sustainable school improvement.

10.1 Introduction

Special Assistance Plan (SAP) schools were first established in 1979 to preserve the ethos of Chinese medium schools and to promote the learning of Chinese language and culture. They have done well and have remained very much sought after by students and their parents. However, the profile of students in Singapore schools has changed over the years. Among Primary 1 Chinese students, the proportion that came from English-speaking homes rose from 28% in 1991 to 59% in 2010 (Mother Tongue Language Review Report 2010). This shift in home-language

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background poses a challenge to SAP schools in fulfilling their mission of nurturing bilingual and bicultural students steeped in Chinese language and culture. Another challenge in SAP schools is the need to develop sociocultural sensitivity and awareness in students through sustained interaction and friendship with other ethnic groups in order to enhance social cohesion and harmony. Notwithstanding some criticisms, SAP schools are still perceived as relevant and valuable in the Singapore education system—as evidenced in the following assertion by the nation's leadership.

> Schools under the Special Assistance Plan (SAP) have a unique strength, with their strong Chinese heritage within a multi-cultural context.
>
> Prime Minister Lee Hsien Loong, 19 Nov 2013

This chapter examines how principals of SAP schools can leave a legacy that promotes the uniqueness of SAP schools in preserving traditions whilst reinventing themselves to thrive in a globalized world as well as in nurturing bilingual and bicultural students with a sense of responsibility to the nation. By corollary, the chapter asserts that school culture does have a significant contribution to good schools, and thus the important role of school leaders in building school cultures.

10.2 Theoretical Base

The two main theoretical bases of are used in this study are "the cultural force of leadership" and "cultural leadership" in Sergiovanni and Schein, respectively. According to Sergiovanni, when building a unique school culture, "the principal assumes the role "high priest", seeking to define, strengthen, and articulate those enduring values, beliefs, and cultural strands that give the school its unique identity over time" (Sergiovanni 2009, p. 137). The main leadership activities by the principal include (1) articulating the school purposes and mission; (2) engaging in legacy building; (3) telling stories that reinforce beliefs and traditions; and (4) explaining "the way we are doing things here". The two key aspects of cultural leadership are culture transmission and value cultivation from the leader to all the organizational members. Cultural leadership in culture transmission is a process of creating an organizational climate. Such a process comprises six cultural-embedding mechanisms, as Schein (2010) describes:

1. What leaders pay attention to, measure and control on a regular basis;
2. How leaders react to critical incidents and organizational crises;
3. How leaders allocate scarce resources by observed criteria;
4. Leaders' deliberate role modelling, teaching and coaching;
5. How leaders allocate rewards and status by observed criteria; and
6. How leaders recruit, select, promote, retire and excommunicate organizational members by observed criteria.

(Adapted from Schein 2010, p. 236).

Cultural leadership in value cultivation is a process embedded both in school administration and teaching and learning inside the classroom as well as outside of it. Such a process involves an identification of the core value system which reflects the unique cultural traditions of the school and exhibits the expectations of the personal qualities possessed by all its members; namely, the principal, teaching staff, non-teaching staff, and students alike. "Perseverance (continuous improvement)", for example, is a traditional Chinese cultural principle and it is held as a core value in the three SAP schools. Such a Chinese cultural principle serves to guide organizational members in their process of conscientious self-cultivation, which is expressed by Zhang and Ng (2009):

1. The vitality and strength of a person come from the continuous and unceasing efforts in cultivating one's inner strength and character;
2. This cultivation requires one to exercise perseverance, in doing things conscientiously and maintaining consistent efforts to cross hurdles and overcome difficulties; and
3. This continuous self-cultivation results in inner strength building. Thus the character of perseverance is long held as one of the most important values.

(Adapted from Zhang and Ng 2009, pp. 155–168).

10.3 Method

The case studies comprise a primary SAP school and two secondary SAP schools. The school historical legacy plays a significant part in supporting the school culture, and hence, the choice of SAP schools as they typically have a longer history than other non-SAP schools. Also, the choice of sampling is based on our convenient sampling as we have known the principals in our previous academic engagement (e.g. LEP participants). The limitation of resources further compels us as researchers in the selection of the sample schools. It is worth pointing out that as researchers, we suspect that a strong culture is not solely or predominantly dependent on the type of school (e.g. SAP, government, government-aided, or independent schools); rather on the school leader. Hence, the importance of investigating on how school leaders building school culture is underpinned in this study.

In terms of ethics procedure, permission was sought from the Ministry of Education, and confidentiality was agreed upon with research participants. The primary data collected was from individual interviews with principals, from which consent was given, and field notes. Data were collected in April 2014. Thematic coding was applied to generate relevant findings. The authors posit that the challenges of SAP schools are not peculiar to a single school, and that common themes would emerge among the three schools. The aims of the case studies are:

1. to examine how the principal harnesses the cultural force of leadership to promote and sustain the particular school's notion of success (Sergiovanni 2009) and how the values, beliefs and assumptions of the principal determine his practice of leadership; and
2. to portray leadership activities through which the cultural force is expressed, i.e. how the principal embeds and transmits culture (Schein 2010) and in enacting cultural leadership, how the principal inspires the commitment of students, teachers and others to pursue the school's purposes and mission.

Readers will find in the case studies how the three school principals harness the cultural force through carrying out the activities, to build up their respective legacy. Readers will see culture transmission and value cultivation processes in the three cases below with examples of the principals manifesting the above cultural-embedding mechanisms. Through our interviews and observations, we have noted the pertinence and effectiveness of these mechanisms the principals use in transmitting the school cultures to all the students, teachers and other non-teaching staff of the schools.

10.4   Case Study 1: Principal Huang

Principal Huang leads a popular primary SAP school. The culture which Principal Huang first encountered when he joined the school was one where the right of access to resources in school was determined by academic achievement. The school channelled the best resources to the best students. This was the deep-seated expectation of staff, students and parents. Students worked hard and competed for a place in the top classes, believing that they would get better resources and better teachers. This belief generated an overemphasis on academic achievement among all stakeholders.

Principal Huang's personal experience as a student was in stark contrast to the school experience of his students. He grew up as a student in a mainstream school. Mainstream schools, in our view, are considered mainstream schools insofar as they are government funded, not affiliated to religious or ethnic associations (e.g. SAP schools) and, are located in public residential locations. The school was not highly ranked in terms of academic results. He and his peers from diverse backgrounds initially struggled to improve the school, but their effort subsequently led the school to become successful. This personal experience shaped his views about human potential. Moreover, his experience as a teacher in mainstream schools further reinforced his belief that the potential of every student is limitless. He maintains that a school should not stereotype students at a young age and determine opportunities simply based on academic results.

Principal Huang recognized that changing the culture of a school which was much sought after by parents for its perceived high performance was not an easy task. In order for his teachers to change their beliefs and practices, he needed to

employ an evidence-based approach. He worked with his teachers to analyse data of their students' performance in the Primary School Leaving Examination (PSLE), a high stakes national examination is taken at the end of Primary 6. They observed that students in the top classes achieved good results, as expected, because they were streamed from a very young age (i.e. Primary 2), and annually throughout their primary school years. This practice means that from Primary 2, the expectation of a child's achievement has already been set. In addition, resource allocation was differentiated. Students in the top classes were given access to more challenging tasks. While this practice, at first glance, may seem to be educationally sound, for example, academically more able students would be better able to access more challenging mathematical problems, Principal Huang believes that the potential of the students from the middle and low progress classes may not be fully developed.

He urged his teachers to work at stretching the learning of the middle progress students, and supported them through better resource allocation. The school was able to significantly improve the achievement of an additional 10% of students from the middle progress classes in PSLE 2011. Their students' success moved the teachers to gradually abolish academic streaming. In the process, the school had to slowly win parents over and ensure that academic results were not compromised. At present, every class from Primary 1 to Primary 4 has a mixture of students with "low", "middle" and "high" levels of academic readiness. Teachers have high expectations of all students. Every programme is implemented across the entire level so that every child benefits. This broad-based approach has resulted in all students being given the opportunity to opt for Higher Chinese as a subject when in the past it was offered to the best-performing students only. Another outcome is that the school has done away with printing class positions in the report books, and awards are given to the top 10% of students without identifying the first, second and third positions.

Principal Huang is mindful that the school needs to persevere in developing a culture where every child is valued and given the chance to flourish, no matter which class he or she may be in. Again he turns to data to demonstrate that students who show a learning deficit in the early years need specific intervention so that the learning deficit would not accumulate over the years. Principal Huang launched a special programme which seeks to identify the intervention measures necessary to bridge the learning gaps in students who comprise the bottom 20% of the achievement table. The school recognizes that assessment literacy is an area teachers needed to focus on, and that success of the intervention measures centres on interdepartmental collaboration.

A challenge for Principal Huang in leading an SAP school is to preserve the strong Chinese culture of SAP schools among students whose home language is the English language. The additional funding which the school receives as an SAP school provides students with greater exposure within the curriculum time to aspects of Chinese culture such as Chinese brush painting, *gu zheng* (古筝) practice, and Chinese literature. For example, at Primary 3, 4 and 5, the SAP department developed school-based texts using Chinese classics like Journey to the West (*Xi You Ji* 《西游记》) and Romance of the Three Kingdoms (*San Guo Yan Yi* 《三国

演义》), which students enjoy. An advantage of being a much sought after school is that parents are very clear about their purpose in selecting the school. They are also very well-informed about what the school has to offer. While many of the parents had an English language education, they selected the school for their children because of the exposure to and immersion in Chinese language and culture. So, while the parents might not be proficient or frequent users of the Chinese language, they are all supportive of the focus on the Chinese language and the exposure to Chinese culture that their children receive. The parents give very strong support to the activities and programmes which are designed to improve their children's proficiency in the Chinese language. A valued outcome of the school's culture-building efforts is that many of their graduating students have chosen to continue their education in secondary SAP schools.

One of the key values that the school seeks to inculcate is showing gratitude because the school increasingly realized that the students take for granted what the school has done for them and do not readily express appreciation for what they have received. Therefore, the school explicitly creates avenues for the students to learn to express gratitude, and one way is the introduction of a wall where students can write notes to teachers, their fellow students or the school to express appreciation for the good things they have received. An example is that at the beginning of 2014, the school requested donations from parents for the purchase of additional standing fans for the classrooms, informed students about the donations, and asked students to write notes of thanks to the parents. Another way the school inculcates the value of gratitude is to help students realize that they have a responsibility to ask what they can do for the school and for one another, instead of focusing on what the school and others could do for them. The school gives students an opportunity to serve the school through activities which inculcated greater student ownership in caring for the school environment.

Another value that the school seeks to preserve is self-discipline. There is a perception among teachers who have been in the school for many years that current students do not seem to have as high a level of self-discipline as students of the past. Teachers observe that the students are not taking responsibility for their own learning, are less attentive in class and are not as responsible as students in the past in handing in high quality work punctually. To verify the teachers' observation, Principal Huang decided that the school should again employ the evidence-based approach to better understand students' experiences in school. He led the school in conducting a study on how social-emotional factors of his student's impact academic results. The findings of the study show that students perceive themselves as being low in control, where control is described as whether their friends follow the teachers' instructions, and whether they are on task. The data from the survey served as an impetus for the school to develop a special programme, which emphasizes self-management and relationship management. The programme adds to the holistic education that the school envisaged for the six years that the students spend in school. The school's vision is to develop each student into a dynamic learner who is socially responsible, and an innovator, bilingual communicator, and a sports and cultural enthusiast.

Principal Huang believes in the power of vision in shaping the curriculum. In developing every student into a dynamic learner, the school is very conscious of its responsibility in raising students' understanding about the multiracial complexity in Singapore. In cultivating the sports enthusiast, the school leverages on sports as a good platform for students to get to know students of other races and religions. In developing the bilingual communicator, the school raises students' awareness about racial harmony, and the need for sensitivity in the choice of words used for communication. For instance, the Primary 5 students worked with the nation's Internal Security Department (ISD) to learn about the impact of racial sensitivities on security in Singapore. As part of the project, students visited the ISD Heritage Centre to better understand the racial riots which occurred in Singapore in the past. In addition, they carried out research into ways to foster racial and religious harmony. The project culminated in an outreach where the students promoted greater awareness of the need for racial and religious harmony among visitors to a park near the school. Principal Huang acknowledges that his school has yet to arrive at the ideal state where every child in the school has opportunities to make friends with children of other races and religions. At the moment, the school tries its best to raise awareness, appreciation and sensitivity to other races and cultures.

10.5   Case Study 2: Principal Ng

Principal Ng leads a popular SAP secondary school. He has served in the school for a considerable number of years. Having grown with the school and having been immersed in its culture for a long time, he is confident of the alignment between the school values and his personal values. He emphasizes three school values: (1) Continuous self-improvement, (2) Win-win, and (3) Gratitude.

Principal Ng considers *Continuous Self-Improvement* to be absolutely necessary for the school's continued progress. Therefore, no matter how well the school has done, the school community strives to do even better. In its quest for continuous improvement, the school seeks to learn from other schools, local industries as well as education systems in other countries. For example, when a student team loses a competition, the students reflect on the strengths of the opponent and learn from the incident to improve their skills and attitude. The school teaches their students that they should not expect to win just because they have trained intensely and fought hard in the game nor should they dwell on self-pity when they lose. And, at the school level, it is *Continuous Self-Improvement* that motivated the school to look beyond Singapore to collaborate with schools and universities in the United States, Europe, Australia and China in developing a curriculum for the twenty-first century. For such an international collaboration to be successful, teachers themselves need to improve continuously, carry out research and envision the dispositions and competencies that would enable their students to thrive at the cutting edge of change. The school's progressive perspective has also attracted other foreign schools as well as multinational corporations in Singapore to seek collaboration in science research

and engineering. The school's philosophy of *Win-Win* shapes the school's teaching on effective teamwork, an essential competency in the twenty-first-century workplace. Students are taught that just as they desire to win in any given situation, they must also ensure that others are given fair opportunities to compete and succeed too. The value on gratitude is modelled by many alumni of the school who return to their alma mater to contribute time, money and resources. This mirrors the value of filial piety in the family context where young working adults are expected to care for their parents.

Principal Ng is deeply aware that as a cultural leader, a principal's words and actions will be scrutinized by the community and will have a great impact on both teachers and students. Thus, he takes every opportunity to make reference to school values when he talks with teachers and students so that those values guide the decisions made at various levels. Decision-making based on school values gives rise to a high level of consistency in the quality of decisions. Principal Ng engages his students in solving problems which directly impact the student body. He guides them through questioning in making values-based decisions.

Principal Ng believes that it is critical for the school to recruit teachers whose personal values are aligned with those of the school. At the selection interview during recruitment, he would explicitly inform the candidate that the school's value on *Continuous Self-Improvement* necessitates teachers to work very hard and seek continuous improvement. If the candidate is not prepared for this, then the school will not accept the application. At the Principal's first meeting with students during Secondary 1 orientation, he would similarly stress on the value of *Continuous Self-Improvement.* Principal Ng is of the opinion that school values must be the subject of frequent meaningful conversations among members of the school community in order that those values are well inculcated and expressed in daily life. Therefore, as a result of the attention given to the school values, students would look out for the expression of those values by their teachers and, among the teachers themselves, there would be a high level of peer expectation to live those values.

Principal Ng highlights the role modelling of gratitude by the alumni to impress upon his students that such gratitude of former students should inspire them to continue to serve the school even after graduation. He assures them that every effort is appreciated. The school has had a long history of dedicated service by members of the alumni.

Principal Ng opines that interpretation of Chinese values must also evolve with changing context. For example, respect for authority must not be taken to mean blind obedience, as in the past. It entails giving respect when respect is due; that is, people in authority must earn the respect of others by their words and deeds, and not expect to be respected by virtue of their position. For instance, while Principal Ng expects his students to respect their teachers, he first expects his teachers to be worthy of the respect of their students. In his endeavour to build a culture of respect, Principal Ng appreciates the significance of partnership with parents in the character formation of his young charges.

Values taught in school are expected to be reinforced and modelled at home. At the start of every school year, Principal Ng meets with the parents of all his students. Besides informing them of the focus of the school year and updates in the curriculum, he gives emphasis to respect for teachers. He contends that if a parent does not respect his child's teacher, neither would the child respect his teacher. In such a scenario, the child would not benefit from the education that the school offers. However, he also stresses that teachers in the school must first earn the respect of the students.

The school is cognizant of its responsibility to prepare its graduates to succeed in a multiracial and multicultural work environment in Singapore as well as abroad. In fact, Chinese culture in Singapore can be different from Chinese culture in Beijing. Hence, the school introduced a course on cultural intelligence to explicitly teach students respect for other races, nationalities and cultures. Additionally, in so doing, it seeks to address the perception that the students in SAP schools do not have sufficient opportunities to learn to live in harmony with students of other races in Singapore. In light of the evolving demographics in Singapore, Principal Ng views it as vital for schools to teach respect for and appreciation of other cultures and nationalities, not just races. The course on cultural intelligence is augmented by opportunities for interaction with students of other races through combined co-curricular activities and community involvement programmes with neighbouring schools. Principal Ng believes that if the school's philosophy of *Win-Win* and respect for others is internalized, graduates of the school will be able to work harmoniously with all people in Singapore, regardless of race or nationality. It was reported that the fact that numerous graduates of the school have excelled as leaders in industry and public service is testimony to the school's success in values inculcation.

Similar to other SAP schools, a challenge for this school is in fulfilling its mission of nurturing bilingual and bicultural students who are steeped in Chinese language and culture. Principal Ng said that the school is in the process of redesigning its curriculum so that the learning of Chinese language will be more inviting to the students, and the expected standard of the subject will not seem so daunting and out of their reach. Most notably, the school would de-emphasize examinations and focus instead on the joy of learning the language in order to strengthen students' motivation and proficiency in learning. As teachers are instrumental in creating the change, he assures teachers in his school that they need not be overly worried about grades but should instead focus on encouraging a love for the language. The intent is to enable students to appreciate the beauty of the Chinese language and enjoy Chinese drama, songs, historical accounts and other aspects of Chinese culture. This approach encourages students to think in the Chinese language when they use it in daily life, instead of thinking in English language and then translating their thoughts into the Chinese language. Proficiency in the Chinese language will be advantageous to his students when they interact with Chinese-speaking people the world over.

10.6   Case Study 3: Principal Poh

Principal Poh heads a popular SAP secondary school which offers a 6-year programme. He leverages on symbolic and cultural leadership to take his already high performing school even further. He believes in the effectiveness of balance. He leads his school in attaining a balance between:

1. The inculcation of traditional Chinese values and the cultivation of critical and innovative thinking;
2. Developing biculturalism and appreciating multiculturalism; and
3. The best of thought in Eastern and Western philosophies to inculcate values in students.

He said that a visitor to an SAP school will first notice the artefacts such as the logo and landscaping, which identify it as a school where Chinese culture is pervasive. However, this is only the surface layer of the SAP culture. The deeper distinguishing feature of the SAP school is in the inculcation of values. The school strives to ensure that all students have an internal moral compass to navigate their life so that they can make the right choices and do right things even when no one is looking. School values are emphasized at the induction of new staff by Principal Poh, his Vice Principals and other key personnel, including the Administration Manager. New staff and visitors alike will see these values displayed in many areas of the school. He believes in intensive enculturation so that new staff can fit well into the "family" culture of the school where all are expected to work very hard in a collegial environment. The school values are similarly emphasized at the orientation of new students.

Principal Poh also pays attention to the cultural artefacts in the school, and references them when talking with staff, students and visitors about the merits of preserving traditional values. He uses these symbols, signs and images to focus the mental, physical and emotional energy of the school community to strive for the school mission as well as school vision. Principal Poh draws attention to the teachings of Confucius, which guide the character formation of his students.

In addition, Principal Poh believes that the best way to serve is to be the leader. Although the school is high performing in the academic domain, Principal Poh does not emphasize academic achievement but emphasizes the need for his students to learn that as leaders, they ought to care with a good heart, serve diligently and lead with wisdom. Principal Poh is a firm believer that a happy child will be a performing child.

On gratitude, each time a student wins an award, he or she will take a photograph with the Principal as a reminder of the value of gratitude and the call to serve his or her alma mater. Alumni who return to serve the school take photos of themselves a visual record of their commitment and for remembrance. These photos, in turn, inspire current students and transmit the value of gratitude. Former principals of the school form strong bonds with one another and with the incumbent principal by fervent identification with this value. These former principals model

the value of gratitude through their continuing support of school events which serve as opportunities for them to rekindle good relationships with one another and with the school.

How does a school which places great emphasis on the inculcation of traditional values balance it with nurturing students in twenty-first-century dispositions and competencies? The school explicitly states this desired outcome: "twenty-first-century skills—effective in collaboration, communication, critical thinking and innovation". This is achieved through their customized curriculum consisting a multiple of programmes to promote interdisciplinary learning and application of knowledge to real world problems. Students develop not only the language skills but also the appreciation of culture when they learn both English and Chinese as their first language in the school. Furthermore, Principal Poh takes it upon himself to personally develop high potential staff and students by giving them stretch assignments and mentoring them to a high level of performance. Staff and students know that when they discuss work with Principal Poh, he would add value to their work by challenging them to think in novel ways.

Another distinguishing feature of SAP schools is the nurturing of bilingual and bicultural individuals. Principal Poh credits the success of this feature in his school to the strategic development of bilingual culture in the school. Students experience immersion in both languages, i.e. Chinese language and English language. All school publications, including the school website, are in two languages.

Principal Poh leads in culture building by using both languages when he gives speeches and also when he communicates with staff, students and parents. In his speeches to parents, Principal Poh would use English language 80% of the time and Chinese language 20% of the time if his speech was on systems, processes or programmes. He would use Chinese language 80% of the time and English language 20% of the time if his speech was on Chinese tradition or values. However, Principal Poh uses the English language at meetings with teachers who are not Chinese. He takes pride in the fact that a number of non-Chinese teachers have served in the school for more than 20 years. The key personnel of the school also model proficiency in both languages in their communication.

Moreover, the school introduced a subject where students learn about Chinese tea culture, calligraphy, painting and Beijing Opera. This subject is non-examinable and is infused into the daily curriculum. Students at Secondary 3 are introduced to Chinese translation. Students can pursue this learning further in a Chinese translation course to be offered as an "A" level subject. More importantly, students with English-speaking home background are immersed in Chinese language and culture from the moment they join the school through the comprehensive induction programme where the school's history and heritage are explained in the Chinese language. Their proficiency in the Chinese language is further developed because all students are given the opportunity to offer Higher Chinese as a subject.

With such a strong focus on bilingualism, how then can the school develop sociocultural sensitivity and awareness in students living in a multiracial and multicultural society? Principal Poh asserts that Chinese culture is itself an inclusive one. To inculcate the appreciation of other cultures, students learn the Malay

language. The school collaborates with other schools in the neighbourhood on combined learning journeys, co-curricular activities and cultural performances. Furthermore, some students of the school participate in an exchange programme with a school in Malaysia. Going forward, the school will continue to create opportunities for their students to have sustained interactions with students of other races in schools within the neighbourhood.

10.7 Discussion and Conclusion

The three principals of the SAP schools demonstrate that they are able to harness the "cultural force" in building unique models of school culture. They share a common purpose in developing their students into persons of character. As cultural leaders, they prioritize the character formation of students in their schools, where values such as gratitude, diligence, responsibility and excellence, are inculcated. When these principals demonstrate the cultural force of leadership, they define, strengthen, and articulate those enduring values, beliefs and cultural strands that give the school its unique identity (Sergiovanni 2009). In articulating the school purposes and mission, in inducting new members of the school and in reinforcing beliefs and traditions, the principals as cultural leaders, create in the staff and students a sense of identity and feelings of belonging to a moral community.

The study of the three principals affirms the impact of a principal's personal beliefs and values on the culture of the school. In the case of Principal Huang, his experiences as a student and teacher in mainstream schools, provides a different lens through which he views success for all students. An evidence-based approach together with an early success which appealed to the emotions of the teachers enabled him to initiate a cultural shift in his school. Principal Huang perseveres in deepening his teachers' belief in the new story of success so that the new culture can firmly take root. On the other hand, Principal Ng strengthened the culture of his school and enabled it to move further towards its ideals because of the tight alignment of his personal values and the values of the school. Principal Poh makes visible his belief in achieving balance through his leadership actions.

The practices of the three school principals with respect to culture transmission and value cultivation show that all of them emphasized the heritage of the Chinese culture; accentuating the values of "sincerely (*cheng* 诚)", "integrity (*xin* 信)", and "perseverance (*zi qiang bu xi* 自强不息, continuous self-improvement)". This displays the principals' shared belief that a manifestation of the core values, once firmly taking root and embodied by the teachers, will warrant a success in the students' character building.

In assuming their cultural leadership, the three principals have successfully transmitted their schools' values through a set of "culture-embedding mechanisms". As leaders of SAP schools, they have developed visions to build on the unique

character of their schools in developing students who are grounded in traditional values, yet twenty-first century ready and bilingual, adept in relating well in a multicultural society. The principals led in the design of curriculum to achieve their vision but more importantly, they communicated the significance of what they had to do, energized stakeholders and induced commitment. Their daily actions had to reflect their purpose and intention so that the attention of staff and students would be directed to what is of value to the leader, participate in work which is highly meaningful and which gives them a sense of personal significance and motivation.

10.8 Questions for Reflection and Discussion

1. To what extent might the challenges of culture building in mainstream schools be similar or different from culture building in SAP schools?
2. What might be the challenges faced by school leaders in developing school culture in new schools?
3. What might be the challenges faced by first-time principals in developing school culture?
4. What Asian cultural values underpinned successful and improving schools in Asian societies?
5. What further research questions need to be answered in matters of culture building?

References

Cui, B. (Ed.). (2007). *The book of changes (Zhou Yi 《周易》)*. Zhengzhou: Zhongzhou Classics Press.

Liu, J. H. (Ed.). (2006a). *Confucius analects (Lun Yu 《论语》)*. Beijing: Beijing Press.

Liu, J. H. (Ed.). (2006b). *Great learning (Da Xue 《大学》)*. Beijing: Beijing Press.

Ministry of Education. (2010). *Mother tongue language review report 2010.* [Press release]. Retrieved from http://www.moe.gov.sg/media/press/files/2011/mtl-review-report-2010.pdf.

Schein, E. (2010). *Organizational culture and leadership* (4th ed.). San Francisco, CA: Jossey-Bass.

Sergiovanni, T. (2009). *The principalship: A reflective practice perspective* (6th ed.). Boston: Pearson.

Zhang, Y. M., & Ng, P. T. (2009). Exploring *Yi Jing* and its implications to leadership. *Chinese Management Studies, 3*(2), 155–168.

Further Readings

Badaracco, L., Jr. (2002). *Leading quietly: An unorthodox guide to doing the right thing*. Boston: Harvard Business School Press.

Barrett, D. J. (2008). *Leadership communication* (2nd ed.). Boston: McGraw-Hill.

McKee, A., Boyatzis, R., & Johnston, F. (2008). *Becoming a resonant leader*. Boston: Harvard Business School Press.

Ubben, G., & Hughes, L. (2010). *The principal: Creative leadership for excellence in schools* (7th ed.). Boston: Allyn & Bacon.

Western, S. (2013). *Leadership: A critical text* (2nd ed.). UK: SAGE.

Character and Citizenship Education

11

Zoe Boon and Benjamin Wong

Abstract

Schools in the Singapore education system have traditionally served two key functions: economic sustainability and social cohesion. Even though the desired outcomes of Singapore education have given greater emphasis to values-based and student-centric education, maintaining social cohesion remains to be fundamental to a small multiracial nation state. This chapter thus focuses on the latter—describing the evolution of policy initiatives pertinent to nation building. The introduction of the new Character and Citizenship Education (CCE) curriculum to all schools in 2014 marks the most recent system-wide policy initiative that emphasises character and citizenship development. Three school leaders from different school contexts were interviewed to elicit their views and roles concerning CCE implementation, and the challenges and lessons learnt in their leadership roles in CCE are elaborated in this chapter. Among others, it is essential that CCE is not another add-on to educators' work profile—rather something that is pervasive throughout students' experiences in school. Hence, building communities within schools that truly value character and citizenship.

11.1 Introduction

Nation states require citizens for defensive purposes, and to pursue and sustain policies aimed at the common good. Schools have a part in the moral development of the young, and to socialise them into values necessary for the survival and growth of the country. Moral and character formation would seem to be an integral

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part of citizenship education (Althof and Berkowitz 2006; Halstead and Pike 2006). As societies become increasingly pluralistic and complex with economic globalisation, more governments have taken greater interest in character and citizenship education (Arthur 2003; Berkowitz and Bier 2007). Economic progress has led to concerns about selfish behaviour and declining moral standards (Arthur 2005; Law 2006). On the other hand, there are increasing concerns that communities are being divided along socio-economic, cultural, ethnic and religious lines (Keddie 2014; Fleming and Lovat 2014). Schools clearly have a vital role to play in helping to unify people of different backgrounds and beliefs to live and work together (Halstead and Pike 2006). And although much has been said about the character/moral and citizenship education, there is a gap in the research on the role that school leaders play in promoting it (Xu and Law 2015).

11.2 The National Education

Since Singapore's independence in 1965, character and citizenship education has always been an area of national concern. However, in 1997, a watershed period for Singapore education, the National Education (NE) was introduced as one of the several policy initiatives. It is considered especially necessary for a young country with a multi-ethnic population, and as an essential component of the country's nation-building project. It was also formed in response to official concerns about students' lack of knowledge of Singapore's history. The objectives of NE is to develop national cohesion; to raise awareness of challenges and constraints on the country's development; cultivate in students the instincts for survival; and instill in them confidence in the future of the country. At the same time, NE has become an increasing challenging topic to teach. In 2007, the then Minister of State for Education Lui Tuck Yew reported that while students enjoyed NE in primary school, "they became somewhat skeptical of NE at the secondary level and beyond. A good number found Social Studies, which they equated most with NE, as burdensome, boring or worse, relegated it to 'propaganda'" (MOE 2007). As students progressed from primary to secondary school their attitude towards NE became "more apathetic and cynical" (MOE 2007).

Since Singapore's independence, the curriculum for character and citizenship education was reported to have undergone as many as 12 changes (Lee 2013). Notwithstanding the various developments that had taken place pertaining to character education (e.g. Civics and Moral Education, Social and Emotional Learning) and citizenship education (e.g. NE curriculum), the Character and Citizenship Education (CCE) curriculum, introduced in 2014, seeks to integrate both character and citizenship education together. The CCE curriculum was developed partly in response to changes in the external environment. Economic growth not only brought about a widening wealth/income gap, it was also accompanied by a large influx of foreign workers resulting in greater sociocultural diversity in the country. This, together with increasing complexity in economic and political

developments in the country, has contributed to an urgent call for a national curriculum that not only addresses the role of educating the young about the nation's history (as in the case of NE), but also to help shape students into "good persons and responsible citizens" (Heng 2011).

11.3   Character and Citizenship Education

One prominent feature of the CCE curriculum is that it is designed for learning to pervade all levels and aspects of the school system. The CCE syllabus is underpinned by six core values (Respect, Responsibility, Resilience, Integrity, Care and Harmony) and three overarching ideas (Identity, Relationships and Choices). These three overarching ideas are covered in six domains, starting with (i) Self (Being who I am and becoming who I can be) and extending to the (ii) Family (Strengthening family ties), (iii) School (Fostering healthy friendships and team spirit), (iv) Community (Understanding our community and building an inclusive society), (v) Nation (Developing a sense of national identity and nation building) and the (vi) World (Being an active citizen in a globalised world).

The CCE curriculum comprises the following components (MOE 2014):

1. *CCE lessons*: Time is set aside for the explicit teaching of knowledge, skills, values and attitudes.
2. *Form Teacher Guidance Period (FTGP)* (in primary schools only): This is dedicated to the teaching of social and emotional competencies and building teacher–student relationship.
3. *School-based CCE*: This can be featured in any school programmes such as Co-curricular Activities (CCAs), Values in Action (VIA)[1] programmes, school-wide commemoration of the four key NE events and any assembly programmes linked to CCE.
4. *CCE Guidance Module*: Here, specific programmes such as Education and Career Guidance, Sexuality Education and Cyber Wellness are undertaken.

School leaders are required to customise the national CCE curriculum to their specific contexts. They have to design and implement school-based programmes to achieve the objectives of CCE in a holistic manner. Teachers, under the leadership of their school leaders and management team, play a pivotal role in the effective implementation of the new CCE curriculum. They are responsible for breathing life into the new CCE curriculum, making the plans meaningful in the lives of each child. Teachers are constantly reminded on the four key principles in implementing the CCE curriculum:

1. "Every teacher a CCE teacher"
2. "Values are both taught and caught"

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[1]VIA programmes focus on the development of students' civic consciousness and often involve participation in community-based projects.

3. "Engage students through varied modes of delivery"
4. "Parents as key partners"

CCE is expected to become the culture of every school. Every adult in the school environment plays an important role, directly or indirectly, in educating each child. Besides the primary roles of school leaders, teachers and parents, other stakeholders in the larger community are also enlisted to help enrich the teaching of CCE. The new curriculum includes platforms for schools to engage and develop close partnerships and collaboration with community groups such as the National Heritage Board, National Parks Board, Health Promotion Board, Ministry of Defence, other educational institutions, as well as private institutions to promote character and citizenry values.

Bearing in mind the growing importance of character and citizen education along with challenges that bear upon it faced by leaders and teachers in schools, it is therefore important—as much as interesting—to have a greater sensing at what is taking place at the ground level. This chapter attempts to offer a perspective on character and citizenship education from the perspective of Singapore school leaders.

11.4 Method

To understand how Singapore school leaders interpret and drive the CCE curriculum, the interviews were carried out with three school leaders, one each from a primary school, a secondary school and a junior college. They were purposively selected because they have in place a CCE framework. The difference in the different school types serves to uncover similarities and differences, if any. Once informed consent was given, data was collected from one-to-one interviews. The collected data was analysed according to the questions outlined below.

1. What are your general views of the CCE curriculum?
2. How do you interpret and implement the CCE in your school?
3. What role do you play in the implementation of the CCE?
4. What are the problems and challenges you face in implementing or enacting the CCE?
5. What leadership and management lessons did you learn from your experience in the implementation or enactment of the CCE?

11.5 Principals' General Views of CCE

One common view among the three principals is that the CCE policy initiative is not "new" as all schools have been carrying out lessons and school programmes on values inculcation and citizenship education. One principal noted:

Character development and citizenship education has always been important in Singapore schools. In this sense the recent CCE curriculum is not new. We already had in place various national initiatives such as Civics & Moral Education (CME), National Education (NE) and Co-curricular Activities (CCA), as well as the more recent 21st Century Competencies Framework (21CC)…What is essentially new here is the consolidation of these existing national initiatives under a single framework and to build upon current good practices so that CCE remains relevant to prepare our students for the future.

On the other hand, the new CCE policy is a welcome gesture as there is a clear focus on the holistic development of the child. Furthermore, the principles underlying the new CCE curriculum are clearly aligned to the "Student-Centred, Values-Driven" initiative introduced by Education Minister Heng See Kiat (Heng 2011). The principal further noted:

There's this clear focus on holistic development of the child, and it's also in alignment with what the Ministry is advocating - students being values-driven in education.

Another principal added:

The new 21st C competencies framework is a timely and effective way to renew the purpose and direction of CCE, as it is anchored on R^3ICH (Respect, Resilience, Responsibility, Integrity, Care, Harmony) values and SEL (Social Emotional Learning) competencies … Such clearer sense-making and stronger signalling of the importance of CCE affirm the commendable efforts of schools in providing a holistic education, and helps to motivate them to continuously explore innovative and effective pedagogies to customise CCE for their students.

The principals also found the integration of several civics and nation-building initiatives into a single integrated framework timely and beneficial. One principal summarised the benefit:

More and more parents and teachers are recognising the importance of having the right values and commitment to the wellbeing of the country. So when the CCE policy was rolled out, it reinforced what we have been doing and provided further support as well. It deepens the conviction, the commitment level.

In the secondary school, entrepreneurship values are integrated into the CCE curriculum. Students are encouraged to develop sustainable social enterprises, and are empowered to select any charitable organisation to help. Through these activities, they learn a variety of skills—planning and budgeting, product pricing, branding, marketing, accounting—in line with the school's Learning for Life Programme. The principal observed that,

By creating all these entrepreneurship programmes, the teachers found that the students were talking about their (social enterprise) activities during their oral exams. So we're actually giving them things to think about, content for their orals as well as for their writing.

Delivery of CCE lessons at the post-secondary levels is generally student-led and theme-based to inject CCE with an element of fun. In the case of the post-secondary school, the implementation of CCE programmes has led to improved results in the school's key survey indicators such as the Quality of School Experience (QSE) and MOE NE Study. For example, in the MOE NE study, the

school performed above the national junior college average. The secondary school principal attributed this to the approach taken in CCE implementation:

> These results reflect the success of our CCE in providing a holistic education that enhances the quality of school experience for our students. Involvement in meaningful VIA (Values in Action) projects have helped to shape positive perception towards national education.

The secondary school principal also reported improvement in the school's staff engagement scores, which he attributes partly to the holistic approach required by the CCE framework:

> Our main driver for Staff Engagement was Innovation, which scored a high 81%. These results could be attributed to the successful way the college engages staff in terms of role modelling, clear communication, staff ownership and capacity building that was partly inspired by the implementation of CCE.

11.6   Interpretation and Implementation

It is evident that the CCE policy initiative is about revisiting current practices in the teaching and learning of values in schools. It is a call at the systemic level for all schools to review and rethink the context of providing a holistic education in schools. As one principal pointed out:

> The CCE policy is not new. To me, it is about a sharper focus. So I look back at what we have, why we have that, and that is why we must be very clear about our own vision, and how CCE fits into that vision.

This notion of alignment and "fitting" into the existing school vision is a pragmatic one. As each policy initiative is rolled out to schools, the principals need to interpret and make sense of the policy before communicating to the others in the school community. In situations where there is a "perfect fit", implementation would be less cumbersome.

The primary school principal shared:

> When we talk about CCE, every teacher is a CCE teacher. So there's no such thing as English teacher, Maths teacher, Science teacher. Every teacher is a CCE teacher…And with regard to "student-centric, values-driven"–we kept linking it back to our vision, to the strategic thrust so that the teachers didn't see it as an add-on work. It was already in existence in the school. So now we only need to convince teachers that the quality of implementation can be worked on and improved

The secondary school principal said,

> In my school, the alignment (between CCE and the school's values) is clear. Service to community is part of nation-building. We're preparing our kids here to love their country, to serve the people, not just serve Singaporeans but the community. We embrace visitors, guests, people who come into Singapore. So it fits into our frame, and with that, we very quickly adopted CCE in our creative way.

The junior college principal said the following:

> Many current practices in terms of CCE learning objectives, approaches, processes and programme are aligned to the previous initiatives such as CME, NE and CCA which are under the new CCE Framework. Yet we know that beyond the MOE-based CCE Syllabus, we can better leverage CCE to support academic excellence for the unique profile of our students who need to strive hard to achieve academic excellence and balance other non-academic commitments, as well as to differentiate CCE for students of varying abilities.
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> We ask ourselves questions like, after 10 years of education (in primary and secondary school), when they come to our doors, what do we have to give them in terms of CCE? One would imagine that they've gone through many, many assembly talks, and CCAs and leadership camps, and many things. So we want to build on the good work, and still ask, so what more can we offer them?
>
> So our core focus will be to give them leadership so that they can become leaders. Then the next part of this will be to say, so how does this relate to the Vision? Basically we're talking about championing change, we're talking about developing leaders and advocates. That's where the three tiers come in—first you lead yourself, then lead others, and finally become leaders of leaders.

The responses of the school leaders reflect their efficacy in understanding and interpreting the intent of policy initiatives. Their constant reflection and sense-making of the CCE curriculum within the framework of their respective school's vision and values ensure that the overall school programmes and structures to support these initiatives are comprehensive, integrated and implementable by the staff.

11.7   Role of School Leader in Implementing CCE

School leaders play a pivotal role in the effective implementation of the CCE policy. They lead as strategic thinkers, people developers, curriculum leaders and network partners. Their roles are multifaceted and demanding. They have to strategically identify the appropriate key personnel to drive the CCE policy initiative. This has to be further supported by the school leader in numerous ways so as to engage the staff and stakeholders in the effective delivery of the school-wide CCE programmes.

The following are the principals' responses about their leadership roles:

> As a leader, a very important thing is to establish the goals and vision concerning CCE. Why is that important? We have to make things clear. This also helps to build trust - people know what is expected of them. There is less fear of change because you are transparent about what you expect from your staff. My role is also to work with the relevant people, so we work towards a plan that is owned by everyone, because if that plan is not owned by everyone, the rate of success will not be at a desired level. But it's also about resourcing strategically, because there are so many things to do at a school level. So how do we resource strategically? How do you mobilize the team here in such a way that you get

maximum impact? And finally, my role, be it for CCE or for anything, I always believe in getting my staff to reflect the 'Care to Learn' principle.

I see myself as a facilitator. MOE has good intentions. They have a task force that looks into what is urgently needed; they have the overview, the wide perspective. On the other hand, our teachers are occupied with the knowledge-based things, focused on academics for the kids. As school leaders we need to make sure other aspects of schooling are attended to. So if directives from MOE come down in chunks, and even if MOE trains our middle managers, we cannot be sure that they will be able to advocate these policies. So it's up to me, as principal. I take what the Ministry says and filter it down. I have to reflect on it and unpack it. I think about what I have to do to move it into the school, and translate it so that it is strategic, innovative, and that there can be tangible outcomes so that students and teachers can experience success and achievement.

School leaders also play key roles in strategic deployment. A top priority is to identify appropriate internal leaders at various levels amongst the middle management team to help in spearheading the implementation of CCE. One principal explained:

When you want to do something major, you need a driver; sometimes you need more than one driver. When there is no specific driver, there will be a lot of gaps. So we have to hand-pick drivers. So for each of the components, I match the personality of the person to the job. If you talk about the Community Outreach, I pick a person whose HR is very strong, and who's willing to go beyond the call of duty at all times, because if you're talking about working with the community, you're talking about interacting with parents, residents, and businesses. When you talk about leadership, you're talking about somebody who is very interested in the development and enhancement of kid. So we have to find someone who is absolutely good with promoting children's growth and development.

Strategic deployment may require internal reshuffling of job responsibilities and even changes in job descriptions. The principal used the term "re-choreographing" to describe how she reorganised key personnel in the school to support the implementation of the CCE:

We found one HOD who is very interested in social enterprise, but he is heading another department. As a leader, I don't want second best. So what we did was to ask him to surrender his second-in-command, and groom that second-in-command to take over his department so that we can have this person for the Social Enterprise programme. So we are looking for the best match and we will not compromise. That means that if we have found a suitable leader, we will work at morphing and re-choreographing our team.

In Singapore schools, the overall organisational structure is designed and defined by school leaders. Vice-principals support the principal and oversee the work of a team of middle leaders that include the Heads of Department (HOD), Subject Heads (SH), Level Heads (LH), Senior Teachers (ST), Lead Teachers (LT). The team of middle managers, in turn, oversees the work of teachers under their respective purviews. In the implementation of the CCE policy, one overriding principle is that "All teachers are CCE teachers". A cross-disciplinary approach is adopted at a strategic level to mobilise the entire management team and encourage ownership and participation by as many staff members as possible. For example, the secondary school leader explained:

> We have to collapse the departments. As the Humanities and Student Management teams work very closely, we decided to merge them into one to handle the CCE. Then we felt, this is still not enough, because it's really very broad. So we talked about it and appointed a Level Head who also happens to be Subject Head for Partnership, because we see Character and Citizenry very much a part of the Partnership framework. Next, we shifted a HOD from another department to head Innovation, because now we need someone to connect with industries and community organisations outside…We like to reach out to everyone so that no one is left behind, and in order to do that we have decided that we will do CCE via CCAs (Co-curricular activities).

In the context of CCE, school leaders have to ensure that national messages and symbols are taken seriously. For example, a school leader shared how she approached the challenge of making the national anthem meaningful for students:

> One of the very basic things that we need to instil is national pride in the students. If we are not proud enough, not willing to sing the National Anthem, then how can we go on from here? So we started off with giant, humongous displays of the translation of the National Anthem at the parade ground.[2] So when they stand there, they sing and they look up and see the English translations of the anthem. So for the next four years that they spend at school, they will remember the translation and when they go out, when people talk about the National Anthem, they know what it means.

School leaders need to "walk the talk", and be role models who live the values of character and citizenship. They role model to the management team on how to deliver clear communication, build up staff ownership and facilitate capacity building so that the management team can in turn engage other staff members. They have to be more conscious about the symbolic dimensions of their actions as leaders. This was aptly expressed by the junior college principal:

> The college has a policy for all staff and students to ensure that work is not compromised. Using the Learning Organisation concept of creative tension, the college sets high expectations, and ensures that there is "high care" in managing the creative tension. As principal I must ensure that all of us are not only acting in alignment with our values, but must be seen to be doing so. This may create more work for staff, so it's important for school leaders to provide even greater support such as creating time and space for discussions on CCE teaching and learning. The bottom line is to ensure that all things are considered in an integrated way and that all the various aspects of school programmes are synergistic and sustainable over time.

In engaging parents, school leaders ensure that they communicate with them on a regular basis by organising briefings, disseminating letters and providing information that directly or indirectly addresses school values to garner support from parents as partners in values and citizenship education. In the primary school CCE curriculum, MOE has made available textbooks and workbooks to engage parents. In addition, schools develop their own resources to encourage parental

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[2]A distinctive feature of Singapore is that it has four official languages: English, Malay, Mandarin and Tamil reflecting the dominant ethnic groups in the country. Malay is the national language of the country. At the daily flag-raising ceremony, students sing the national anthem and recite the national pledge. The national anthem is in Malay, a language that is not familiar to the majority of non-Malay students.

participation; for example the primary school has developed a booklet to persuade parents about the importance of a holistic education:

> It's a booklet of values. But we try to be subtle about it. When briefing parents, certain key messages will be inserted…let's say a P6 briefing, one of the key things I'll always say before I speak, is, 'Yes, PSLE (Primary School Leaving Examination) is important, but what must always come first? The character of the child. He may end up with 4 A stars, but if the child is not resilient, he is not able to work with others, then we have failed as parents and we have failed as a school.

The primary school principal also shared:

> I've ensure that these values that we are trying to inculcate in the children are reflected in the letters I write to parents every term. I will get input from my KP and teachers on some of the things that are happening in school and link them to the different platforms for PSG (Parent Support Group). So it's our conversation to create that buy-in and that awareness.

11.8 Problems and Challenges

One challenge that school leaders face is the issue of beliefs and mind sets of teachers and parents. At the primary school, a perpetual challenge is one of overemphasis on academic pursuits at the expense of values inculcation:

> At the end of the day, in the primary school, the PSLE is the most important thing. So it's that perpetual challenge. I always have to convince teachers that if the pupils get these values right, it helps them in their learning. Let's say, for example, that they get the value of resilience right, this will have a positive impact on teaching and learning, we need to see this connectivity. EL (English language), Maths, Science and Mother Tongue subjects are important but that linkage to values is as important. So it is a perpetual challenge in schools. I feel that principals really have to talk about this constantly, and the words we use are critical. We have to convince and pull at their heartstrings and let them see that if we can get a child to overcome some setback. Isn't that preparing him to do better?

She continued:

> So I always say: every teacher is a CCE teacher, every child is your child. Teachers must be very alert to children's' behaviour and wellbeing. They must always be on the lookout for teachable moments either to correct certain behaviors or to reinforce good ones. So these are things that we don't take for granted.

The second set of challenges has to do with parents. Children often observe or experience tensions between the values at home and those promoted in school. In addition, principals often have to support and guide teachers in handling the few "difficult and unreasonable parents".

> The numbers (of difficult and unreasonable parents) are rising, that's one. Number two, I think it demands a lot of school leadership, you really need to have more interaction with the parents. Having said it all, that's how I also provide support to my staff. One difficult case with such parents can really deplete the teacher's energy.

Younger, less experienced teachers are usually less confident and even fearful in tackling issues of values conflict involving parents. The principal's presence, support and assurances become even more important during such times. With regard to these situations, one principal's constant message to teachers is: "do not fear, do what is right". She would also remind teachers:

> Let me just ask you all one question, which I always ask myself: What percentage [of difficult parents] is this? Perhaps 1% or 2% at worst. Why we are allowing these to drain us? Let us look at the other 98%. Are they not appreciative? We have so many emails from appreciative parents. So doesn't that tell you that we have been successful? We are building partnerships; we are winning the support of the parents. So I said look at the cup - half full or half empty? The choice is ours.

It has also been said that it helps to remind teachers not to lose sight of the "big picture":

> I said, "We have got to be very sensitive and alert, the environment has changed, so let us respond accordingly". We now have more and more challenging parents. It's very difficult, even personally for me. But I say, we walk in calm, and ask, "What is her [parent] goal? To support her child. What is our goal? To support the child." So let's start with that common understanding." So it helps us, otherwise it gets very tough because the teachers get very fearful, and I can see that they are very upset too.

The third set of challenges relates to the skill set of teachers. One of the school leaders offered the following incident as an example:

> Last week when I walked around to monitor, I found that the teachers misunderstood the intent of the CCE journals. We introduced the journal reflections a year ago, and they still need a reminder. Last term we did House Practice. So this term we had to go back to CCE journals. The linkages are not as strong as I wanted them to be. So for the 1 or 2 CCEs that I observed, I wondered whether the teachers remembered the underlying rationale of the exercise. So I called in my KP and the CCE Head Department and said, "Alright, what happened here? Why did I hear this? What's happening on the ground? Did we communicate this adequately?" So we had a meeting this morning before assembly. My key message to teachers is, 'What is our end goal? Character and Citizenship Education – is it just the values and SEL? So what should I be seeing? I should see you facilitating, and students' responses should be coming in.' So this is our way of providing support.

While CCE is important, school leaders are also mindful of the demands on students' time in both the academic and co-curricular domains. A case in point is shared by the secondary school principal:

> We are at the stage where we're trying very hard to motivate students to a higher platform and encouraging them saying, "You can do better. You're capable of leap-frogging into the next band." We take up more of their time, when I say more time, I literally mean more time because we're creating a lot of platforms for them to do all these things. It means everybody is fighting for time, for these kids' time. And this is a challenge in itself, a real challenge for us.

Her concern for the less academically inclined students is another challenge faced in school. She continued:

To me, the challenge now is to find that right balance for our kids so that they will not lose out in any way. The character building and their academic results pose a challenge to us. With good character building, we hope that they will be responsible people, and therefore they will study, right? They will prepare for their exams, they will prepare their work, and they will learn, and we believe that if they do well, their confidence is up, and they feel that they're more ready to contribute to the community—a virtuous cycle. We find that certain cohorts are very receptive, and they are going forward at full speed. But then what about those who are falling behind? That means they are grappling with their academics. So now it's time after one and a half years, to sit back at our next strategic planning session, to do a lot of review and ask ourselves very pertinent questions as to, even though it's CCE, can it be customised? We can't do everything by mass.

11.9 Leadership and Management Lessons

Through their experiences in leading in the implementation of the new CCE policy, the three school leaders have learned many lessons. The following summarise their learning:

1. *Principal as Chief Learner, Role Model and Being Present*

One principal personally involved in the entire process of CCE implementation shared that one key lesson for her is to lead and role model as a learner. She noted that the presence of school leaders at platforms where teachers are attending, for example, at CCE training or any MOE events that involved teachers is important for the principal as a symbolic leader carry powerful symbolic meaning to her staff. She said:

> While leading, I'm learning alongside with my staff. So it is important for me to be present as a learner, and to share with them that I too am learning, and I don't have all the answers. It is very important that even when I'm not there, that my presence is felt. I do this by sending out emails, to check on certain things, or to encourage them and to show them that I'm involved, I'm aware of what's happening, so that they feel my presence.

Another principal came to a similar conclusion:

> I've learnt with my people, with my team, that CCE becomes even more powerful when the hard sciences are integrated with the Humanities. And that's why we're using the Sciences, the Math, the Principles of Accounts (POA), especially POA, to drive the Community Outreach Programmes. So as a principal I'm actually learning, and new possibilities are opening up even more. I realise that my perspective has to expand each year. Each school that I go to, my thinking has to be revised. And I must be ready to do that, and as a principal if I keep on relying on my past experiences it's not going to work. I have to keep on embracing what is new, and always be prepared to learn.

2. *Accept Messiness While Managing Change*

Change is often messy. The impact of new policies, like CCE, can be a positive or negative experience for staff, depending on the mindset and perspective of the school leader. The principal's attitude towards change determines how things will pan out in the process of implementation. As one principal noted:

> If you want to create a culture of change, it's not only about establishing structures. You have to accept that there will be messiness, there will be people disagreeing. All these cannot be fully controlled. So how do you manage this? That's where I feel relationship-building comes in … Use existing structures, like my PLC, to support personal development, build programme coherence. Your people must help and care for one another, respect each other for the organisation to grow. So knowledge-creation and sharing also impacts some of these structures, because knowledge is about people, right? And finally, we must always have trust in the dynamics of change, so that the initially chaotic situations will eventually give way to something more stable. And I think as a leader, if I don't have the answers, I should not feel afraid to say, I don't have the answers, but I'm learning and make that conscious effort to find out.

3. *Shared Leadership and Management*

As experienced school leaders, their past successes may not always be useful or relevant with respect to new initiatives, as one principal observed:

> I find that my cohort teachers, majority are very young, and this is something that I really need to think very carefully about whenever I disseminate information, when I communicate with them. Because of my background and experience, I harbour certain assumptions that have served me well. But even though they are dear to me, I may have to discard them. In the past I had not been able to discard them in a timely manner. Consequently, I was caught in situations where I could not move in the direction I had planned and I had fallen back a little bit in such cases… So now I have learned to suspend judgment, to put more effort into getting to know people, and to share openly. As I get to know the people, it's become easier to convince the management team to be on board with me. I realise that things move better, faster, when my drivers are more committed, willing and keen to steer the school with me.

4. *Build Human Capital*

School leaders as people developers are strategic in planning for their staff to be continually developed professionally. In the case of CCE, building human capital is a natural step following strategic deployment of team leaders and teams to implement the CCE programmes. This is essential for a stronger sense of ownership and empowering staff to be effective enablers of the new CCE policy. One principal shared:

> As a principal, I was there also, to make sure that they were free to go down, learn and then to give them that structure for follow-up, and to ensure that there's collaboration when they come back, because very importantly I'm grooming that human capital. As principal you've got to be very mindful of the human capital, and you have to consciously build that human capital in your school for things to happen. … It's when your people are able to make sound decisions,… this is still work-in-progress, because you find that decisional capacity—the

teachers are still not very confident. A lot of things they come back to you, so we're trying to make that happen more and more.

5. *Clarity in Communication for Sustainability*

Embedded in the verbatim quotes above is the lesson about communications in a clear and timely manner in supporting change in the school. Experienced principals who have been effective and successful in their previous schools sometimes do run the risk of making assumptions about the state of readiness of people of the new school. Hence, these principals have to continually check with staff if there is a common understanding of the problems encountered in the process of implementation.

Also, building new initiatives into existing values and routines of the organisation in such a way that teachers do not see it as additional work is helpful for sustainability. Effective, open, trusting two-way communication to engage staff of various levels and at appropriate timings are crucial.

11.10   Discussion

It is evident from the interviews that the three school leaders do not regard the CCE policy initiative as a major policy innovation. The core purpose and intent of values inculcation and citizenship education have not changed since independence. This is a systemic refocus on what really matters beyond the narrow definition of the purpose of schooling. Expectations about the appropriate content, pedagogical approaches and methods of assessment are clearly spelt out in the repertoire of the CCE resources, which are made accessible to all teachers. School leaders further appreciate the training provided to teachers by MOE. In addition, the CCE policy initiative has sufficient space for schools to customise. MOE's new approach in inviting and encouraging schools to co-create their own unique CCE curriculum is a step in the right direction. Each school with its unique student and staff profile has the autonomy to develop its own teaching and learning materials using MOE resources as a guide. Schools will need to invest time and effort to customise the available resources to meet the specific needs of individual schools. Here is where leadership comes into play. The challenge for them is to "sharpen the focus", help staff to understand the intent and rationale, and see the alignment to their school vision and mission. Hence, school level conversations on what really matters in their schools and how best to meet the needs of their students have to start with the school leaders.

As key drivers of the CCE curriculum, school leaders have to ensure that they are doing the right things in the right way. They need to be creative, flexible, and reflective to come up with new ways of doing the same thing. They have to be sensitive to feedback and be ready to review and make amendments and adjustments where necessary. They need to monitor and support the delivery of the CCE

curriculum to ensure fidelity to the intent of the policy. While there are systems and structures in place for distributed leadership, school leaders need to ensure that teachers engage students through varied modes of delivery. CCE lessons and programmes ought to demonstrate the 5Ps, namely Clarity of **P**urpose, Focus on **P**upils, Create a holistic Ex**P**erience, **P**rofessional Development and **P**artnerships.

As CCE is focused on behaviours underpinned by values and attitudes, it is not easily measurable (or should it be "measured"?). There are few authentic yardsticks or rubrics to gauge what good moral or good citizenship really is. It is difficult to know if students are truly learning or imbibing the right values, or if teachers are effectively conveying the intended message. Hence, it is all more important for school leaders to constantly remind teachers to uphold the teachers' vision (Lead. Care. Inspire.) and the Singapore Teachers' Pledge. The Pledge exhorts teachers to "bring out the best in our pupils… to be exemplary in the discharge of our duties and responsibilities…to guide our pupils to be good and useful citizens of Singapore…[and] to win the trust, support and cooperation of parents and the community so as to enable us to achieve our mission" (MOE 2009).

These exhortations are ideals to aspire to. In practice, however, school leaders must be ever mindful of the many challenges that teachers have to face. There is, of course, the perennial problem of workload, coupled with the fact that teachers today assume multiple roles in order to manage a more demanding and complex educational environment. As for CCE, not all teachers fully appreciate nor subscribe to its values and purposes. The teaching of CCE is also made more challenging by growing numbers of teachers and students who are not citizens.

To ensure effective CCE lessons, teachers have to become good role models. This implies that teachers must possess sound moral values and hold the desired citizenship views. However, research has shown that while teachers encourage students to participate in community work, many teachers do not do so (Sim and Low 2012). Indeed, teachers may be unduly stressed by expectations that they constantly manifest the values that they teach in school. Some teachers lack the confidence, maturity, or experience to be effective CCE teachers and this can give rise to other issues. There may be topics that are controversial and teachers may lack the skills to facilitate discussions of these topics. School leaders therefore have to address the anxieties of teachers in the midst of these changes and expectations.

The findings above are consistent with contemporary literature on school leadership especially in terms of instructional and distributed leadership. The literature is increasingly showing that education reforms are well supported if leadership is dispersed throughout the organisation. Hence, the school principal, although has the primary influence to change, requires the support of other leaders such as middle leaders and teacher leaders to help in the implementation. The distributedness of leadership has been strongly espoused in the local context (e.g. Hairon and Goh 2015; Hairon et al. 2015). The findings also point towards the importance of instructional leadership. For education reforms to be implemented successfully, school leaders who are competent providing clarity of the policy initiative and goals to the rest of the staff members are required, along with appropriate role modelling. These two aspects have been recognised as aspects of instructional leadership

(Hallinger and Murphy 1985, 1987, 1988). Finally, it is also worth noting that school leaders—across the school organisation—needs to be able to work well in contexts of complexities (Ng 2017).

In summary, it is worth reiterating that Character and Citizenship Education is most impactful when it is pervasive in a student's education experience. The whole school has to be committed in values education for it to be sustainable (Oulton et al. 2004). The school leader plays a critical role in ensuring that there is integration of learning across disciplines and in every aspect of the school curriculum. There is a constant need to work with staff and stakeholders to refresh the rationale behind CCE and the learning outcomes to be achieved. Ultimately, it is the school leader who plays a key role in setting the school as a community that nurtures "the values, competencies, and dispositions in our pupils to enable them to become good persons and responsible citizens" (Heng 2011).

11.11 Questions for Reflection and Discussion

1. What leadership competencies and skills do school leaders require to facilitate effective implementation of the CCE curriculum?
2. What roles and responsibilities do school leaders have in promoting a healthy and positive teacher-student relationship?
3. Regarding the diversity of views and changing dynamics of citizenship: How can school leaders take the lead in a discourse with staff and students on these issues? What are some difficulties that school leaders may face in carrying out this conversation?
4. What focus or foci should future researchers investigate pertaining to school leadership and citizenship education?

References

Althof, W., & Berkowitz, M. W. (2006). Moral education and character education: Their relationship and roles in citizenship education. *Journal of Moral Education, 35*(4), 495–518.

Arthur, J. (2003). *Education with character: The moral economy of schooling*. London: RoutledgeFalmer.

Arthur, J. (2005). The re-emergence of character education in British education policy. *British Journal of Educational Studies, 53*(3), 239–254.

Berkowitz, M. W., & Bier, M. C. (2007). What works in character education. *Journal of Research in Education, 5*(1), 29–48.

Fleming, D., & Lovat, T. (2014). When encounters between religious worldviews are a threat: Applying triune ethics theory in a religiously diverse landscape. *Journal of Moral Education, 43*(3), 377–393.

Hairon, S., Goh, J. W. P., & Chua, C. S. K. (2015). Teacher leadership enactment in PLC contexts: Towards a better understanding of the phenomenon. *School Leadership and Management, 35*(2), 163–182.

Hairon, S., & Goh, J. W. P. (2015). Pursuing the elusive construct of distributed leadership: Is the search over? *Educational Management Administration and Leadership, 43*(5), 693–718.

Hallinger, P., & Murphy, J. (1985). Assessing the instructional management behavior of principals. *The Elementary School Journal, 86*(2), 217–247.

Hallinger, P., & Murphy, J. (1987). Assessing and developing principal instructional leadership. *Educational Leadership, 45*(1), 54–61.

Hallinger, P., & Murphy, J. (1988). Characteristics of instructionally effective school districts. *Journal of Education Research, 81*(3), 175–181.

Halstead, M. J., & Pike, M. A. (2006). *Citizenship and moral education: Values in action*. London: Routledge.

Heng, S. K. (2011). *Opening address by Mr Heng Swee Keat, Minister for Education, at the 1st NIE MOE Character and Citizenship Education Conference at Nanyang Technological University Auditorium*. Retrieved November 8, 2011 from http://www.moe.gov.sg/media/press/2011/11/08/opening-address-by-mr-heng-swee-keat-at-1st-nie-moe-cce-conference.php.

Keddie, A. (2014). The Politics of Britishness: Multiculturalism, schooling and social cohesion. *British Educational Research Journal, 40*(3), 539–554.

Law, W.-W. (2006). Citizenship, citizenship education, and the state in China in a global age. *Cambridge Journal of Education, 36*(4), 597–628.

Lee, H. L. (1997). *Speech by BG (NS) Lee Hsien Loong, Deputy Prime Minister, at the launch of National Education at Television Corporation of Singapore (TCS) TV Theatre on Friday, 17 May 1997 at 9.30am*. Retrieved from http://www.nas.gov.sg/archivesonline/data/pdfdoc/1997051607/lhl19970517s.pdf.

Lee, W. O. (2004). Concepts and issues of Asian citizenship: Spirituality, harmony and individuality. In W. O. Lee, D. L. Grossman, K. J. Kennedy, & G. P. Fairbrother (Eds.), *Citizenship Education in Asia and the Pacific* (pp. 277−2 88). Hong Kong: Comparative Education Research Centre, The University of Hong Kong, Kluwer Academic.

Lee W. O. (2013). The development of a future-oriented citizenship curriculum in Singapore: Convergence of character and citizenship education and curriculum 2015. In Z. Deng, S. Gopinathan, & C. E. Lee (Eds.) *Globalization and the Singapore curriculum*. Singapore: Springer, Education Innovation Series.

Ministry of Education. (2007). FY 2007 Committee of Supply Debate. 3rd Reply by MOS Lui Tuck Yew on National Education Enhancing NE: Strengthening Heartware and Rootedness. Retrieved from https://www.moe.gov.sg/media/speeches/2007/sp20070307c.htm.

Ministry of Education. (2009). Address by Ms Ho Peng, Director-General of Education, at the Teachers' Mass Lecture. Retrieved August 26, 2009 from http://www.moe.gov.sg/media/speeches/2009/08/26/address-by-ms-ho-peng-at-the-t.php.

Ministry of Education. (2014). *2014 Syllabus: Character and citizenship education primary*. Singapore: Ministry of Education.

Ng, P. T. (2017). *Learning from Singapore: The power of paradoxes*. New York: Routledge.

Oulton, C., Day, V., Dillon, J., & Grace, M. (2004). Controversial issues—teachers' attitudes and practices in the context of citizenship education. *Oxford Review of Education, 30*(4), 489–507.

Sim, J. B.-Y., & Low, E. L. (2012). Character and citizenship education: Conversations between personal and societal values. *Asia Pacific Journal of Education, 32*(4), 381–394.

Xu, S., & Law, W.-W. (2015). School leadership and citizenship education: The experiences and struggles of school party secretaries in China. *Education Research for Policy and Practice, 14*(1), 33–51.

School Branding

12

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Abstract

In this chapter, the authors propose extending the notion of marketing orientation and effective communication to the development of school branding. The purpose is to explore the use of effective marketing communications techniques in educating parents and students on the school's brand of educational experience. To determine whether the school has been successful in its marketing communication endeavor, data was collected from focus group interviews with parents, students and teachers. A critical discourse analysis was also performed on the school's website and other printed communication materials. This information can provide valuable insights to the development of confidence, trust and support of stakeholders. Educators will be equipped with the understanding of how the school vision, mission and process can be linked to school marketing and branding the school's educational experience. More importantly, such insights help provide and establish guidelines for the school's strategic and future development.

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12.1 Introduction: Marketization of Education in Singapore

Over the last 10 years, there has been growing interest in the applicability of market economics in the field of education. Market forces, especially in the form of school choice, have been introduced in many countries in the last two decades, albeit reported predominantly in Western contexts (Boyd 1998; Carnoy 1998; Cookson 1996; Gewirtz et al. 1995; Hayman et al. 1997; House 1998; Power et al. 1997; Teelken 1999; Whitty 1997; Woods 2000; Woods et al. 1998). It is thus not surprising to see many governments in the developed world, including Singapore, acknowledging the importance of choice and addressing the needs of stakeholders, while being mindful of the constantly changing environment (i.e. economic, socio-cultural, political, legal and technological). To address all these demands, the role of education to develop human capital to meet the needs of respective nations has become increasingly complex. In addition, owing to easier access to information and exposure to a wider range of educational services, stakeholders (e.g. students and parents) are becoming more sophisticated and expect more in relation to their consumption experiences (Goh 2006, 2011). Gone are the days when education is seen as a public service to a group of 'consumers' with homogeneous demands for their educational experiences. As such, diversity in offerings may very well represent the key to an educational institution's success, future growth and possibly competitive advantage in the education industry. Consequently, better quality educational services through differentiation represent the key to success, future growth and competitive advantage (Murgatroyd 1991).

Since the 1980s, Singapore's educational system has witnessed the emergence of noteworthy phenomena—*globalization* and the *marketization of education*. As a result, the Ministry of Education (MOE) proposed a more decentralized approach to school governance and educational management to address the changing demands in the educational environment. This, however, did not mean that schools were given total autonomy to operate in a free market but rather one that is sufficiently centralized and government-regulated to ensure uniformity of educational standards (Tan 1998). The marketization of education was not fully felt until 1997 when the MOE implemented *Thinking Schools, Learning Nation* (TSLN). This initiative was a significant shift from the efficient-driven paradigm to one that focused on ability-driven education. One of the major premises of the ability-driven paradigm was to nurture every child based on his or her talents and ability through mass customization (Teo 2000a, b; Shanmugaratnam 2004). The changes and refinements made to the Singapore educational system are generally focused on creating better opportunities, diversity and flexibility in terms of school choice and admissions (MOE 2005, 2014; Shanmugaratnam 2004, 2005). Over the years, some of the manifestations of marketing orientation in the Singapore educational system include increased school choice, widened choice of academic progression and assessment routes, and increased autonomy for schools, and are evidenced in policy initiatives such as the programme for school-based excellence and school niches.

The need to widen students' educational experiences received a new boost with the recent MOE policy initiatives pertaining to *Student-Centric, Values-Driven* education (SVE) to complement student' core academic and student development programmes—(1) Applied Learning Programme (ALP) and (2) Learning for Life Programme (LLP).

However, how schools market themselves to meet the needs of parents and students may vary from school to school, likewise their effectiveness in doing so. Specifically, how schools build consumer confidence depends less on how much 'pyrotechnics' are being used to exaggerate the worth of the schooling experience, but more on how schools establish sound marketing approaches which include analyses, planning, implementation and control processes of carefully formulated programmes (Hanson and Walter 1992; Kotler and Fox 1995). Schools with a marketing orientation do well to:

> Know their markets; attract sufficient resources; convert these resources into appropriate programs, services, and ideas; and effectively distribute them to various consuming publics. (Kotler and Fox 1995, p. 7)

Kotler and Fox (1995) argued that schools can determine the needs and wants of their target market, and satisfy them through the 'design, communication, pricing and delivery of appropriate and competitively viable programs and service' (p. 10). Kotler and Fox (1995) also proposed that schools 'seek out consumers who are or could be interested in its offerings and then adapt these offerings to make them as attractive as possible' (p. 10). Schools therefore need to understand the educational needs of the students in order to provide a satisfying learning or educational experience. Essentially, school leaders need to establish a good match between the quality of the schools' programmes and services, and understanding the needs of their target markets. What is of interest is how school leaders go about establishing sound marketing approaches which involve matching the quality of the school programmes and services with that of educational or learning needs of their students.

12.2 Method

This chapter draws on views expressed by key stakeholders (i.e. parents, students and teachers) from one school in Singapore—*Murni Primary School* (MPS). In total, eight focused group discussions (FGDs) were conducted over a period of 2 months from August to September, and the duration for each FGD is about an hour. The composition of FGDs is shown in Table 12.1. FGDs were analyzed using content analysis—that is, interpretation of the meanings from the content of text data.

Critical Discourse Analysis (CDA) framework was also applied to uncover the lexical choices and discourse strategies used in the construction of the school image through the school's website and other printed communication materials (including newsletters to parents, brochures and school annuals). The analysis from the CDA provided supporting findings that support the findings from the FGDs.

Table 12.1 Composition of FGDs

Day	Interviewee category	No.	Remarks
Day 1	Parents	7	All mothers
	Teachers	5	• 3 teachers with 5–10 years of teaching experience • 1 teacher with more than 25 years of teaching experience • 1 teacher with less than 3 years of teaching experience
	Students	5	One student representative from primary 2 to 6
	Student leaders	5	One student representative from primary 2 to 6
Day 2	Parents	6	Five mothers and 1 father
	Teachers	5	• 3 teachers with 5–10 years of teaching experience • 1 teacher with more than 25 years of teaching experience • 1 teacher with less than 3 years of teaching experience
	Students	5	One student representative from primary 2 to 6
	Student leaders	5	One student representative from primary 2 to 6

The school was chosen because it was one of the only eight schools in Singapore to be awarded the *Programme for School-Based Excellence* (PSE) by the MOE in 2006. MPS was established in the 1980s with an initial student population of 560 and a teaching staff of 28. The enrolment of the school over the last few years has been relatively stable at about 2000 students. The school is known in Singapore to have a strong aesthetics programme and has won many accolades in the area of the performing arts. As an indication of the success achieved at MPS, the MOE selected the school's programmes for the *School-Based Excellence* award. The school has also achieved numerous awards over the years. Data was obtained during Mr. Peck's time as the school principal. Based on the views provided by the key stakeholders, several key themes had surfaced. The elucidations from these views serve to surface how the school leader had brought about a good match between the quality of school programmes and services, and understanding the needs of their target markets.

12.2.1 'Pragmatic-Practical' and 'Caring-Approachable' Leadership

The principal projected a friendly and approachable disposition. He was seen to have created a cohesive and inclusive school culture. FGDs from teachers revealed that such school culture had encouraged and motivated them to work even harder for the school with regard to establishing the unique educational experience for students. The following views accentuate this point:

> Here, we do not put emphasis on 'winning'. This has also been the philosophy of the Principal. At MPS, we are more concerned about the experiences of the students. We want them to try their best and learn in the process. We want to give each and every child the opportunity to learn and develop. [HOD, female]

> I must say that there were many changes made to the school under this current Principal. He is very open and gives a lot of support to me as a parent. [Parent, male]

> The school is vibrant, dynamic and energetic. This is a testament to the sound leadership shown by our Principal and senior management. Everyone is willing to chip in for the school's programs. The school taps on the different potentials of the teachers. [Teacher, female]

In addition, the principal's leadership style had helped to create and sustain an open culture where individuals were able to discuss issues with their leaders freely, and contribute to the school in their own special way.

> The school has a very open culture. We do discuss issues with our Heads of Department regularly on issues related to teaching and learning or student development. The sort of culture is wonderful and it certainly helps in building morale amongst staff members. [Teacher, female]

By establishing such open culture, the principal had created a positive image of the school as the various stakeholders believed that their views were being valued by the principal and school.

12.2.2   A Unique Educational Experience for Students

The information obtained from key stakeholders revealed that MPS, under the leadership of the principal, had provided students with lots of opportunities for learning, such as a wide variety of academic and non-academic programmes, activities, competitions and enrichment classes. Here are some of the views expressed in support the notion of abundant opportunities:

> It is important to give as much opportunities for students to develop their individual talents. This is important to me as I could not have provided such opportunities to my child. The school encourages the students to be the best that they can be. [Parent, female]

> Yes, the aim of the school is to identify students' specific talents and create opportunities to develop them further. We have quite a comprehensive set of activities to cater to the children's needs. We are pretty good in our aesthetics program … the performing arts. The students have become more confident individuals. [Teacher, female]

> I like the school because there are so many programs and many things to do like the [performing arts program]. I think that our school is very good in dance. It is quite unique to our school. [Student, male]

By putting in place a diversity of programmes in both academic and non-academic areas, the principal has created the impression that every student is important and

that there are many different pathways to success. Such inclusive image had made MPS stand out as a unique school that recognizes all talents and abilities.

12.2.3   Holistic Education and Achievements

In the principal's message of the School Magazine in 2011, updates on academic achievements were made alongside other achievements which are not academically focused, and within the bigger picture of a more holistic school life. The principal understands education as not being reduced to academic achievements even though its importance is undeniable. Mr. Peck strongly posits that it is important for students to live life to the fullest and to do the best that they can. He is also a strong believer that the school must be inclusive and celebrate successes of every child. The notion of achievement as being holistic is also made central in the school stated philosophy and motto.

The focus on balancing holistic education and achievements are also evident from the views expressed by parents, teachers and students—as illustrated in the following quotes.

> The students here are constantly reminded of the school's values of care, respect and responsibility. The character development program was started about 2 years ago and I am fully supportive of this. I believe building character is important and it will certainly enhance the students' academic achievements. [Parents, female]

> We have a whole range of school programs, as well as enrichment to cater to the different abilities of our students. We have a holistic educational program here at MPS. The aim is to develop our children – intellectually, socially, emotionally and physically. [Teacher, female]

> Our aim is to develop every child – intellectually, socially, emotionally and physically. All we ask of the children is that they do their best, and we celebrate all these little successes in all aspects of their school life. [Teacher, female]

Clearly, the principal's intention to establish an inclusive environment has successfully passed on to the other stakeholders.

12.2.4   Attention to Learning that Is Culturally Diverse, Practical and Enjoyable

In line with providing holistic education, the next theme that surfaced is the principal's belief in the kind of learning that is culturally diverse, practical and enjoyable. The word 'culturally' refers to both the appreciation of the aesthetics, and the development of cultural sensitivity toward other races. In supporting this observation about the principal, parents and students generally felt that the school had provided a vibrant and dynamic learning environment. The following two quotes lend support to these themes.

> Here [at MPS] there is always something new. New activities, programs and so on. Everyday something new to look forward to. It is all very exciting for the students, I am sure. [Parent, male]

> There are many activities in my school. We get to choose our CCAs [co-curricular activities] and I am a member of the Chinese dance [group]. I find joining this CCA is good because I learn more about my own culture and being Chinese. I am also more confident performing in public. [Student, female]

Similarly, the principal had managed to build an inclusive environment that embraces all students regardless of their family backgrounds.

12.2.5 Character Development

Relating to the theme of holistic education, the stakeholders' views also highlighted the importance of character development as part of the overall framework of providing students with a unique educational experience. The focus on character development is evident from the school's vision and mission and the principal's message. The principal believes that schooling or education is not only about academic achievement, but also the development of character. His effort at translating his belief on this matter was corroborated by voices from parent and students —as supported by the following quotes.

> I agree with the school that building character is important. It is not all about academic results. Students must learn to have confidence, learn leadership skills and to be responsible. These are important life skills. [Parent, male]

> It is important to have good character. We have to say [recite] the MPS Character Pledge every Friday morning during assembly. It helps me remember to care and respect others, and to be responsible for the things I do. [Student, male]

What underpinned the strategies that the principal's put in place at MPS is his strong belief that the school's primary focus is on students. The students were portrayed as the main beneficiaries. The importance placed on students was conveyed to all staff members of the school. The following quote from a teacher epitomizes the school's student-centeredness perspective:

> We believe that the students be the main focus for the teachers. We work closely with the school leaders in coming with new and interesting programs to cater to the diverse needs and abilities of our students – academically, in CCAs [co-curricular activities] and sports; as well as in character development such as leadership. We believe that character development is the root of everything and it is clearly reflected in our school's values. We believe that each child can be developed to his or her fullest potential. We work closely with parents to achieve this. [Teacher, female]

12.3 The MPS 'Marketing' Persuasion

From a marketing perspective, the school leader of MPS succeeded in creating a holistic brand of education that embraces three key features—good character, academic and cultural vibrancy. They achieved these by developing a plethora of programmes and activities to cater to the varied talents and abilities of the students. The school motto epitomizes the school's philosophy toward education, and that is to develop the students' character first. The school leaders, along with the teachers, believe that students should be responsible for their own learning, enjoy learning and do well once they are inculcated with the right values—Care, Respect and Responsibility. Basically, they hoped that the students will be able to live life to the fullest and enjoy the learning at MPS. To the school, it is not about winning but rather the learning process and development of each child. This is reflected in the school's philosophy that every child can learn and is capable of achieving his or her personal best, and it shapes the school's planning and strategies as depicted in Fig. 12.1.

It must be noted, however, that the character development programmes were still relatively new and in their beginning stages. It is thus important for MPS to continue moving forward in integrating these three key features rather than addressing them independently. The school leaders strongly believed that the foundation of better academic achievements is to have the right character values. In this way, the school leaders placed great emphasis on the need to inculcate good values in their
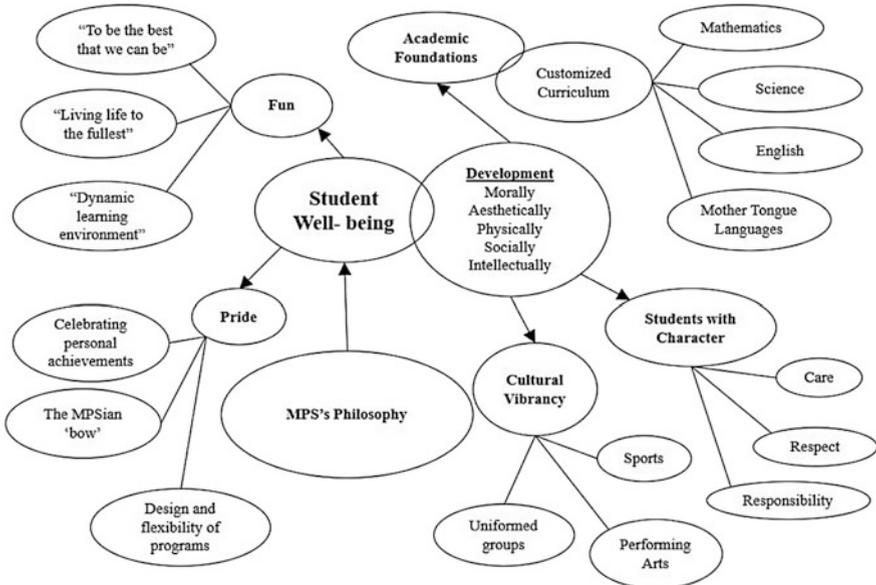

Fig. 12.1 The MPS philosophy and strategies

students before any positive developments could take place. The school leaders also made efforts to understand the educational needs of the students, and develop programmes and activities based on the parents' desire for their children to do well academically at the national level.

Although the students, parents, teachers and school leaders had constantly stressed the availability of vast activities and programmes in the school, they did not mention how through such involvements they would encourage the students to learn and perform better. Perhaps, the school and the stakeholders believe that such activities were important in giving students opportunities to excel in other areas, such as sports and dance. In other words, the parents and students must be able to see value in terms of educational experience in the school's programmes. As such, parents and students need some critical information about the school (and its branding) when making school choice. In an educational context, branding here becomes symbols for:

- What the school stands for?
- What beliefs or philosophies the school subscribes to?
- What the school cares about?
- What the school wants to be and achieve?
- What the school wants to express about themselves?
- What kind of experience can the school provide?
- What kind of skills would be developed by the students?
- What 'guarantees' can the school provide?

Based on the findings, a proposed process model on strategic educational marketing and branding for MPS was conceptualized (Fig. 12.2). School leaders can no longer assume that students and parents in the 'marketplace' have homogenous needs. This is because parents and students have become more sophisticated in terms of their consumption experiences.

It is thus paramount that MPS identifies groups of students and parents based on selected segmentation criteria. The aim is to identify groups of parents and students with similar needs, preferences and aspirations. Once the segments have been identified, the school can then decide on which segment(s) to focus on (targeted markets). The principles of segmentation and market targeting are certainly not new to Singapore schools. The following quote by then Singapore Education Minister highlights the important of these two marketing concepts:

> The school will be able to draw together a critical mass of students [market segmentation] and develop the necessary staff and programs that can fully develop the interest and ability of these students in this special area [market targeting]. Students with the same interests or talents will have classmates and school-mates, and well qualified staff and facilities, to stimulate and spur them on to higher levels of achievement. (Teo 2000a)

Next, the development of MPS's vision and mission must be based on its (1) competencies, (2) resources and (3) educational needs of students (and their parents). Resources here are defined as the tangible and intangible entities available
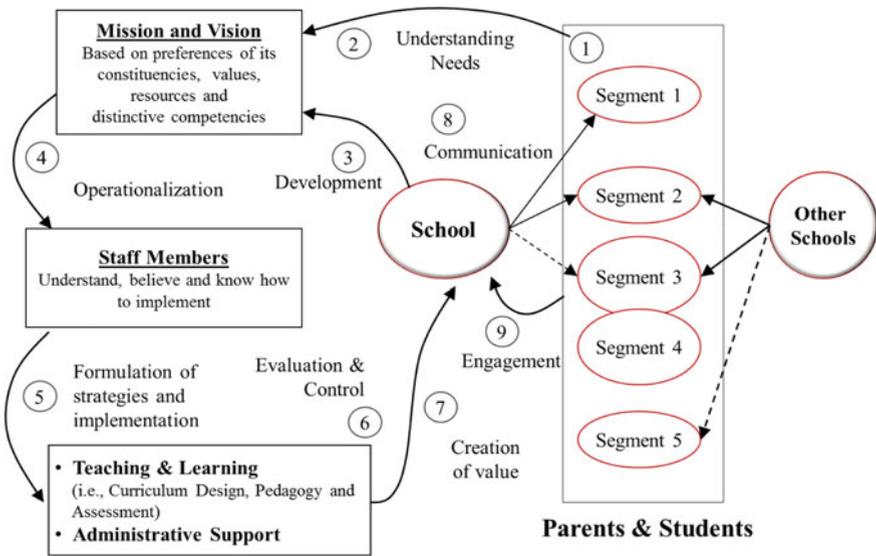
Fig. 12.2 A process model of strategic educational marketing

to the school that enable it to produce efficiently and/or effectively a market offering that has value for some market segment(s). These resources include physical, informational, legal, financial, human, relational and organizational (Hunt and Morgan 1995, 1996). Third, MPS's vision and mission is operationalized in such a way that it reflects the key values of the school. These values in turn form the overarching theme for the school.

The next challenge involves educating staff members about the vision and mission of the school so that they understand, subscribe and strategically implement or infuse these key principles and values in teaching and learning—curriculum design, pedagogy and assessment. Following the successful formulation of strategies and implementation, the school must measure and evaluate the school's performance so as to determine if the objectives are achieved. In so doing, the school will be able to generate favorable perceived value for the product offerings amongst potential and current 'consumers'. Here, 'perceived value' would include functional value (i.e. utilitarian and physical performance), emotional value (e.g. pride), epistemic value (e.g. inquiry and discovery of new knowledge) and social value (e.g. sense of belonging) (Sheth et al. 1991).

The final steps in the proposed process model on marketing communication are of key interests to this study. The school must be able to communicate, promote or educate effectively, the key stakeholders on the quality of the offerings (i.e. programmes and services) as well as the central educational theme of the school. Parents and students need to be well informed on the school and its offerings so that they can make better school choice in terms of their educational consumption

experience. Finally, equipped with a better understanding of the market segments, schools can better identify competitors and use appropriate marketing strategies to compete for students.

12.4 Conclusion

This study has provided evidence of how a school leader in a Singapore primary school attempted to use marketing communications techniques to effectively educate parents and students on the school's brand of education. Schools need to engage their stakeholders (i.e. parents and students) as partners and educate them through carefully designed communication. This argument is based on a long tradition that stresses the persuasive nature of how organizations communicate with their consumers (e.g. Assael 1993; Kotler 1994). More importantly, Wemerfelt (1994, 1996) asserted that the adoption of efficient communication plans will lead to positive organization performance. Providing further support to this contention, educational marketing researchers [such as Hesketh and Knight (1998) and Maguire et al. (1999)] have found that parents and students benefited from the additional sources of knowledge and information in making better informed school choices. Arguing along similar lines, Hall (2002) argued that effective marketing communications can fuel stakeholders' proclivity to explore and learn about the institution. This is because consumers today are more knowledgeable and well versed in communication and marketing techniques (Lury 1994). As such, they will take a critical viewpoint towards the texts and messages through which educational institutions look to brand their programmes and services. As the case of MPS, it is clear that the school is driven by a central theme. To help develop students to their fullest potential, it is important to provide a holistic educational experience. In the case of MPS, they have chosen to focus on good character, academically and culturally vibrant. More importantly, the school leader employed the effective use of texts and visuals consistently in the school website, magazine and brochures in an attempt to project a range of discourses in a coherent manner. That is, these school marketing paraphernalia seek to tell a holistic 'story' of an educational experience unique at MPS. Clearly, a lot of thought and effort have been expended on their marketing communications with the aim of educating parents on what the school stands for, believe in, care about, and want to achieve. In a marketing sense, MPS has made some good inroads to building a strong school brand.

12.5 Questions for Reflection and Discussion

Drawing from the experiences of MPS, several reflective questions can be generated to make the most out of the learning from the study. Based on the process model of the strategic educational marketing (Fig. 12.2):

1. What are the areas that your school is strong in, and how so (in relation to school marketing)?
2. What are the areas that your school will need to improve? Why? How do you plan to do it?
3. What are the areas that your school will find challenging? Why? How could you overcome these difficulties?
4. What are some areas that you could collect data on to better inform your school's marketing strategies?

References

Assael, H. (1993). *Marketing: Principles and strategy*. Forth Worth, TX: Dryden Press.
Boyd, W. (1998). Markets, choices and educational change. In A. Hargreaves, A. Loeberman, M. Fullan, & D. Hopkins (Eds.), *International handbook of educational change* (pp. 349–374). Dordrecht: Kluwer Academic.
Carnoy, M. (1998). National voucher plans in Chile and Sweden: Did privatization reforms make for better education? *Comparative Education Review, 42*(3), 309–337.
Cookson, P. W. (1996). School choice in the United States: Possessive individualism, educational deregulation and the public good. *Oxford Studies in Comparative Education, 6*(1), 95–110.
Gewirtz, S., Ball, S. J., & Bowe, R. (1995). *Markets, choice and equity in education*. London: Open University Press.
Goh, J. W. P. (2006). To niche, or not to niche—A cautionary note on the development of so-called niche areas in Singapore schools. *International Studies in Educational Administration, 34*(3), 51–62.
Goh, J. W. P. (2011). In search of choice: Diversity & educational markets in Singapore. In W. Choy & C. Tan (Eds.), *Education reform in Singapore: Critical perspectives* (pp. 28–54). Singapore: Prentice Hall.
Hall, S. (2002). Encoding/decoding. In S. Hall, D. Hobson, A. Lowe, & P. Wallis (Eds.), *Culture, media, language* (pp. 128–138). New York: Routledge.
Hanson, M. E., & Walter, H. (1992). Strategic marketing for educational systems. *School Organization, 12*(3), 255–267.
Hayman, F., Golan, H., & Shapira, R. (1997). School autonomy and parental choice: Steps in local educational planning. In R. Shapira & P. W. Cookson (Eds.), *Autonomy and change in context: An international perspective* (pp. 77–108). Oxford: Pergamon.
Hesketh, A. J., & Knight, P. (1998). Secondary school prospectuses and educational markets. *Cambridge Journal of Education, 28,* 21–36.
House, E. R. (1998). *Schools for sale*. New York: Teachers College Press.
Hunt, S. D., & Morgan, R. M. (1995). The comparative advantage theory of competition. *Journal of Marketing, 59,* 1–15.
Hunt, S. D., & Morgan, R. M. (1996). The resource-advantage theory of competition: Dynamics, path dependencies, and evolutionary dimensions. *Journal of Marketing, 60,* 107–114.
Kotler, P. (1994). *Marketing management* (8th ed.). Prentice-Hall, NJ: Englewood Cliffs.
Kotler, P., & Fox, K. (1995). *Strategic marketing for educational institutions*. Prentice- Hall, NJ: Englewood Cliffs.
Lury, A. (1994). Advertising: Moving beyond the stereotypes. In R. Keat, N. Whiteley, & N. Abercrombie (Eds.), *The authority of the consumer* (pp. 91–101). London: Routledge.
Maguire, M., Ball, S. J., & Macrae, S. (1999). Promotion, persuasion and class-taste: Marketing (In) the UK post-compulsory sector. *British Journal of Sociology of Education, 20*(3), 291–308.

Ministry of Education. (2005). *Recipients of the inaugural programme for school-based excellence*. Retrieved from http://www.moe.gov.sg/press/2005/pr20050307.htm.

Ministry of Education. (2014). *Nurturing students*. Retrieved from https://www.moe.gov.sg/education/education-system/nurturing-students.

Murgatroyd, S. (1991). Strategy, structure and quality service: Developing school wide quality improvement. *School Organization, 11*(1), 7–13.

Power, S., Halpin, D., & Whitty, G. (1997). Managing the state and the market: 'New' education management in five countries. *British Journal of Educational Studies, 45*(4), 342–362.

Shanmugaratnam, T. (2004, September 29). *Speech by Mr Tharman Shanmugaratnam, Minister for Education at the MOE Work Plan Seminar 2004*. Retrieve from http://www.moe.gov.sg/speeches/2004/sp20040929.htm.

Shanmugaratnam, T. (2005). *Speech by Mr Tharman Shanmugaratnam, Minister for Education, at the FY 2005 Committee of Supply Debate—Moving from quantity to quality*. Retrieved from http://www.moe.gov.sg/speeches/2005/sp20050309a.htm).

Sheth, J. N., Newman, B. I., & Gross, B. L. (1991). Why we buy what we buy: A theory of consumption values. *Journal of Business Research, 22,* 159–170.

Tan, J. (1998). The marketisation of education in Singapore: Policies and implications. *International Review of Education, 44*(1), 47–63.

Teelken, C. (1999). Market mechanisms in education: School choice in the Netherlands, England and Scotland in a comparative perspective. *Comparative Education, 35*(3), 283–302.

Teo, C. H. (2000a). *Speech by RADM Teo Chee Hean, Minister for Education, at the Diploma in Educational Administration (DEA) Graduation Dinner*. Retrieved from http://www.moe.gov.sg/speeches/2000/sp13012000a.htm).

Teo, C. H. (2000b). *First reply on schools by RADM Teo Chee Hean, Minister for Education, at the FY2000 Committee of Supply Debate*. Retrieved from http://www.moe.gov.sg/speeches/2000/sp13032000c.htm).

Wemerfelt, B. (1994). On the function of sales assistance. *Marketing Science, 13,* 68–82.

Wernerfelt, B. (1996). Efficient marketing communication: Helping the customer learn. *Journal of Marketing Research, 33*(2), 239–246.

Whitty, G. (1997). Creating quasi-markets in education: A review of recent research on parental choice and school autonomy in three countries. *Review of Research in Education, 22*(1), 3–47.

Woods, P. (2000). Varieties and themes in producer engagement: Structure and agency in the school public-market. *British Journal of Sociology of Education, 21*(2), 219–241.

Woods, P., Bagley, C., & Glatter, R. (1998). *School choice and competition: Markets in the public interest?*. London: Routledge.

Conclusion: Leading Schools in Complexity

13

Salleh Hairon

The collection of case studies in this book present a range of salient themes pertaining to school leadership in Singapore. These case studies highlight the demands placed on school leaders in contemporary times, and their responses to it. First and foremost, the need to lead schools that prepare students in the wide range of twenty-first-century competences and dispositions (e.g. critical thinking, creative thinking, self-directed, lifelong learner, teamwork and resilience)—in the midst of maintaining academic achievement is in itself rather challenging. Adding to this is the need to perform these tasks in the midst of a social environment that is becoming more volatile, disruptive, fluid and uncertain.

It is well known that context shapes how leadership is exercised, and once again the context of the current world situation brings along with it new challenges that bear upon leaders in every segment and layer of all societies in the world. Notwithstanding the cliché *'Change is the only constant'*, the world has now grown to become increasingly fluid, disruptive and uncertain—thanks to a large part to the growing accumulated applications of technological advancements and innovations such as automation, mechanization, robotics, smart devices, artificial intelligence and nanotech. However, among these, the *Internet of things* or 'internetization' has been the significant underlying contribution to many of the disruptions. Terror networks have made 'good' use of social media with much success to spread lone-wolf type of terrorism. Organizations are constantly on their toes to prevent cyber hackers from infiltrating their systems. Traditional businesses have to reckon with the *sharing economy* or *collaboration economy* such as Uber and Airbnb.

Internetization has also had a tremendous contributing role in the rise of individualism and groupism. While the Internet affords the expression of individual voices and identities, it has also been used to garner collective voices and identities—especially in social media spaces. The impact on leadership is huge. This is

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because the essence of leadership is influenced on individuals towards shared goals. The task of influencing the minds, emotions, values and attitudes of followers is much tougher when the sheer diversity and complexity of it bears on leaders. In schools, leaders increasingly have to manage diverse needs of a wide range of stakeholders who now have a wider range of tools to influence sentiments and decisions made in schools. Sometimes, or often, these needs are conflicting. Satisfying one group's needs may hurt some others'. Sometimes, or increasingly often, some of these needs change over time or across situations in conflicting ways. Brexit, Donald Trump and the Umbrella Movement in Hong Kong speak volumes on leading divided societies. The pace of the demands placed on leaders in schools makes the task of leading much more difficult and frustrating. The diversity and complexity that leaders have to face on a day-to-day basis add a degree of certainty to uncertainty in the task of leading.

The position of leadership is therefore becoming less attractive to many laypersons, and perhaps highly attractive for the small egotistical, idealist or foolhardy ones. *With great powers come with great responsibility*—indeed. But do the complexities of current times eclipse the power of leadership? Not at all. On the contrary, leadership is integral to societies' preservation and progress. While some sociologists and organizational theorists predict chaos due to the inevitable rise of complexities in societies, some would portend the inevitable rise of leadership to give structure, stability and sense-making to and in societies.

Notwithstanding all the challenges that bear upon school leaders, these case studies highlight the fact that school leadership matters. This is consistent with the claim made that leadership is only second to teaching when considering within-school factors impacting on school outcomes (Leithwood et al. 2008). Although school leaders—unlike teachers—rarely have direct involvement in classroom teaching, their extent of influence is pervasive and comprehensive in school. They have the strongest influence over the school vision, mission and values; school goals and strategies; school culture; staff appraisal; staff deployment; training and development priorities and approaches; physical structures and school funding policies. These case studies illuminate how school leaders in their unique contexts assimilate and accommodate the complex external forces that bear upon them.

In Chap 2, Ng brings to light the broadened set of learning outcomes that our education policymakers aspire students to acquire. These learning outcomes go beyond simply attaining academic achievements to include softer skills and dispositions such as values and aesthetics, albeit not weakening academic outcomes. The broadened set of learning outcomes require school curriculum that bounds to look different from the current status. Hence, the importance of instructional leadership, and the challenge of enacting instructional leadership is to respond to globalization forces in a localized manner, and doing so without emptying the personal beliefs, values and philosophies of the school leader. The balancing between globalization, localization and personalization can clearly become complex.

In Chap 3, Lim-Ratnam provides another perspective to understanding the work of school leaders—that is, one of a curriculum leader. Drawing from the traditions of curriculum studies, a school leader must learn to appreciate that learning does not take place only in the classroom context, and that leadership is not only to support classroom teaching and learning. Rather, the role of leadership in schools is to support learning wherever it may take place. The curriculum is considered as any learning that a student experience in the school setting. Its pervasiveness perhaps explain why the curriculum can be understood as intended or explicit, enacted and experienced, and why leadership can be seen as technical, human, educational, symbolic and cultural. However, Lim-Ratnam raises potential challenges that school leaders may face in the context of the centralized–decentralized polarities, which pose a certain degree of complexity.

In Chap 4, Tay and Tan bring to the fore implementation challenges in the context of assessment policies especially on Assessment for Learning (AfL). Assessment has now become one of the three foci in regard to teaching competences—the other two being curriculum content and pedagogy. They further build on the challenges of school leadership in interpreting and implementing education policies sensitive to each individual school unique contexts. While they elucidate the complexities in implementing policies in assessment, a set of solutions is put on the table. First, is the notion of irreversible (fundamental) change on our perceptions and understanding on the objective of assessment. Second, the importance of attaining coherence and integration as opposed to being piecemeal in planning and implementing change in assessment. Third, the potential of assessment to bring about specific desired outcomes that are different to the status quo. Finally, being prepared to confront and address potentially troublesome discomforting issues.

In Chap 5, Choy and Chua bring attention to the benefits of professional development as a way of building capacity of teachers and schools, and in this way providing appropriate responses to the demands placed on schools resulting from globalization. They support the view that professional development is located at three levels: (1) teacher selection, (2) processes in training and development, (3) system support and structures. However, the priorities, investments and approaches on teacher professional development vary across schools. Although this can be interpreted as uneven and seemingly moving away from the ideal of 'leading nationally', it once again emphasizes the importance of context in shaping effective professional development provisions and practices so as to make it effective.

In Chap 6, Khong brings to attention the importance of multiple stakeholders in educating children and youths—as echoed in the often quoted idiom *'It takes a village to raise a child'*. The good news is that education policymakers are in full support of this spirit. There is indeed much worth in schools to engage with the different school stakeholders—namely, parents. Enacting these engagements to promote positive relations is, however, not without its challenges and issues. One potential challenge is the predominance of hierarchical social structure that may be contradictory to a stakeholder network model where more democratic flow of information, resources and power is required. Genuine, meaningful and fruitful partnerships with key school stakeholders can take place when school leaders are

able to balance the *system-world* and *life-worlds* of schools. The complexity lies in balancing both of these *worlds* within school differing contexts. In doing so, school leaders would contribute to trust building, and become 'bridges' between schools and the wider community.

In Chap 7, Hairon brings to surface the importance of building school capacity in response to the growing demands placed on schools to enact school-based curriculum development and innovation through professional learning community. The complexity lies in the fact that although the relevance of professional learning community is clear, implementing it in schools is not—due to multiple interconnected challenges. Leadership to support professional learning community in schools is therefore recommended. Since the initial introduction of the concept in 2000 in the name of Learning Circles, through the formal use of the term itself in 2009, the importance of leadership giving support to professional learning community has never waned. Instead, leadership to support professional learning communities have grown—specifically, support given through structures (e.g. time, space and culture. Also, leadership to support professional learning communities must go further to reside at the micro-level of interactions where teachers learn collaboratively.

In Chap 8, Wong and Wong propose that the growing volatility, uncertainty, complexity and ambiguity in all spheres of social life—including schools—require school leaders to embrace design thinking as both a mindset and strategy to be used. Design thinking would essentially help school leaders become more sensitive to the myriad human needs of its key stakeholders through the generation of innovative ideas and products. The application of design thinking can also pervade to the school curriculum where students themselves become familiar—even in practice—with design thinking. While the buy-in by school leaders is an important first step, integrating design thinking in the school curriculum would require appropriate instructional and curriculum leadership strategies to make it work successfully and sustainably.

In Chap 9, Chua and Chai argue for the perfusion of the use of TPACK in the education system of Singapore. TPACK is the short form of technological pedagogical content knowledge. It is the merging of technological knowledge with Pedagogical Content Knowledge (PCK). The success of the pervasiveness in TPACK lies in its application in cultural knowledge, national policies, education technologies, school structures and lesson designs. However, while TPACK is given importance at the macro policy level, the challenge lies at the meso local school level. This implies the importance of school leaders in translating and implementing TPACK in schools. The case for positive attitude in leaders towards TPACK has, however, been identified to be key in matters of translation work. The case of distributed leadership to support the translation of TPACK in the classrooms has also been found to be critical—that is, the dispersion of leadership support from school senior leaders to middle leaders, and eventually to teacher leaders. They also found that support from key stakeholders is also crucial to the successful implementation of TPACK—echoing Khong's call for greater democratization to strengthen stakeholder network.

In Chap 10, Teng and Zhang argue that culture is an important asset to the school's identity, and as such involves the identification of the core value system which reflects the unique cultural traditions of the school and exhibits the expectations of the personal qualities possessed by all its members. The role of school leaders as culture builders therefore cannot be taken-for-granted, even though culture usually denotes a large degree of taken-for-granted or implicit meaning. The positive case studies proffered by the authors speak volumes to the benefits of investing in building school culture. One lesson that can be derived from the case studies is the intentionality in taking advantage of existing cultural capital of the school. School leaders articulate, define and strengthen the cultural strengths of the school. They also integrate the core values of the school through various key processes such as in quality control, problem-solving, resource allocation, professional development and learning, appraisal, and recruitment. Finally, these school leaders continue to build and strengthen the core value of the school culture even in the midst of external forces resulting from globalization.

In Chap 11, Boon and Wong bring citizenship and character education to centre stage in school leaders' role as instructional and curriculum leaders. Once again, school leaders in the context of the Singapore education are given the task and responsibility to customize the macro-education agenda on citizenship and character education with the intention of making its translation and implementation sensitive to the unique contextual school needs. The priority given to this agenda is apparently clear. The global forces of change have the potential to increase varying interpretations and identities on what it means to be an individual citizen—thus, potentially undermining the national identity and social cohesion of the nation. Several salient lessons can be learned from the case studies presented: communicating clarity in the rationale of the policy; finding innovative ways in making the policy successful; role modelling and support by middle and teacher leaders.

In Chap 12, Goh, Chua and Hairon apply the concept of marketing to give a greater depth to the understanding on what it means by education policymakers' mantra 'Every school a good school'. Although schools are located in the domain of the public sector, they no longer serve parents' and students' needs and demands for educational experiences that are homogenous. With education policymakers encouraging schools to find their niches so as to provide diverse educational peaks of excellence, and the growing range of diverse needs from parents and students, school leaders' challenge in this matter heightens. Their success depends on how they are able to establish sound marketing strategies, which involve matching the quality of school programmes and services with that of educational or learning needs of their students.

In summary, it is evident from the case studies that a growing degree of complexity is being felt by school leaders. The complexity is the result of change that is becoming fast pace, and that crosses boundaries in a permeable and fluid manner. One event in one part of the world can have relatively immediate impact on one or several parts of the world. One event in one part of the system can have relatively immediate impact on one or several parts of the system. The immediacy and multiplicity of one event impacting on others can bring about disruptions and

uncertainty. Leadership is thus necessary to provide the needed stability through appropriate engagements with key school stakeholders both within (e.g. students, teachers) and outside (e.g. parents, policymakers) school. The case studies support the importance of engaging key school stakeholders—either directly or indirectly. The third theme that surfaces from the case studies is the importance of capacity building in three areas: (1) teacher development, (2) leadership development and (3) culture development. What is apparent from the case studies is the need to develop teacher competences to meet school curriculum that is set up to meet a broadened and diverse set of learning experiences and outcomes. Equally essential is the development of leaders throughout the organization—from senior to middle leaders, from middle leaders to teacher leaders and from formal teacher leaders to informal teacher leaders—to cope with the new demands. School leaders have to be mindful and intentional in their efforts at providing opportunities to develop leadership competences in a more broad-based and dispersed manner. Finally, school leaders have to invest in the development of school culture, which essentially puts the human spirit back to the heart of schooling and education—our collective beliefs, values and philosophies that constitute what we all consider to be good.

Reference

Leithwood, K., Harris, A., & Hopkins, D. (2008). Seven strong claims about successful school leadership. *School Leadership and Management, 28*(1), 27–42.