

UCL Institute of Education

**EXPLORING LEADERSHIP FOR LEARNING
IN KINDERGARTENS:**

A case study of Singapore

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degree of Doctor of Philosophy**

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Declaration

I, Chee Wah SUM, confirm that the work presented in this thesis is my own unless specifically referenced. This work has not been previously submitted for any other awards.

A handwritten signature in black ink, appearing to read "Chee Wah Sum", is written on a light yellow rectangular background.

Abstract

This study investigates ad hoc and planned efforts by kindergarten principals in Singapore to build structures, processes and culture to support learning. The scope includes what principals do on the average, variations in leadership practices and reasons for these variations.

Mindful that reality can be both single and multiple, a philosophical stance of pragmatism was adopted. A pluralistic approach combining inductive and deductive strategies, with an orientation towards “what works” was used. A convergent mixed methods design with a survey targeting the population of kindergarten principals and a multi-case study involving seven kindergartens was adopted. The survey, based on a modified version of Youngs and King’s (2002) theoretical framework on capacity building, provided information on patterns of common leadership practices. The multi-case study added granularity by providing possible reasons for variations and unearthing points that have not been included in the conceptual framework. Findings from the two parts were analysed and triangulated to provide the overall findings.

The findings suggest that principals spend 40% of their time supporting teaching and learning. On professional development of teachers, individual learning activities were favoured over group activities. Principals and teachers of Funded kindergartens were involved in a wider range of professional learning activities and in greater frequency compared to their Non-Funded counterparts.

The findings also suggest that a coordinated system that incorporates the selection and preparation of potential leaders, and the continuous professional and leadership development of the incumbents is needed. There is also a need to build centre- and sector-wide infrastructures to support the continuous learning of teachers.

As there was broad correspondence between the key constructs of the accreditation (SPARK) instrument and the theoretical framework for capacity building, and kindergartens had responded to SPARK by sending their teachers for SPARK training, SPARK could be further tapped on for capacity

building.

(299 words)

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Glossary of Terms

CCC	Childcare centres are institutions providing full or half day ECEC services to children from 18 months to 6 years old
Case number	Each respondent for the survey was given a case number
EC	Early Childhood refers to the period of a child's life that stretches from 18 months to 6 years
ECDA	Early Childhood Development Agency
ECEC	Early childhood education and care refers generally to the care and education of children from 18 months to 6 years old. It also includes services provided by kindergartens and child care centres
GCE 'O' Level	General Certificate in Education, Ordinary Level
KCF	Kindergarten Curriculum Framework
Kindergartens	Institutions providing 3 – 4 hour ECEC programmes for children from 4 – 6 years old
MCYS	Ministry of Community, Youth and Sports
MTL	Mother Tongue Language which can be Chinese, Malay or Tamil
MOE	Ministry of Education
MSF	Ministry of Social and Family Development
OECD	Organisation for Economic Co-operation and Development
PSE	Preschool education refers to nursery, K1 and K2 programmes for 4, 5 and 6 year old children respectively
RQ	Research question
QRS	The Quality Rating Scale is the instrument used in the SPARK accreditation system, also referred to as the SPARK instrument
SPARK	SPARK stands for Singapore Pre-school Accreditation Framework. A kindergarten is SPARK certified when it has been validated by MOE as having met minimally the emerging standards detailed in the instrument named Quality Rating Scale (QRS).
SQ	Survey question

CHAPTER 1 Introduction to thesis

1.1 Organisation of thesis

This thesis has eleven chapters. Briefly, the first four chapters address the purpose of the study and how the study would contribute towards knowledge building, the policy context in Singapore, the literature review, and how the study has been set-up, respectively. The fifth chapter provides information on the profile of the participants of the survey and case studies, and the professional development activities they have been involved in.

Chapters 6 to 9 document findings from the survey and multi-case study for each of the four research questions. Each chapter also includes a section on discussion of the findings. Chapter 10 discusses the macro level findings, and Chapter 11 provides the conclusion.

1.2 Scope of study

The key topic of this study is the principal's leadership in nurturing the conditions for children to learn within the kindergarten. This study is not a general study on leadership but one that focuses on leadership for learning. The scope of the study includes both individual, ad hoc efforts in leading as well as systematically conceived and planned efforts to build structural, procedural and cultural support for the children's learning, so that the kindergartens' ability to provide for the children's learning can grow in a sustained manner.

The scope of this study encompasses principals' leadership for learning in the entire kindergarten sector in Singapore. In order to form a picture of the entire sector, the leadership provided by individuals will be studied and then aggregated.

Whilst seeking to understand what the average principal does to provide leadership for learning, this study also seeks to understand the variations in leadership and possible contributors to these variations.

Typically, kindergartens in Singapore provide three- to four-hour long programmes daily on weekdays to prepare four, five and six year olds for primary school. There were about 500 kindergartens in the system at the start of the study, however the number had declined by 10% by the time of this report as demand of kindergarten services had declined. Childcare centres (CCCs) have not been included in this study, although they also provide services for children of the same age range, for two reasons. Firstly, the CCCs have a slightly different mission. In addition to providing education programmes, they also play a substantial role in providing care services for the children. As such, their service and programme structures are different, with nap and shower time making up a substantial part of their daily schedule. Secondly, there was a rapid expansion of CCCs in the three years prior to the start of this project creating a massive movement of leaders and teachers. Invitations to participate in the research would likely have been rejected, given the evolution of the centres over this period. When the situation stabilises, a study could possibly be designed for childcare centres.

1.3 Reasons for studying leadership for learning

1.3.1 Personal motivation

My interest in the kindergarten sector in Singapore has developed from my involvement in shaping policy changes in this sector over a period of eight years prior to my doctoral research. As a former secondary school teacher, principal, and superintendent of schools, I was struck by the scarcity of expertise, manpower and resources available to this sector.

Generally, although probably an over-simplification, parents who wanted quality ECEC for their children and who could afford to pay higher fees had access to better quality services. Parents who could not afford or who had no easy access to quality services, would have to accept lower quality services

or leave their jobs to care for their children. There were also parents who saw ECEC as baby sitting, and were contented with any care services provided albeit this was a diminishing pool. Until recently, there were few push factors or incentives for the sector as a whole to seek improvements. Maintaining the status quo was the norm, although there were a small number of operators, leaders and practitioners who attempted to bring good practices to the sector, but their efforts alone were not sufficient to change the sector. A more detailed discussion on the organisation and policy context of the ECEC sector is given in Chapter 2.

My appreciation for the importance of school leadership came from reading leadership literature, formal training in leadership, as well as experience as a secondary school principal, a mentor of principals and an MOE officer working to implement changes to the system. The principal in a school has control over deployment of professional resources and the coordinated use of these resources. The principal also plays a critical role in inspiring teachers and students, and nurturing a conducive environment for learning. Whilst appreciating the differences between the kindergarten sector and the wider educational field, I believe that leadership is just as important in the kindergarten sector.

1.3.2 Other considerations

In this section, my other reasons for studying leadership for learning will be discussed. As no reliable or published accounts on the overview of the sector could be found, the information in this section has come from interviews and informal interactions with key members of the professional associations, operators and practitioners in the field in the course of work.

High attrition rate among teachers has been associated with leadership of principals

Anecdotally, teachers have cited poor leadership, having few opportunities for professional upgrading and career progression and low salaries as reasons for leaving the sector. Accounts by young teachers suggested that

some of supervisors were controlling and dogmatic, and who behaved in ways that did not command their respect. These anecdotal accounts sit well with research findings in the ECEC field indicating that leadership may positively affect job satisfaction levels, staff turnover and organisational culture (Jorde-Bloom, 1996).

Concern over the quality of teachers and the need for their on-going professional development

There have been remarks from parents that many kindergarten teachers cannot speak in proper sentences. Indeed, before 2000 there were no minimum academic requirements for entry into the sector. From 2000, a minimum academic qualification for entry into the kindergarten sector was set at three GCE 'O' Level passes (Tan, 2007) - no more than that for a supermarket cashier. Having met these minimum requirements, teachers needed only to complete certificate level initial teacher training within a stipulated period after joining the sector to be registered as teachers (ibid.). Although the minimum academic requirements and professional preparation have been raised to five GCE 'O' level passes and Diploma respectively in 2008, teachers who were already in the sector have been given dispensations on the academic requirements (MOE-Singapore, 2009). In other words, among the 'stock' of teachers, there are still many who may have very poor foundational academic skills, and have not attained a pass in English and/or Mathematics at GCE 'O' level. Thus the need for proper guidance by principals and provisions for the teachers' on-going professional development.

Quality leadership is needed in order to capitalise on the new resources made available to the sector

In Singapore, the standard of ECEC services has been rather uneven (MOE-Singapore, 2006). Responding to calls by the community for the State to improve the quality of ECEC services, including kindergarten services, in order that more children may have access to quality services, the Singapore Government has introduced a number of measures in the last 15 years. These included:

- (a) Raising the entry academic requirements for kindergarten teachers and providing fee subsidies for the Certificate and Diploma level early childhood care and education programmes run at government funded institutions;
- (b) Introducing a system to regulate the quality of teacher education programmes;
- (c) Providing frameworks to guide curriculum design and pedagogical practice;
- (d) Setting up a quality assurance system with voluntary accreditation to provide benchmarks for leaders and teachers on management and professional practices, and
- (e) Providing funding for kindergartens serving children from families of lower income through salary subsidies for teachers tiered according to qualifications.

These government efforts will be discussed further in Chapter 2.

Resources alone will not automatically bring about improvements in standards at the kindergartens. These new resources in the form of better qualified teachers, funding or frameworks detailing standards of practice, will need to be deployed effectively by kindergarten leaders to raise the quality of services. When better quality services are aggregated across kindergartens, improved quality in the entire sector will be seen.

Principals themselves have indicated that they needed to improve their leadership skills

The required leadership training for principals was at the Diploma level and was combined with the initial teacher preparation. In other words, Diploma graduates received a Diploma for early childhood teaching and leadership combined. Anecdotally, principals reported that when they were attending the Diploma course, they did not have the benefit of leadership experience, and hence they could not fully appreciate the leadership modules. They also

pointed out that the modules on leadership were theoretical with insufficient attention to application of the theories. Some principals also commented that they did not have the necessary skills to lead learning as they themselves were trained at a time when learning activities for the children were limited to filling out worksheets. Hence, they had limited skills to guide their teachers in an environment where play based pedagogy is advocated.

Information void on how kindergarten principals lead

The literature review on the kindergartens in Singapore found only a handful of studies on curriculum and pedagogy and these were scoped to examine a small number of kindergartens. There was also no study that could provide information on how kindergarten leaders in Singapore lead their staff and children. While Siraj-Blatchford and Manni (2007) found a set of leadership practices that differentiate leaders of effective early years settings from those of less effective settings in the United Kingdom, it is not known if the same set of leadership practices differentiate the more effective settings from the less effective settings in Singapore where the cultural context is different.

Hearing anecdotal accounts, having knowledge of the sector and the instincts of a practitioner are not sufficient to address the needs of a rapidly changing sector. Knowledge can be made bias depending on the role that one plays, the lenses that one wears, and instincts that one may have. A research study of the practice field would allow data to be gathered and analysed systematically, patterns to be identified and interpreted, and findings to be documented and shared.

Potential contributions to the field will be discussed later in this chapter while my positioning as a researcher will be discussed in Chapter 4.

More information on external factors that influence leadership for learning at the kindergarten is needed

The conditions that moderate the kindergarten's ability to improve the children's learning outcomes need to be taken into account in leadership as this is in line with research on leadership (Hallinger and Heck, 2011).

There is almost no empirical information on the context within which kindergarten principals in Singapore operate, the demands placed upon them and how they respond to these various demands. Having such information would allow support to be planned for the principals.

1.4 The existing literature

This section provides a brief overview of the literature on leadership in the early childhood sector to provide part of the context for this study. The brief overview also provides a backdrop against which this study is located in terms of its potential contribution to knowledge building. The literature review will be discussed more fully in Chapter 3.

The following is an account of how the literature search was conducted. The British Educational Index (BEI) and the Educational Resources Information Center (ERIC) were used to search for articles on leadership covering the period 2000 to 2015. The earlier time bound of year 2000 was used as there were hardly any studies on leadership before year 2000. Table 1.1 below provides a list of key words used for the search

Table 1.1 Key words used for literature search

Words related to leadership	Words related to kindergartens
lead head manage administrate direct mentor principal supervise leadership effective leadership leadership behavior instructional leadership strategic leadership quality leadership leadership theories leadership theory leadership role shared leadership leadership styles leadership behavior	kindergarten pre-school preschool early childhood early years centre childcare centre child care Centre children's centres

Other searches made and documents studied include:

- handbooks on early childhood education and educational leadership,
- studies on leadership and early childhood education and care published by authoritative institutions including the Organisation for Economic Cooperation and Development (OECD) Education, the National College of Teaching and Leadership (NCTL), the National Institute of Early Education Research (NIEER) were also referred to,
- articles on early childhood education in Singapore documented by the National Institute of Education, Singapore.

1.4.1 Scarcity of literature on early childhood leadership

Researchers in the ECEC sector acknowledged that there were hardly any leadership studies before 2000. Almost all begin their papers by making the point about the paucity of research works on early childhood leadership.

The scarcity of literature was also associated with the recent emergence of early childhood as a field, and as such there was no common understanding of what constituted quality for early childhood programmes prior to 1990 (Bloom, 1996). As leadership is about creating the conditions for people to achieve the goals of an organisation through forging a shared vision and inspiring people to achieve group or organisational outcomes, there was difficulty describing what leadership meant in the ECEC sector (Thornton, 2009) at a time when there was no consensus on what constituted quality in ECEC. Even though there are now a few instruments on quality ECEC, for example, Early Childhood Environmental Rating Scale (ECERS-R), the extended ECERS or ECERS-E, and the Classroom Assessment Scoring System (CLASS), and there are research studies on effective ECEC including the research of Siraj-Blatchford and Manni (2007), research on ECEC is still in its infancy compared to the wider educational field. Thus, it is not surprising that early childhood leadership researchers including Kagan and Hallmark (2001), Muijs et al. (2004), Siraj-Blatchford and Manni (2007), Rodd (2011) and Whalley (2011) have made reference to findings from studies of primary and secondary schools in their works on EC leadership.

Given the scarcity of literature on leadership in early childhood, literature on the wider educational leadership field will be drawn upon in this study.

1.4.2 Key clusters in early childhood leadership research

The literature review included:

- *Definition of leadership competencies and styles in an ECEC setting.* These include studies aimed at profiling leadership within certain geographical boundaries (districts or cities). Hujala (2002) studied the Finnish kindergarten leaders, Rodd (1998) studied the ECEC professionals in United Kingdom, Jones (2007) studied the characteristics of childcare centre leaders in California while Chan (2013) studied the leadership styles of kindergarten leaders in Hong Kong.
- *Effectiveness of leadership in early childhood settings.* Among these is the study carried out by Siraj-Blatchford and Manni (2007).
- *Assessment of programme standards using rating scales* such as the Early Childhood Environmental Rating Scale ECERS-R, the extended ECERS or ECERS-E, and the Classroom Assessment Scoring System (CLASS) to investigate the quality of programmes and make inferences on leadership.
- *Impact of leadership training.* Among these are studies carried out by Bloom (2005) and Hallet (2013).
- *Profiling of pedagogical leadership and capacity building.* These include qualitative studies carried out by Colmer (2008) and Ho (2014) but there were no studies on leadership for learning or capacity building that had the scope of a district or beyond.
- *Female leadership,* for example, the study carried out by Scrivens (1999).

1.4.3 Specific considerations for leadership in the early childhood sector

While it appeared to be common practice for researchers on early childhood leadership to draw upon literature in the wider educational landscape, the literature review also reminded us of the need to consider specific aspects of leadership when working on the early childhood sector. This will be elaborated on in this section.

No sector-wide accepted definition of leadership

Writers like Rodd (2011), Scrivens (2002) have made the point that in the ECEC sector there is still no universally accepted definition on leadership. The low profile of leadership in the ECEC sector may be explained by the lack of emphasis on leadership by governing agencies, and confusion between management and leadership (Kagan and Hallmark, 2001). Thornton (2009) also suggested that the absence of an accepted definition on leadership may explain the reluctance of professionals to engage with the current model of leadership.

Concept of leadership as understood in the school sector may need to be adapted for the early childhood sector

Early childhood researchers have found similarities and differences between early childhood settings and schools. They are of the view that significant similarities do exist across sectors in regard to perspectives on leadership (Jones, 2007) and characteristics of leaders – people with vision, courage and who uphold ethics; people who are aware of the importance of work cultures; people who have productive work styles (Kagan and Hallmark, 2001).

Early childhood researchers have also pointed out that there are major differences between leadership in the ECEC sector and the wider educational fields arising from their different contexts.

“The intimacy, flexibility, diversity and individualisation of early childhood programmes create a decidedly different leadership context than the formality,

uniformity, rigidity, and bureaucratization that has been conventionally associated with the corporate setting” (Kagan and Hallmark, 2001:8)

Early childhood researchers including Kagan and Hallmark (2001) have commented that traditional leadership theories tend to make the following assumptions:

- One person provides leadership, and this person is usually male
- Leadership is provided in a setting that is relatively large, hierarchical and product-oriented
- An ethos of competition rather than collaboration exists

Explaining why traditional leadership theories do not apply totally to the ECEC sector, Kagan and Hallmark (2001:8) note that the transcendent ECEC ethos is *“to make all children the best that they can be”* and that this evokes a very different operational approach. Early childhood settings require a leadership style which emphasises community and facilitates teamwork (Kagan and Hallmark, 2001; Morgan, 1997; Wise and Wright, 2012). Other researchers share the view that early childhood settings are fundamentally different from schools and therefore need to be supported by leadership that is different from the wider educational field (Bloom, 2000; Nivala, 2002; Rodd, 2011)

The predominantly female workforce creates a different context for leadership

Rodd (2011) indicates that unless there is active and strong identification of leaders and recognition for them, the concept of leadership as understood in the school sector and beyond would be overly demanding for the early childhood leaders. She states:

“unless there is an active and strong identification and recognition of the leadership role and a broader conceptualization of their professional role and associated skills, members of the early childhood field will not be able to meet increasing demands for competent administrators, supervisors, educators, researchers and advocates” (Rodd, 2011:6)

There are also researchers including Shakeshaft (1989), Rosener (1990) and Greenberg and Sweeney (2005) who have written about differences in

leadership styles between female and male leaders, an example has been provided below:

“...women leaders are persuasive, have a stronger need to get things done and are more willing to take risks than their male counterparts. When women leaders combine these qualities with openness, flexibility, empathy and strong interpersonal skills, a leadership style is created that is inclusive, consensus building and collaborative” (Greenberg and Sweeney, 2005:34)

Recognising that differences exist between male and female leaders, Thornton (2009) highlighted the dominance of females playing the role of teachers and leaders in early childhood settings and pointed to the need to develop models of leadership that maximise the strengths of females in early childhood. However, Morgan (1997) cautioned that the definition of leadership should not be connected with a specific role, and stated that developing a definition based on specific female characteristics was not helpful in developing leadership in the ECEC sector.

1.4.4 Leadership has significant effects on pupils’ learning

As mentioned earlier, due to the paucity of research on EC leadership, literature from the school sector will also be referred to in this study. In the school sector, it is well documented that leadership is critical to the functioning of organisations. Summarising the findings of a systematic study of research on leadership in primary and secondary schools based on dozens of large scale quantitative studies carried out across countries, Leithwood et al. (2008) states that:

“...leadership has very significant effects on the quality of school organization and on pupil learning..... there is not a single documented case of a school successfully turning around its pupil achievement trajectory in the absence of talented leadership. One explanation for this is that leadership serves as a catalyst for unleashing the potential capacities that already exist in the organization.” (Leithwood et al., 2008:29)

The impact of leadership on student learning is indirect (Leithwood et al., 2008) and largely mediated by teachers. In their review of large-scale quantitative studies on leadership effects carried out between 1980 and 1998, Leithwood et al. (2008) conclude that school leadership is:

“second only to classroom teaching as an influence on pupil learning” (Leithwood et al., 2008:28)

and

“the combined direct and indirect effects of school leadership on pupil outcomes are small but educationally significant”. (Leithwood et al., 2008:28)

The principal’s leadership accounts for about 25% of school factors associated with pupil achievement (Leithwood et al., 2004; Hallinger et al., 2008, 2010).

The need for leaders to maintain a close focus on learning for school success has been evidenced in research on school effectiveness (Sammons et al., 2005).

As with the school sector, early childhood leadership researchers have found that effective leadership is necessary for quality early childhood provisions (Ang, 2012; Jones, 2007; Muijs et al, 2004; Rodd, 2011; Thornton, 2009; Wise and Wright 2012).

Not just leadership but leadership for learning

As schools are set up to facilitate the learning of the children, one would expect that when leaders focus their efforts on learning, the impact would be seen in children’s learning outcomes. There have been calls by researchers of educational leadership to bring the focus of leadership back to learning (Robinson, 2006) as the effect size of leadership for learning far exceeds that of transformational leadership (Robinson et al., 2008).

The importance of leadership for learning in ECEC sector has been borne out in the research of Siraj-Blatchford and Manni (2007). In their study, a set of leadership practices were found to differentiate the leaders of effective centres from those of less effective centres. Leaders from effective centres:

- Identified and articulated a collective vision
- Ensured shared understandings, meanings and goals
- Were effective in communication
- Encouraged reflection

- Were committed to on-going professional development
- Monitored and assessed practice
- Adopted distributed leadership
- Built a learning community and team culture
- Encouraged and facilitated parent and community partnerships
- Struck a balance between leading and management

Majority of the differences in leadership practice are associated directly with learning.

School leaders' promotion of and participation in the learning and development of teachers has the greatest impact on student learning

Robinson et al. (2008), in a meta-analysis of 27 published studies found impact of leadership for learning on the achievements of the children at primary and secondary school levels to be two to three times greater than transformational leadership. Robinson identified five sets of leadership practices or dimensions which contributed towards the learning outcomes:

- establishing goals and expectation
- resourcing strategically
- planning, coordinating, and evaluating teaching and the curriculum
- promoting and participating in teacher learning and development
- ensuring an orderly and supportive environment

The leadership dimension “promoting and participating in teacher learning and development” had a strong impact (effect size: 0.84) on the learning of a child. The dimensions relating to goal setting and planning, coordinating, and evaluating teaching and the curriculum had moderate impact (both with effect size of 0.42).

Robinson’s (2008) findings concur with the work of other researchers who documented the importance of workplace learning for teachers (Lieberman and Mace, 2008; Imants and van Veen, 2010). In fact, the link between teachers’ knowledge, skills and dispositions and student achievement has been well documented in the literature (Borko et al., 2010; Darling-

Hammond, 1998, 2000; Elmore and Burney,1997; Knapp et al., 2003; Smylie, 1996; Timperley, 2008). Conversely, the link between the principals' involvement in promoting and participating in teacher learning and the learning of the children was not highlighted in the past.

Evidence on the impact of teachers' professional learning and development on student learning or evidence on the principals' involvement in promoting and participating in the teachers' learning do not by themselves argue for the need to learn continuously as it is arguable that the knowledge gap between teachers and their students, and especially the younger children, is huge. Mulford (2010) explained that learning is a stabilising force in an environment of change. Given the rapidly evolving educational environment, continuous teacher learning is an important coping mechanism for the teachers - continuous learning helps teachers to feel that they are still in control of the environment.

Goal setting, planning, coordinating, and evaluating teaching and the curriculum have moderate effects on learning outcomes

Robinson et al. (2008) found a moderate impact for the dimensions concerned with goal setting and planning, coordinating, and evaluating teaching and the curriculum on the children's learning. Again, this is not surprising as goal setting, planning, coordinating and evaluating teaching and learning form the technical core in a school. The importance of the principals' role in goal setting and nurturing a shared vision have been discussed by many researchers (Hallinger, 2011; Leithwood et al., 2008; Senge,1990 and Siraj-Blatchford and Manni, 2007) while the importance of planning, coordinating and evaluating teaching and learning has been discussed by Youngs and King (2002).

Building a learning community is another aspect of leadership highlighted repeatedly in research.

Although the dimension on securing an orderly and supportive environment did not appear to have as large an impact on the achievement of the children as did the dimension on promoting learning of teachers and planning and

coordination of the curriculum, Robinson et al. (2008) showed that there was still a positive effect. Several researchers have discussed the importance of building a learning community and team culture (Harris, 2011; Leithwood et al., 2008; Mulford, 2010; Siraj-Blatchford and Manni, 2007; and Youngs and King, 2002).

In summary, the work of leadership researchers in both the early childhood and wider education fields appear to suggest that leadership for learning covers three broad areas outlined below:

- Promoting the continual learning of the teachers - a dimension which includes what Siraj-Blatchford and Manni (2007) refer to as 'encouraging reflection' and 'commitment to on-going professional development';
- Nurturing a learning community - a dimension which includes staff motivation, commitment, and 'building a learning community and team culture' in Siraj-Blatchford and Manni's (2007) study;
- Planning and coordinating teaching and learning, and the curriculum - a dimension which includes 'monitoring and assessing practice' in Siraj-Blatchford and Manni's (2007) study.

1.4.5 Building capacity for learning

Building capacity for learning refers to efforts to mobilise the collective power of an entire staff or more effectively utilising skills, abilities and resources, strengthening understandings and relationships, and addressing the intangible dimensions such as values, attitudes, motivations and conditions to support sustainable development (Bolgar, 2000; Lavergne and Saxby, 2001). Taken at a broader level beyond the scope of an individual centre, building capacity refers to a process by which organisations, systems, societies improve their ability to identify and meet development challenges in a sustainable manner (Lusthaus, 1999). Thus building capacity embodies the notion that the ability to cope with challenges gets better over time.

Youngs and King (2002) proposed that five dimensions contribute towards building the capacity for learning in a school and the five dimensions are:

- principal's leadership
- technical resources
- building teacher knowledge, skills, and dispositions
- nurturing a school-wide professional community
- fostering coherence in school purpose, goals and actions

The principal's leadership has an effect on the remaining four dimensions, including technical resources. The remaining three dimensions listed above are exactly those which other leadership researchers have found to be important.

"Building teacher knowledge, skills and dispositions" in Youngs and King's (2002) framework corresponds with what Siraj-Blatchford and Manni (2007) had highlighted as "commitment to on-going professional development". "Nurturing a school-wide professional community" in Youngs and King's (2002) framework corresponds with building a learning community and team culture in Siraj-Blatchford and Manni's (2007) study. Finally, part of "fostering of coherence", that in coherence between plans and actions, corresponds with Siraj-Blatchford and Manni's "monitoring and assessing practice".

The theoretical framework of Youngs and King's (2002) study on building capacity for learning was adapted for use as the conceptual framework for this study. Henceforth, the modified theoretical framework of Youngs and King (2002) will be referred to as the 'conceptual framework for this study'. This framework was chosen over others as it takes into account the interactions of the five dimensions. This is an essential consideration as the systems thinking literature reminds us of the inter-relatedness of parts within a system. As the availability of technical resources depends on the availability of funds and this goes beyond the software of leadership, it will not be examined in this study. The conceptual underpinnings and the

conceptual framework adopted for the study will be further discussed in Chapter 3.

1.5 Aim of study and research questions

The research aim is “**To understand how kindergarten principals in Singapore seek to build the capacity for learning**”. Capacity for learning here refers to the ability of kindergartens to provide for the learning of the children. Thus, the way in which kindergarten principals create the conditions for the children to learn will be studied using a theoretical framework adapted from Youngs and King (2002). The paradigm adopted is one of pragmatism and both inductive and deductive methods will be deployed to achieve the research aim. The key research questions (RQ) for this study are as follows:

RQ1: In what ways do principals build teachers’ knowledge, skills and dispositions?

RQ2: In what ways do principals nurture a kindergarten-wide professional community?

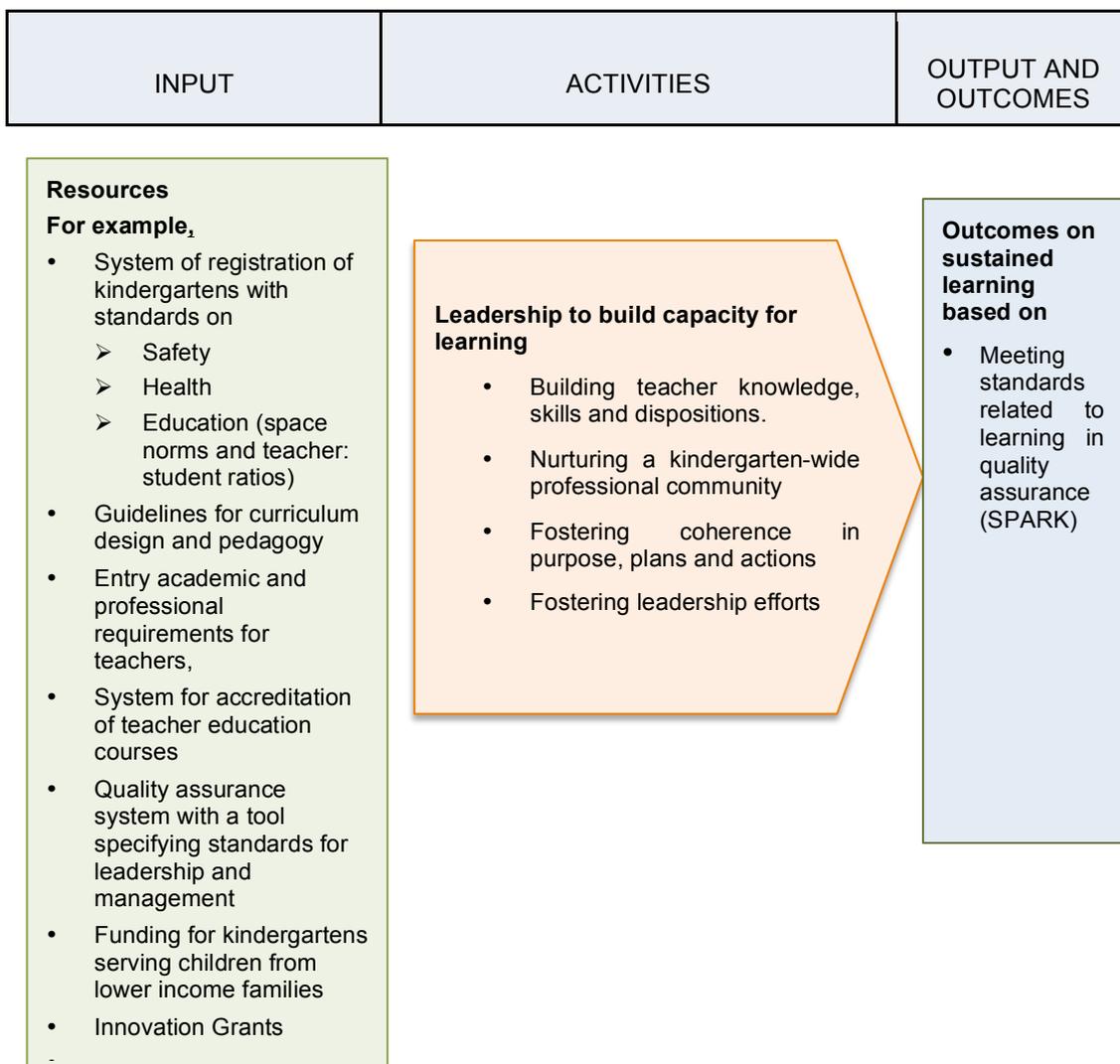
RQ3: In what ways do principals foster coherence in purpose, plans and actions?

RQ4: What contextual features affect principals’ efforts to build the capacity for learning of their kindergartens?

The theoretical framework adopted by Youngs and King (2002) and the empirical work of various educational leadership researchers mentioned earlier point to the importance of building teacher knowledge, skills, and dispositions, nurturing a school-wide professional community and fostering coherence in school goals and actions. Hence, the focus of the research questions. Given the limited scope of a doctoral research project, no attempt will be made to measure the learning outcomes of the children or validate the framework.

The diagram below (Figure 1.1) provides the logic model linking the various components relevant to the quality of learning of the children. The diagram also indicates where this study sits within the chain of quality.

Figure 1.1 - Logic Model showing where the study sits within the different components of the ECEC landscape on quality



A mixed methods approach, using a survey and a multi-case study, has been adopted in order to provide a comprehensive discussion of the research question as there was a need to cater for breadth and also depth in some areas. A questionnaire was designed to obtain a description of already prevalent leadership practices among kindergarten principals, for example principals' participation in the design of the curriculum and their involvement

in staff reflection. A multi-case study was carried out to examine the variations in leadership practices and the context within which various leadership practices such as the use of “lesson studies” were enacted. The survey and the multi-case study together provide the breadth and depth in scope to answer the research questions comprehensively.

A full discussion of the methodology can be found in Chapter 4.

1.6 Audience and potential contributions to field

This study sits at the intersection of leadership and ECEC, where the ECEC creates a different context for leadership. As no study on kindergarten principal leadership in Singapore exist to date, this study will take the lead in contributing towards building the knowledge base on this topic for policy makers, ECEC leadership researchers, training providers for kindergarten leaders, kindergarten operators and principals themselves to refer to.

For the Singapore policy makers, this study will provide information on where more resources may need to be deployed to support principals’ work in building capacity for learning. For training providers, this study will provide information on where principals may need more support in leadership training. For operators of kindergartens, this study will alert them to what they might look out for in supporting the building of capacity for learning at their kindergartens. For principals, they may gain information on what their peers are doing to build capacity for learning.

For the academic audience in Singapore and beyond, this case study will contribute towards knowledge building in the following ways:

- Firstly, it will contribute towards building the knowledge base on principal leadership in the ECEC sector, especially that of systems in the Far East. Education systems in the Far East (Singapore, Hong Kong, South Korea, Japan, Taipei) have been ranked among the best education systems in the world in international comparative studies, for

example, the OECD Global Ranking. This study provides one perspective of principal leadership in the kindergarten sector in the Far East to interested policy makers and academicians.

- As kindergarten leadership in Singapore has not been studied previously, this study will also fill the information gap on kindergarten principal leadership in Singapore. Based on the conceptual framework adopted, some gaps have been identified and a multi-pronged approach to address these gaps has been suggested.

- This study is one taken at a systemic level as the interest is the entire kindergarten system, albeit this system is confined to a small city state. These findings may contribute towards the literature for researchers interested in studying leadership at a systemic level.

- Leveraging on the theoretical framework adopted by Youngs and King in their 2002 study, this study has found that building capacity at the kindergarten level is subjected to conditions at the macro level. Hence, a theoretical contribution that this study has made is in adding the macro dimension to Youngs and King's (2002) theoretical framework.

- Each research question focuses on one aspect of leadership within kindergartens: information on the structures which have been provided to support continual learning of teachers; information on the range of learning environments and cultures within kindergartens; information on how principals plan for the learning of the children; information on contextual factors contributing to or working against efforts to build the capacity for learning. The findings from each research question may provide useful information for future researchers interested in these topics.

- A validated tool in the form of a questionnaire was developed to survey the leadership landscape. The questionnaire may be used by other researchers interested in conducting similar studies in Singapore in the future, or may be adapted for use by others investigating leadership in other contexts.

CHAPTER 2 The early childhood landscape in Singapore

2.1 Introduction

Singapore is a city state in South East Asia surrounded by Malaysia and Indonesia. Singapore has just over 716 square kilometres of land and 5.3 million residents. The population consists of three major ethnic groups - Chinese (74.2%), Malays (13.3%), and Indians (9.2%), with the remaining 3.3% of other ethnic backgrounds (Singapore Department of Statistics, 2012). Expelled from Malaysia and forced to become independent fifty years ago, Singapore's only natural resource is its people, and hence she depends on having an educated workforce to sustain economic growth (Tan, 2007).

The government invests heavily on education. Every year the budget for education is second only to defence. The budget has grown steadily from 8.4 billion in 2008 to 10.5 billion in 2012 (Ministry of Finance, 2012). The education budget for 2012 was approximately 3% of Singapore's Gross Domestic Product (GDP).

ECEC has been considered the responsibility of the family rather than the State. It is therefore not surprising that Singapore was ranked overall 29th out of 45 countries in the study, *Starting well: Benchmarking Early Education Across the World* (Thomas, K., 2012), where 21 indicators, mostly input indicators, were used to consider the relative availability, affordability and quality of preschool education across countries.

All ECEC services, whether through kindergartens or childcare centres, were provided by commercial, not-for-profit and community-based operators. The State saw its role as setting minimum standards for health, safety and teacher qualification, and providing professional guidance and support when requested. Regulation of the ECEC services by the State was based on minimal requirements of health, safety and teacher qualifications (Tan, 2007).

Thus, ECEC's share of the education budget had been very low until recent years¹. The increase in funding for the ECEC sector in recent years has gone into areas of high leverage (Tan, 2007), focusing on structures and systems, for example, providing curriculum frameworks and guidelines, ensuring minimum standards for teacher preparatory training and providing subsidies for kindergartens serving disadvantaged children (ibid.).

This chapter outlines how ECEC is organised and where the kindergartens sit within the ECEC landscape in Singapore. It also provides information on the training of principals and the latest developments in the sector. The last section of this chapter provides a brief discussion of the macro level drivers of quality in the system.

2.2 Dual provision - kindergartens and childcare centres

Just as in many systems in the world, ECEC services in Singapore are provided by kindergartens and childcare centres (CCC). The kindergartens had an earlier start, with a system already well established by the 1960s (Sharpe, 1993). Kindergartens served the dual purpose of giving children early exposure to English Language and preparing them for primary 1 (ibid.).

The programmes provided by kindergartens are named Nursery, K1 and K2 respectively for children who turn four, five and six year olds in the calendar year. Prior to the launch of the Kindergarten Curriculum Framework (KCF) in 2003, the kindergartens tended to focus on the development of children's academic skills through didactic teaching approaches with the aim of preparing children for school (Tan, 2007). This was possibly one reason why the term 'preschools' has been associated with kindergartens. The KCF was developed with the intent of providing broad guidance to operators on content for kindergarten programmes and age appropriate pedagogical principles. With 6 learning principles - a holistic approach to development

¹ In the document on estimated expenditure of the Ministry of Education (MOE) for Financial Year (FY) 2007/2008 (MOE-Singapore, 2007), a sum of S\$27.7 million (about 13 million British pounds) was indicated as Phase III Development Grant for kindergartens. This sum constituted 0.39% of MOE's budget for the FY. The document also indicated that a total sum of S\$16.8 million was to be given as grants for the kindergarten up to the end of FY2004.

and learning, integrative learning, children as active learners, adults as interested supporters in learning, interactive learning, play as a medium in education - the KCF was based on MOE's Desired Outcomes of Preschool Education (2000) which spelled out what the children should have acquired upon completion of preschool:

- "Know what is right and what is wrong
- Be willing to share and take turns with others
- Be curious and able to explore
- Be able to listen and speak with understanding
- Be comfortable and happy with themselves
- Have developed physical co-ordination and healthy habits
- Love their families, friends, teachers and school"

(MOE-Singapore, 2003)

Childcare centres (CCCs) in Singapore had their beginnings in the Social Welfare Department (SWD) in feeding schemes for children who were undernourished (Khoo, 2010). The feeding schemes grew into children's centres for 2 to 7 year olds and the purpose was to provide daycare for children from low income families so that mothers could re-join the workforce and earn an income (Khoo, 2010). Following Singapore's rapid industrialisation in the 1970s, the need for CCCs to provide care services for the children grew as more women joined the workforce (ibid). Today, CCCs provide full-day programmes on weekdays and Saturdays to children from 2 months to 6 years old. Apart from daycare, CCCs also provide programmes of learning parallel to those provided by the kindergartens for children in the Nursery, K1 and K2 age. Hence, parents have also referred to CCCs as preschools (Tan, 2007).

To provide guidance on the care services and the provisions for the development of children from 18 months to 3 years old, the Ministry for Community Youth and Sports (MCYS) (now the Ministry of Social and Family Development (MSF)), launched the Early Years Development Framework (EYDF) in 2011 (MCYS-Singapore, 2011).

Although both kindergartens and CCCs provide learning programmes, the structures of programmes differ. Kindergartens typically run a 3-4 hour programme daily, often running these programmes in 2 sessions. CCCs operate from 7 am to 7pm on weekdays and also on Saturday mornings. Reporting time at CCCs is generally more flexible, as parents would generally drop their children off at the CCCs before they go to work. The CCCs would typically have an hour in the morning and another hour in the afternoon for learning activities, and they also structure nap and shower times into their daily schedules (ECDA-Singapore, 2015). Generally, the kindergartens provide a more school-like environment, whereas CCCs provide a more home-like environment.

For clarity, the terms ‘kindergarten’ and ‘childcare centre’ (CCC) will be used to refer to the institutions providing ECEC services while the term preschool education (PSE) will be used to refer to the Nursery, K1 and K2 programmes for the four, five and six year old children. [Figure 2.1](#) provides a visual representation of services provided by kindergartens and CCCs.

Figure 2.1 - Programmes provided by kindergartens and childcare centres

	AGE (Years)						Programmes
	1	2	3	4	5	6	
Institution Type		Play group	Pre-Nursery	Nursery	K1	K2	
Kindergartens							
Childcare Centres							

The dual origins of the kindergartens and CCCs explain why there are separate tracks of funding and regulatory frameworks for kindergartens and CCCs. Only children whose mothers were working received fee subsidies from the government as the fee subsidies were originally given to mothers to encourage them to re-join the workforce, however the policy intent has changed over time. In 2012 children who attended CCCs full-day and half-

day received a S\$600² subsidy and S\$300 subsidy per month respectively from the government if their mothers were working. Infants and children whose mothers were not working received a subsidy of S\$150 (ECDA, 2015). No fee subsidy was provided to parents of kindergarten goers until 2015 (ECDA-Singapore, 2015).

In terms of regulation, kindergartens have been registered with the MOE and regulated through the Education Act (1958), while the CCCs have been licensed by the Ministry of Social and Family Development (MSF) (previously known as Ministry of Community, Youth and Sports or MCYS), and regulated under the Child Care Centres Act (1988) (Tan, 2007).

At the point of data collection in late 2012 and early 2013, all ECEC services were run by either commercial or non-profit operators. There were about 500 kindergartens and 1000 CCCs. Cohort participation in ECEC services has been consistently high for five and six year olds, with an average of 98.8% for the six year olds (MOE-Singapore, 2010). About 60% of children attending the K1 and K2 programmes were doing so in kindergartens, while the remaining 40% were enrolled in CCCs. Of the children enrolled in kindergartens, about 50% were enrolled in commercial, religious or ethnic-based kindergartens, and the other 50% were enrolled in kindergartens run by a single community-based provider (MOE-Singapore, 2010).

Cohort participation for the younger age groups, taking all ages below 5 years old together, have been much lower at about 50%, however the participation rate for this age range has been on the rise over the last decade. In response to the increasing demand for services for children from birth to four years, the government announced in 2009 that 200 more child care centres would be set up.

² Exchange rate 2012: 1 British pound was about S\$2.0.

2.3 Teacher and principal entry requirements and continuous professional development

2.3.1 Teachers

Before 2000 there were no entry requirements for teachers. In year 2000, the government put in place academic requirements for entry into teacher preparatory courses. This was set at three GCE 'O' level passes. Prospective teachers were also given notice that they had to obtain a Certificate in Preschool (Teaching) (CPT) to be registered as teachers by 2008. Incumbent teachers who had already obtained a CPT were exempted from the academic requirement (MOE-Singapore, 2006).

In 2008, having met the target set earlier for entry into teacher preparation courses, the government raised the minimum academic requirement to five GCE 'O' level passes. This meant that generally ECEC teachers would be drawn from the middle third of each cohort in terms of entry academic attainment. Candidates had to obtain a Diploma in Early Childhood Care and Education (Teaching) (DECCE-T) within a stipulated time and they had also to obtain a B4 grade in English Language at GCE 'O' level to be registered as teachers. Recognising the experience of the incumbent teachers who already had a CPT, the government decided to give incumbent teachers up to 2013 to meet the Diploma requirement. Incumbent teachers were also given dispensation on the English Language requirement (MOE-Singapore 2008).

Given that the incumbents were given dispensations twice, it is possible that among the currently registered teachers, there are some who have no GCE 'O' level passes.

There is no statutory requirement for kindergartens to provide for teachers' professional development even though there is a Continuous Professional Development (CPD) Framework introduced in 2013 (ECDA-Singapore, 2013) to provide guidance on professional development and there are standards on teacher professional development in the quality assurance and accreditation

instrument for preschools (MOE-Singapore, 2010). As participation in professional development and quality assurance are both voluntary, the participation of teachers in professional development is uneven.

Degrees are not needed for teacher registration, although some practitioners have pursued degree programmes offered at the SIM University³ and foreign universities in Singapore. Based on anecdotal accounts, degree holders progress faster in their careers.

2.3.2 Leaders

Until 2013, leaders were required to have a Diploma in Early Childhood Care and Education – Teaching and Leadership (DECCE-T&L). The combined teaching and leadership programme at Diploma level (DECCE-T&L) was meant for Certificate level holders who wanted to upgrade their skills or be considered for leadership roles (Tan, 2007). Subsequently, the DECCE (T&L) courses also admitted fresh school graduates with neither experience for teaching nor leading. The DECCE (T&L) course was discontinued in 2015. A new Advanced Diploma course for leadership training will be launched in 2016 for teachers who have already been identified by operators for leadership roles (ECDA-Singapore, 2015).

2.3.3 Accreditation of courses

A joint Ministry of Education and the Ministry of Community Development, Youth and Sports (now the Ministry of Social and Family Development) committee set the standards for the CECCE and DECCE-T programmes, and the committee also accredited courses run by a dozen of commercial training agencies and four post-secondary government institutions (Tan, 2007). The accreditation of courses is based on table-top evaluations and site visits. To date, there have been no research studies on the effectiveness of the teacher preparation programmes (Lim, forthcoming).

³ SIM University is also known as UniSIM. It is a private university in Singapore catering to working adults. Singapore citizens attending SIM university receive fee subsidies from the Government.

2.4 Developments in the last 15 years

The pre-school system in Singapore has undergone massive changes over the last 15 years, although arguably the changes have started rather late. The key policy changes have been made in three broad waves outlined below.

- From 1999 to 2006 saw the first wave of government policies related to programme standards, subsidies and financial assistance, and teacher preparation. This was seen as targeting high leverage areas with potential for significant impact on children's learning (Tan, 2007). This first wave of policies was associated with funding for operators serving those on low incomes, to raise standards of teaching and programme quality, and provide financial assistance to low income families to improve their access to EC services. One large operator met the government's criteria to receive subsidies. The remaining kindergartens either did not run secular programmes, charged fees above the government threshold, or did not meet the requirement of serving mainly low income children, and were thus not eligible for government subsidies.
- From 2007-2011, the second wave of policies were introduced. These centred around improving quality, reaching out to the most disadvantaged (MOE-Singapore, 2008) and catering for the increasing demand for CCC services. Examples of policies to raise quality include the raising of minimum entry requirement for principals and teachers, the introduction of scholarships and bursaries for principals and teachers to pursue higher qualifications, the development of curriculum notes and guidelines and resources to supplement the KCF, and the introduction of quality assurance and accreditation of preschools. Policies aimed at levelling up children from disadvantaged backgrounds include outreach to six year old children who had not attended ECEC, increased funding for operators who served low income families, the introduction of a new reading programme (FLAiR) for children who were behind their peers in reading (MOE-Singapore, 2007, 2009, 2010).

During this period, the demand for childcare and infant care places also increased, prompting the government to facilitate the setting up of more CCCs (MCYS-Singapore, 2009).

- From 2012 to present saw a wave of policies indicating a determined effort by the government to integrate kindergarten and CCC services. The Early Childhood Development Agency (ECDA) was set up in April 2013. ECDA, co-supervised by MOE and MFS (previously MCYS), has the role of integrating services of the kindergartens and the CCCs (MOE-Singapore, 2012). A new Act of Parliament has been drafted to regulate both kindergartens and CCCs (ECDA-Singapore, 2015). The government announced that MOE would set up and run fifteen pilot kindergartens (MOE-Singapore, 2013). The involvement of the government in the operation of kindergartens was significant as it signalled a new level of involvement of the government in ECEC - from the detached role of a regulator to one requiring the government to “get its hands dirty” and work at grass roots level. The government also expanded and increased funding to more operators, benefitting more families requiring ECEC services. The Continuous Professional Development (CPD) Framework, and the Career Progression Pathways were launched by ECDA in 2013 (ECDA-Singapore, 2013) and 2014 respectively (MSF-Singapore, 2014). A summary of the key initiatives and policies announced during these three waves is provided below.

Table 2.1 *Summary of government initiatives introduced in the last 15 years*

<p><u>1999-2006</u></p> <ul style="list-style-type: none">- 2000: Release of the Desired Outcomes of Preschool Education (2000) to guide the focus of programmes- 2000: Stipulation of the minimum professional requirements for principal and teacher registration<ul style="list-style-type: none">o By 2006, all principals were required to obtain the Diploma in Preschool Education (Leadership)o By 2008, one in four teachers teaching K1 and K2 children were required to have a Diploma in Preschool (Teaching) and all other

teachers were to have Certificates in Preschool (Teaching)

- 2001: Set-up of the Preschool Qualifications Accreditation Committee (PQAC) to regulate preschool teacher qualifications
- 2003: Launch of the first Kindergarten Curriculum Framework (KCF)
- 2003: Launch of the Financial Assistance Scheme (KiFAS) for children attending eligible kindergartens
- 2003: Introduction of funding for operators serving the low income

2007-2011

- 2007: Outreach to six year old children who had not been enrolled in preschool programmes
- 2007: Provision of Focused Language Assistance in Reading (FLAiR) in kindergartens where most children came from non-English speaking backgrounds
- 2008: Increase in grants to non-profit kindergartens serving children from disadvantaged backgrounds
- 2008: Provision of government bursaries for teachers to upgrade themselves professionally
- 2008: Launch of Kindergarten Curriculum Guide and learning dispositions to supplement the KCF
- 2009: Raising the minimum entry requirements of teachers. By 2013, all kindergartens and CCCs to have at least 75% of K1 and K2 teachers with a Diploma in Preschool Education (Teaching), and all new preschool teachers to also have a minimum of five GCE "O" Level passes including a B4 grade for English Language at GCE "O" Levels
- 2009: Announcement of the setting up of 200 new CCCs
- 2010: Launch of curriculum resources for nurturing learning dispositions to supplement KCF
- 2011: Launch of the quality assurance instrument and the Singapore Preschool Accreditation Framework (SPARK)
- 2011: Launch of the Early Years Development Framework for infant and toddler care

2012-2015

- 2012: Launch of the revised kindergarten curriculum framework or Nurturing Early Learners (NEL) Framework

- 2012: Announcement of the setting up of a second tranche of 200 new CCCs by 2018
- 2013: Setting up of the Early Childhood Development Agency (ECDA) as singular agency to monitor and regulate both kindergartens and CCCs
- 2013: Launch of more scholarships, bursaries and training awards
- 2013: Launch of the Continuous Professional Development (CPD) Framework for teachers
- 2013: Launch of the Anchor Operator Scheme (AOPS), offering funding to more operators that could meet the minimum threshold set up for this scheme. Target was to improve access and affordability for CCCs
- 2014: Setting up first five of fifteen pilot kindergartens to be operated by government
- 2014: Launch of new career progression pathway of teachers and educators
- 2014: Launch of revised KiFAS
- 2015: Launch of the Partner Operator Scheme (POPS) to offer funds to a second tier of CCC operators in order to keep fees affordable
- 2015: Announcement of professional development pathways (PDP)
- 2015: Drafting of new Act to regulate both kindergartens and CCCs

The initiatives and policies introduced in the ECEC sector in the last fifteen years have effectively changed the sector in the following ways:

- From having no requirement for preschool teachers seeking entry into the sector to having a requirement of at least five GCE 'O' level passes including a minimum grade of B4 for English and a Diploma in ECEC in order to be registered as a preschool teacher;
- From a non-regulated situation for initial teacher training to a more tightly regulated teacher initial teacher training landscape;
- From having no guidelines for the curriculum to having a set of curriculum guidelines for preschool education as well as a set of guidelines for early years development;

- From having no common understanding of job roles and titles to a set of sector-wide career progression pathways in order to guide human resource practices;
- From having broad guidelines of practice for leaders and teachers to having clearly defined job scopes and associated competencies for different job roles;
- From having few opportunities for continuing professional development to having a framework to guide professional development (CPD Framework) of practitioners;
- From having no standards on management and operations to having a quality assurance and accreditation system;
- From no government funding for kindergarten services to government operated kindergartens;
- From financial assistance for the children from families belonging to the lowest income bracket to a cost subsidy model based on a sliding scale for families with below average household incomes; and
- From having separate Acts of Government to regulate kindergartens and child care centres to a unified Act to regulate both kindergartens and child care centres.

2.5 Drivers of quality

The role of leaders is to create the best conditions for teaching and learning and the ultimate purpose of leadership is to provide a quality environment for the learning of the children. This section will discuss the key macro level drivers of quality in the system, highlighting aspects of the macro environment which may aid or hinder the principals' efforts in nurturing an environment supportive of teachers' learning and ultimately the children's learning.

2.5.1 Factors supporting the drive for quality

The need for economic development - Human resource development

Human resource development is a key government strategy for economic development, and this has been so from the time Singapore became independent (Gopinathan, 2007; Lim, forthcoming) – there being no natural resources. The mission statement of the Ministry of Education, Singapore, is “Moulding the Future of our Nation” (MOE, 2015) as it has been widely accepted that the development of Singapore, economically and otherwise, hinged on quality education. Thus, once convinced of the importance of early childhood development to human resource development, it is likely that the government of Singapore will continue to find ways to improve the quality of ECEC.

The need for economic development – encouraging parenthood and concurrently boosting the participation of women in the workforce

The Singapore workforce is not large enough to support its economy. With close to full-employment of the citizen population, the 2010 manpower figures showed that the workforce was made up of citizens 59%, permanent residents 11%, foreigners with short term work arrangements in Singapore close to 30% (MOM-Singapore, 2011). In 2014, about 76% of women in their prime-working ages of 25-54 were working. Given the shortage of manpower, it is not surprising that the government has instituted policies to encourage the increasingly well educated women to participate in the workforce and to remain in the workforce for as long as possible.

The birth rate and fertility rate in Singapore were 9.8 per 1000 women and 1.25 respectively in 2014. Two reasons often given by women for not having more children were the high cost of bringing up children and the shortage of good childcare support. In 2014, of the unemployed women aged 25-54, 25.4% stayed home to look after their children (MOM-Singapore, 2014).

With the fertility rate falling below replacement level several times in the last few years and the shortage of manpower, the government has acknowledged

the need to support parenthood and the return of women to the workforce by making available affordable quality child care (Singapore Parliament, 2010).

It is likely that the government would work towards improving the quality of ECEC given that improving birth rates and encouraging the participation of women in the workforce are imperatives of continued economic growth. Referring to the role that the Singapore government has been playing education change and reform, Dimmock and Goh (2012) noted that the Ministry of Education (MOE) has in fact been the main change agent instigating and driving change.

Increasing gap between rich and poor

The inequality level in Singapore as measured by the Gini Coefficient is high, (Singapore's Gini coefficient was 0.412 in 2014; a value of 0 represents absolute equality while a value of 1 represents absolute inequality) (Department of Statistics Singapore, 2014) surpassed only by Hong Kong. There is thus a need for the government to act in narrowing the gap between the rich and the poor. The most likely place to act is on education. One could speculate, given the government's philosophy of imbuing self reliance amongst its population (Lee, 2004), that a future government focus is likely to be still that of providing targeted funding to the kindergartens serving the disadvantaged and ensuring that these kindergartens provide programmes of quality so that children from disadvantaged backgrounds start school on an even footing with their peers.

Parents want the best for their children

Parents in Singapore place a high premium on education. Many want their children to have a head start in school and in life (Lim, forthcoming). With affluence, many parents are willing to pay high fees for quality preschool programmes. Parents' focus on the education of their children goes beyond formal programmes. Many affluent and middle income parents also send their children for tuition and enrichment classes, ranging from aesthetics to academic enrichment (Soh, 2014). One explanation for the great value that parents place on education may be explained by the widespread Confucian

values present in Singapore society which stress the importance of education and an ethics of hard work (Lee, 1994 in Zakaria, 1994). Another explanation is the presence of a very competitive environment coupled by a definition of success that is associated with academic achievement. An ECEC researcher writes:

"Since independence, the government has pursued a system of meritocracy that, over the years, has resulted in a highly competitive education system. Competition and extrinsic rewards for achievement in school factor strongly in the minds of many parents. They are anxious for their children to succeed in school and take great pains to ensure that their goals are achieved" (Sharpe, 2002:9)

There have also been reports from ECEC teachers that parents have been requesting for more homework and greater emphasis on academic skills (Lim, forthcoming). Notwithstanding the focus, parents as a group has become a force for change at the kindergartens. Such values and culture are likely to persist and remain as a force to drive quality.

2.5.2 Factors working against quality

High attrition rates and the changing profile of teachers

At the macro level, there is a fair amount of movement of teachers across kindergartens, and the attrition rate from the sector is high (Ang, 2012). While the former creates discontinuities in the sector, the latter works against efforts to deepen teachers' knowledge and skills. In the longer term quality will be affected.

Based on anecdotal accounts from teachers, the contributing factors to high attrition include low pay, low status, long working hours, and poor leadership. As entry requirements for teachers have been raised, there will be some situations where the new teachers are better qualified and trained than those who supervise them. Unless properly managed, this mismatch may contribute further to attrition and prevent quality practices from taking root.

The need to make profit amidst rising cost and competition

Until 2014, all kindergartens were run by commercial, non-profit and community foundations. The cost of running ECEC services is high as two key cost drivers, space and manpower, are tightly regulated through space norm per child and the staff to children ratio respectively. As Singapore is a tiny state, land and rental cost is high. Based on a survey reported by Telegraph, a United Kingdom based media group, Singapore ranks 6th highest in terms of property prices in the world. Several rankings carried out by business agencies such as Forbes Inc. (Jacobs, 2014) have placed Singapore amongst the world's top ten most expensive cities to live in.

Good teachers are hard to come by in a quickly expanding sector. Given the need for operators to consider cost and difficulty in finding suitably qualified and experienced practitioners to play the supervisory roles, some operators may resort to cutting corners where regulatory requirements have not been explicit of standards, for example, in the professional development of teachers. If this happens, the quality of experience of both staff and children are likely to be affected.

A culture of performativity

A culture of 'performativity' exists in an environment where judgment is employed, comparisons are made, displays are common, and where rewards and sanctions are used as a means of motivation (Ball, 2003). In a culture of performativity, there is tendency for knowledge to be commoditized (ibid.), and this can have potentially profound consequences on the nature of teaching and learning and also the inner-life of teachers.

While Ball (2003) wrote about teaching and learning, and teachers, Hogan et al. (2013), Leong et al., (2014) indicated that performativity involving students in secondary and primary school classrooms in Singapore is evident, and they linked performativity in these classrooms to cultural roots in Confucianism. Sharpe (2002) in her empirical work with young children in Singapore found that parents were anxious for their children to succeed in school and would take great pains to ensure that their goals were achieved.

She interviewed children on what made them happy, sad, angry or frightened and found children's feelings and opinions were neglected both at home and at school as parents and teachers had expectations for high academic achievement.

One could speculate that the culture of performativity may in the short term produce the achievements but may in the long term demoralize teachers and negatively impact the children's interest in learning.

2.6 Future possibilities

In the last fifteen years, the government has taken steps to play a more active role in shaping the early childhood sector, borne out by the many policies which have been put in place. With growing evidence on the importance of early years and the importance of human resource development to Singapore, coupled with the need to improve birth rates and keep women in the workforce, improving quality of ECEC services appears to be an inevitable item on the government's agenda.

What remains unclear is the set of strategies that the government would adopt to bring about improved quality. Given that Singapore has one of the lowest personal income and corporate tax rates in the world (Singh, 2012), albeit Singapore has one of the highest per capita income in the world, the government would still need to prioritise the services that she provides to her citizens. The government may continue to build systems and central services to support better quality ECEC services, increase the level of help to the weakest in society but may still limit such extended help to a small group of citizens. Such a strategy would be consistent with the government's philosophy of encouraging self-reliance, at the same time this would address concerns arising from the increased Gini's Coefficient. Nevertheless, with out-of-pocket expenditure for parents on childcare increasing, and the political pressure for the government to do more to support parenthood, the direction of that the government is likely to take is one of the middle ground.

CHAPTER 3 Literature review

3.1 Introduction

This chapter provides a synthesis of literature on the key concepts of leadership which are central to this study, namely: leadership, leadership for learning and capacity building, and how these might apply to the ECEC sector. The conceptual framework adopted for this study, and the associated theories will also be outlined.

3.2 Educational leadership

3.2.1 Leadership - key concepts

Leadership as a craft

In pre-liberal times there was no clear separation between leaders and leadership, as leadership was believed to be preordained (Turner, 2006). Today, however, leadership is seen as a craft. The role of the leader is viewed as dynamic, for example, the teacher may “lead” a carpenter on educational matters but would take the advice of the carpenter on the selection of good furniture. There is clear separation of the person, the leader, and the act of leading (ibid).

Leadership may be understood as the interaction of four elements in a leadership situation, namely: the leader, the followers, the situation and the task (Ogawa, 2005; Spillane et al., 2004). Leadership is applied when the leader gains support of his/her followers to achieve agreed goals in a given situation (Ogawa, 2005). Viewed with this lens, leadership is a relationship, one of mutual consent between the leader and the led (Gibb, 1968; Ogawa, 2005).

A definition of leadership

Although the concept of leadership is still in transition, there is some convergence in the meanings offered in the literature. A common thread running through the literature suggests that the key roles of leaders include the decoding the context, articulating a vision, unifying members of the organisation to work towards this vision, and nurturing or sustaining a culture supportive of achieving this vision. The definition of Bush and Glover (2002) captures most if not all of the key features of leadership:

“Leadership is a process of influence leading to the achievement of desired purposes. Successful leaders develop a vision for their schools based on their personal and professional values. They articulate this vision at every opportunity and influence their staff and other stakeholders to share the vision. The philosophy, structures and activities of the school are geared towards the achievement of this shared vision.”

(Bush and Glover, 2002:8)

Differences between leadership, management and administration

Before the 1970s the terms ‘leadership’, ‘management’ and ‘administration’ were used interchangeably in the literature. However, today there is a clear distinction between these terms (Bush and Glover, 2002).

The term ‘leadership’ refers to acts associated with development and change (Day et al., 2001) and the cultivation of an environment based on the values and purposes of the leader (Bush and Glover, 2002). The term ‘management’ is associated with routine, maintenance work (Day et al., 2001; Dimmock, 1998) and the focus is on efficiency (Starrat et al., 2010). Administration, on the other hand, refers to activities feeding the bureaucratic machinery, for example, keeping records, and applying for funds for a project.

The meanings for ‘leadership’, ‘management’ and ‘administration’ described above will be adopted in this thesis.

The knowledge, skills and tasks associated with leadership and management are different but overlapping and both are necessary in organisations (Bolman and Deal, 1997, in Bush and Glover, 2002). Empirical studies have

shown that the proportion of time that a leader spends on leadership and management differs according to the size and context of the organisation, and it is important for a leader to balance managerial and leadership tasks (Siraj-Blatchford and Manni, 2007; Leithwood et al., 2004).

Outstanding leaders act with agency and towards a vision

In schools, outstanding school leaders create a compelling sense of purpose through their vision (Barber et.al., 2012; Beare et. al., 1989, in Bush and Glover, 2002; Day et. al, 2011; Fullan, 2005; Kruger, 2009; Murphy, 2007), while they plan strategically to realise the vision (Bush and Glover, 2002) and build consensus about relevant short-term goals (Leithwood, 2005). Researchers in the early childhood sector have written about the importance of the vision. Rodd (2011) wrote that the vision captivates the imagination of those led and thus it is an important means for leaders to enlist the support of followers. Other researchers, including Aubrey (2006), Moyles (2009) in Hallet (2013), and Siraj-Blatchford and Manni (2007), wrote about the importance of identifying and articulating a collective vision and ensuring a shared purpose.

Often linked to the vision of a leader is his/her agency. Scholars (Bush and Glover, 2002; Coleman, 2005; Day et al., 2001; Fullan, 2005; Ogawa, 2005) have written about the agency of leaders especially in relation to equity and helping the disadvantaged.

Leadership is culturally embedded and leaders shape cultures

Culture is an abstract concept discernible through a range of observable rituals, events, symbols, and patterns of interaction. These observable parts of the culture are underpinned by the invisible parts, including shared values, group norms, rules, embedded skills, habits of thinking, mental models, shared meanings (Schein, 2009, 1992, 1990). A culture takes root in a context where there is structural stability, and where observable events as well as underlying forces have become part of the group's way of being and living (Schein, 2009). Schein (2009) defines culture as

"...a pattern of shared basic assumptions learned by a group as it solved its problems of external adaptation and internal integration, which has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think and feel in relation to those problems."

(Schein (2009:18)

Cultural differences exist across workplaces, generations of people, ethnic groups, religions and national boundaries. Cray and Mallory (1998) in Shaw (2005) pointed out that practices in organizations are influenced by the interaction of three cultural elements, namely, the individual's cognitive framework, organizational culture and societal culture. When one factor is weak, the other two factors will prevail. Thus, culture can be seen as existing at the macro and micro levels and they have mutual influence on one another. Hofstede (1994), found that whenever there are differences in values at the micro level, these differences are likely to be linked to factors such as religion, nationality, age, and education of the people. Cross-cultural differences or inter-ethnic and cross national variations arise from values and assumptions inherent in the culture and are passed on from one generation to the next.

At workplaces, cultural differences most sharply experienced are those associated with ethnic and national backgrounds although dynamics arising from organizational structures and differences in personalities do play a part as well (Shaw, 2005).

Culture shapes the day-to-day experiences of individuals. It is thus not surprising that successful leaders are those who shape the informal, subtle and symbolic aspects of culture.

"We failed to note that "culture" viewed as such taken-for granted, shared, tacit ways of perceiving, thinking, and reacting, was one of the most powerful and stable forces operating in organizations."

(Schein, 1996:231)

S. Lightfoot in her 1983 study of good high schools in the United States found that a clearly articulated school culture combined with a community supportive of the culture was a common feature across these schools (Lightfoot, 1983).

Leaders foster a culture of effectiveness (Cunningham and Cresso,1993; Kruger 2009; Murphy et al., 2007) as once a “culture of effectiveness” has been established, everything else falls into line.

"Successful educators spend considerable time developing an effective school culture, since nothing can be accomplished if the culture works against needed reform. Time and effort are spent building and supporting a strong and functional educational culture focused on improving educational performance and effectiveness. Educators have learned that structure and process are important to maintaining the organization, but it is the culture that yields the dividends".

Cunningham and Cresso (1993:19)

Researchers on Singapore have written about “...*the single-minded performative orientation of instructional practices in the Singapore classrooms*” (Hogan et al., 2013:58) and how success may be viewed in Singapore. Leong and Tan (2014) summarising findings on common views in Singapore wrote that a successful Singaporean student is one with good examination results, and a successful Singaporean teacher is one who is able to help his/her students achieve good examination results.

Leadership is influenced by personality traits, beliefs, values, experiences and gender

Much of the literature on how leaders lead focuses on the personality characteristics of leaders, in fact, the earliest studies on leadership were based on personality traits (Kruger, 2009). A small handful of personality traits explained a high proportion of the variation in leadership effectiveness. These traits include open-mindedness (Leithwood et al., 2008; Popper et al., 2004), readiness to learn, persistence, flexibility in thinking, willingness to listen carefully to ideas of others, anchoring in a system of core-values (Leithwood et al.,2008), motivations, self-efficacy beliefs, and optimism (Popper et al., 2004).

In addition, successful leaders were found to show tremendous passion and enthusiasm for the education of the children (Leithwood, 2005), often exhibiting a high degree of emotional sensitivity to the needs and aspirations of colleagues, as well as those of parents and students (Leithwood, 2005; Wong and Law, 2002).

How a person leads is rooted in firm personal and professional values (Day et al., 2001; Bush and Glover, 2002; Leithwood, 2005; Lambert, 2003; and Sergiovanni, 2000), with successful leaders often holding values associated with social justice and an ethic of care (Leithwood, 2005), and they unify people whom they lead around values.

Gender (Greenberg and Sweeney, 2005), experience and education have also been found to influence leadership style (Lingard and Christie, 2003).

French sociologist, Pierre Bourdieu, explained the interaction of all these factors. Bourdieu (Lingard and Christie, 2003) wrote that the unconsciously internalised understanding of a particular social environment, 'habitus', is brought into all relationships including the relationship between leaders and followers. Bourdieu believed that 'habitus' is the product of individual history, the collective history of family, class, and gender, and that it predisposes the individual to respond in particular ways to different stimuli. A person growing up in a middle class family would develop dispositions that would be associated with middle class 'habitus', and the professional 'habitus' builds upon it (ibid).

The space within which leadership operates is the 'field' - a structured social space wherein members exert their influence according to their 'habitus'. For example, there exists a 'field' of preschool education, a 'field' of higher education and so on. Each 'field' is shaped by the values that its members bring, which is part of their 'habitus'. Within the 'field', there is a hierarchy of values, serving as the internal logic for the operations of its members. The values provided by each 'field' is different and this in turn shapes the relationships among members and the individual 'habitus' (Bourdieu, 1998, in Lingard and Christie, 2003). Leadership shapes the culture of the 'field' and leadership in turn shapes the culture of the 'field'.

Models of Leadership

Models of leadership, for example, participative, transformational, instructional, distributed, contingency, was a common focus for research studies on leadership, but unfortunately these studies had relatively weak

empirical support for their constructs (Bush, 2011). The studies on the models captured the focus of leaders and their different styles but failed to surface the common themes that underpin the different models (Leithwood et al., 2004). In fact, they were in many ways similar to studies on personality traits of leaders, and distinctions made between models were often contrived and unconvincing (ibid.).

3.2.2 Distinguishing features of educational leadership

Educational leadership, a sub-field within leadership, gained importance in the 20th century when calls for accountability gained momentum, and the status quo in school management became unacceptable (Gray, 1985; Greenfield, 1995).

Greenfield (1995) identified five interrelated aspects of leadership in schools, namely: moral, social/interpersonal, instructional, managerial, and political. The moral dimension involves the use of a complex mix of values and standards of goodness in decision-making. The social/interpersonal dimension is associated with the face-to-face interpersonal interactions which characterise the nature of the work in a school, whether these are child-adult, child-child or adult-child interactions (ibid.). The instructional dimension refers to the core activities in the school, including the learning of the students and teachers, and the managerial dimension includes day-to-day planning, coordination, control and operations in support of the instructional programmes (ibid.). The political dimension refers to the power to influence the allocation of resources between conflicting or competing interests of the various stakeholders (ibid.). The five dimensions vary in importance from one context to another (Cuban, 1988, in Greenfield, 1995:67) and may change in magnitude over time in a given setting. Studying the Asian contexts, Cheng (2003) found similar leadership roles to those provided by Greenfield (1995) but the roles were grouped differently.

All five aspects of leadership described by Greenfield (1995) are relevant to leadership in all fields of practice. Arguably, the distinguishing feature between leadership in education and other fields appear to be in the

emphasis of moral and instructional leadership. This will be further discussed below.

Moral leadership

A discussion on how educational leadership differs from leadership in other fields must also consider the purposes served by different types of organisation. Greenfield (1995) and Wong (1998) wrote that, unlike business corporations, schools serve the purpose of socialising children to norms which are not of the children's choosing. As the children are minors, schools are obliged to socialise the children to values, beliefs and skills acceptable to the community. Thus the moral character of the school is important in supporting this socialisation process. On the need for schools to have a moral character, Greenfield (1995) wrote:

"Unlike administrators in other contexts, the school administrator thus has a special responsibility to be deliberately moral in conduct.school administrators have a professional duty to be sure that school policies and practices do indeed serve the best educational and developmental interests of children (minors within the law and attending school involuntarily.)"

(Greenfield, 1995:64)

While moral leadership may not be unique to schools, it is probably qualitatively different to the needs for moral leadership in other organisations.

Goodlad et al. (1990) acknowledged the importance of the moral dimension in school leadership.

"teaching the young has moral dimensions ... because education - a deliberate effort to develop values and sensibilities as well as skills - is a moral endeavour"

Goodlad et al., (1990) in Wong (1998:115)

Thus, school leaders are obligated to guide their staff to establish an appropriate moral character. Sergiovanni (1990) suggested that when moral leadership transcends the school, it has the power to inspire commitment and performance of staff.

Instructional Leadership

Apart from the moral role that schools play which is qualitatively different from that of other social organisations, the other role that truly sets schools apart from other social organisations is in the area of instruction. Since the 1980s, there has been growing interest in research for instructional leadership (Hallinger, 2005; Southworth, 2002). The global trend of greater accountability in education in the last decade has also directed school leadership towards fostering conditions which support the improvement of educational outcomes (Cheng, 2003; Hallinger, 2005). Developing and maintaining a pervasive focus on learning is at the core of the Effective Schools research (Sammons et al., 2005). In ECEC research, Siraj-Blatchford and Manni (2007) found the parallel in their study of effective EC centres, and concluded that it is not just leadership in general but leadership for learning which is important.

Learning is a social process, that is, the teaching and learning process is a relational one. As professionals, teachers enjoy great independence in their interaction with their pupils. This coupled with the tendency for teachers to value the psychological rewards derived from the success of the children as well as the relationships they have with the children, give rise to the lower priority they place on other aspects of the school. This can often make attempts to develop inter-dependence and teamwork amongst teacher difficult (Greenfield, 1995), and school leaders need to be cognisant of such tendencies. Thus leaders need to give attention to building awareness of teachers towards organisational needs.

The school is exposed to both predictable and unpredictable 'threats' from the external environment. However the source of the 'threats' could be different. The children's home environment, changes to the subcultures and the physical environment outside the school, and even the social and political environment pose continuous 'threats' to the stability of a school's internal environment (Ball, 1987, in Bacharach and Mundell, 1993), requiring the school to regularly integrate internal processes and attend to boundary

issues in response to external demands. In providing instructional leadership, principals need to take cognisance of such threats.

3.2.3 Leadership for learning

Impact on the learning of students

‘Instructional leadership’ has often been used interchangeably with ‘leadership for learning’. However, some researchers have pointed out that ‘instructional leadership’ is often used to convey what leaders do in relation to the delivery of programmes of learning for the students. This term has diverse meanings and does not immediately bring to mind the learner or the learning process. For this reason ‘leadership for learning’ is the preferred term (MacBeath and Townsend, 2012). Bossert et al. (1982) suggested that leadership for learning involves the design, delivery and evaluation of the school curriculum and the process of teaching and learning. Implicit in the notion of evaluation is whether the stated learning objectives of the children have been achieved.

Although it would seem intuitive that school leaders would focus their attention on learning, research has found that this has often not been the case (Greenfield, 1995).

Meta-level studies on educational leadership in ‘successful schools’ across educational systems found that setting the direction, and focusing on teaching and learning were the most important in ensuring student success (Hallinger et al., 2008, 2010). In studies of effective EC centres, the clear focus of the leader on learning has been found necessary for student achievement (Siraj-Blatchford and Manni, 2007).

All successful school leaders draw on the same repertoire of leadership practices

In *Seven Strong Claims about Successful School Leadership*, Leithwood et al. (2008) asserted that all successful school leaders draw on the same repertoire of leadership practices which include:

- building vision and setting direction - this is about establishing a shared purpose for all to work towards and acceptance of associated group goals and performance standards.
- understanding and developing people – this is about establishing trust with staff, and providing the necessary support to build knowledge and skills
- redesigning the organisation – this is about building collaborative cultures, restructuring and re-culturing to make the most of motivations, commitments and capacities.
- managing the teaching and learning programme – this is about managing the teaching programme, deploying resources to support teaching, monitoring school programmes and buffering staff from distractions.

Leithwood et al. (2008) asserted that school leaders improve teaching and learning indirectly through their influence on staff motivation and commitment, and working conditions. He also asserted that school leaders have greater influence when leadership is distributed, albeit some models of distribution are more effective than others.

Promoting and participating in teacher learning is important

In recent years, researchers have demonstrated that an organisation's ability to improve and sustain improvement depends largely on its ability to nurture professional learning communities (Stoll and Louis, 2007, in Harris, 2010). Robinson, Lloyd and Rowe (2008) in the school sector provided further details on the components of leadership for learning that are critical. In their meta-analysis of empirical studies on school leadership, they pointed specifically to the leader's involvement in promoting and participating in the

learning and development of teachers as a factor with a large effect size (0.84). In fact, this factor had the largest effect size among five factors found to have significant impact on student learning. Robinson et al.'s (2008) findings while confirming the findings of others, also provided empirical evidence on the degree of impact of the different enabling factors.

"The leadership dimension that is most strongly associated with positive student outcomes is that of promoting and participating in teacher learning and development."

(Robinson et al., 2008:663)

Other scholars wrote in agreement with Robinson. Thus:

"...professional learning vouchsafes a longer term educational future than by focusing on the achievement of any single cohort of students". (MacBeath, 2010: 817)

Explaining a possible reason for the large effect size, Robinson et al., (2008), wrote:

"Leaders' involvement in teacher learning provides them with a deep understanding of the conditions required to enable staff to make and sustain the changes required for improved outcomes"

(Robinson et.al., 2008:663)

That leaders' involvement in promoting and participating in teachers' learning and development is possibly the most important factor supporting student learning was also explained in Knapp et al.'s (2003) model, where student, staff and system learning interact with one another. According to this model, when teachers undergo professional learning, their new learning has an impact on student learning. Improvements in student learning provide affirmation for the teacher. With success, managers and teachers grow in confidence and begin to build structures and maybe also create cultures that would further support professional learning, ensuring the continuation of professional learning.

Arguing from the change management perspective, Greenfield (1995), Glass (2008), and King and Bouchard (2011) asserted that schools' ability to adapt programmes to meet student needs is contingent on the teachers' ability to do so, and this is associated with teacher capacity, experience and

professional knowledge and skills. Teacher learning has also been associated with the implementation of planned change (Elmore, 2000; Smylie, 1996). Further, Sammons et al. (2005), in their Effective Schools research found that Effective Schools focus on the learning of teachers.

Scanning the research in the early childhood sector, Sharp et al. (2012) noted that the leaders' commitment to their own continuous learning and reflective practice was often cited as important to the achievement of the children's learning.

Other mediating factors

Other leadership variables found to have a mediating effect on learning outcomes include: teacher efforts in the professional learning (Biddle and Dunkin, 1987 in Day et al., 2008), opportunities for interchange of craft (Wenger, 1998, in Day and Gu, 2007), distributed leadership (Conley, 1991 in Day et al., 2008; MacBeath and Townsend, 2012; Spillane, 2004), whether the environment is rich in ideas and engaging (Brophy, 1984 in Day et al., 2008), the existence of a safe and orderly climate (Teddlie and Stringfield, 1993, in Day et al., 2008), school culture (Deal, 2005, in Day et al., 2008), teacher commitment (Dannetta, 2002 in Day et al., 2008), collective teacher efficacy (Goddard et al., 2000), sense of professional community (Louis and Kruse, 1996, in Day et al., 2008), organisational learning processes (Silins and Mulford, 2002), school goals (Hallinger and Heck, 1996), procedures for monitoring pupil progress (Walberg, 1984, in Day et al., 2008), maintaining a focus of being accountable to external audiences (MacBeath, 2012).

3.2.4 Capacity Building

In line with the notion that leadership is about acts associated with change and development, the purpose of leadership is thus to improve the ability of the organisation to cope with change and development or in short build the capacity of the organisation. Capacity building has been defined as

“a process by which individuals, groups, organisations, institutions, and societies improve their ability to identify and meet development challenges in a sustainable manner” (Lusthaus, 1999:3).

In capacity building programmes for nations, the strategies go beyond knowledge and skills transfer to those dealing with norms, values, political culture, social capital and incentives for change (Editorial-InfoCotonou, 2003).

Research literature on strategies for building an organisation's capacity mirrors those for capacity development of nations. Fullan (2010) wrote,

"Capacity Building concerns competencies, resources and motivation"

Fullan (2010:57).

At the organisational level, capacity building is seen as the process of enhancing or more effectively utilising skills, abilities and resources, strengthening understandings and relationships, and addressing the intangible dimensions such as values, attitudes, motivations and conditions to support sustainable development (Bolgar, 2000; Lavergne and Saxby, 2001).

Thus, efforts to build capacity for learning also include processes to enable and sustain the professional learning of teachers, and the mobilisation of the collective power of the staff to strengthen student learning (King and Bouchard, 2011; Youngs and King, 2002). The key constructs of the theoretical framework adopted by Youngs and King in a national study on the potential of professional development on building school capacity in the United States in 2002 were five interacting dimensions: (1) building teacher knowledge, skills, and dispositions, (2) building a school-wide professional community, (3) fostering coherence in school goals and actions, (4) building technical resources and (5) principal leadership.

Knapp et al.'s (2003) model, mentioned in previous section, explained the interactions between student learning, staff learning and organisational learning in educational institutions and the potential of staff learning as a starting point for an upward reinforcing cycle leading to improved student learning.

What do educational settings which focus on building learning capacity look like? Coppieters (2005) described such settings as follows: Where all

members learn together, share insights, knowledge and mental models, where there are efforts to build on past knowledge and experiences, and where members continually expand their capacity to create the results they desire. Easton (2008) asserted that where learning takes centre stage, there is a constant questioning and searching for answers; teachers are often in one another's classroom; no one waits for orders as teachers would take the initiative to make changes to matters as needed. Improvements come about from the constant search and learning, based on solid study, observation, data and conversations.

On organisation learning, there was a body of literature on how the learning of individuals and teams in organisations are generally internalised, codified and "lived" by members of the organisation (Kline and Saunders, 1998). Senge (1990) referred to an organisation that is continually building its capacity to institutionalise a learning culture as a Learning Organisation. Senge advocated five dimensions or disciplines for creating and institutionalising a learning culture:

- Systems thinking – understanding the whole, not only the parts, as the parts in any organisation are never totally independent of one another.
- Personal mastery – the on-going pursuit of self-discovery, and commitment to learning associated with the work of the organisation.
- Shared vision – collective commitment to the cause of the organisation.
- Mental models – surfacing the deeply held assumptions and mental images which influence how members of the organisation view the world.
- Team learning – using the synergistic power of working together, leveraging on the discipline of suspending assumptions and dialogue.

Silins et al. (2002) studied the application of the concept of Learning Organisations in Australian schools in the Leadership for Organisational Learning and Student Outcomes (LOLSO) project and the team concluded that

“The evidence is accumulating to suggest that high performing schools are functioning as learning organisations. Schools that engage in organizational learning enable staff at all levels to learn collaboratively and continuously and put these learnings to use in response to social needs and the demands of their environment”

(Silins et al., 2002:639)

3.2.5 Leadership in the ECEC sector

The work of Siraj-Blatchford and Manni (2007) showed that effective leaders of ECEC centres apply essentially similar practices compared to their counterparts in the school sector. However, it is possible that the level of involvement of the ECEC principals in the curricular and pedagogical decisions could be deeper given that ECEC centres are generally smaller in pupil enrolment, and ECEC centres are generally expected to provide greater customisation of learning to cater for the greater unevenness in the children’s development at this stage.

The literature suggested that the ECEC workforce, made up predominantly of females, are hesitant to be engaged in leadership (Miller, 2011; Muijs et al., 2004; Rodd, 2011). The prevalence of a masculine conception of leadership, has been reported as one reason for the reluctance of women in the ECEC sector to take up leadership roles (Kagan and Hallmark, 2001). The ECEC sector is more diverse and complex than the school sector because of the nature of the work and the strong advocacy and community roles that the leaders need to play (Rodd, 2011).

Given the profile of the ECEC workforce, it is not surprising that the majority of leaders in the ECEC sector are women. The literature on ECEC leadership seems to converge on the fit of a more ‘feminine’ leadership style within the ECEC sector. Rodd (2011) observed that

“the picture which is emerging is one of strong leadership within a collaborative framework..... women appear to define power differently from men and do not seem to be interested in displays of power..... Leadership is exercised in a climate of reciprocal relationships where the leader seeks to act with others rather than assert power over others”

(Rodd, 1998:11)

Rodd (2011) summarised that women adopt a more facilitative style and appear to “lead in a way that will keep the group functioning successfully” (Rodd, 2011:31) while men tend to adopt a more authoritative style (Kinney, 1992, in Rodd, 2011). Women also tend to be less risk-taking, less tolerant, and less flexible in their approach to leading (Hennig and Jardim, 1976, in Rodd, 2011). It has been observed that leaders in the ECEC sector tend to give closer attention to maintenance than to development (Rodd, 1997, in Muijs et al., 2004), that is, giving more attention to management rather than leadership. This may be explained by the need for ECEC leaders to attend to the nitty-gritties of everyday operations arising from the greater need for intimacy, flexibility and customisation of services, and collaboration in this sector (Rodd, 2011). Hence, the leadership models outside of ECEC may not be sufficient in accounting for these important features of this type of setting (Rodd, 2011).

There is very little literature on leadership for learning in the ECEC sector. However, from the work of Siraj-Blatchford and Manni (2007), there appears to be convergence between the most cited works on ECEC leadership and educational leadership literature for the school sector. This is not surprising given that many ECEC leadership scholars also take reference from literature on the school sector. Teachers from both the school and the ECEC sector often undergo teacher preparatory courses in the same teacher colleges. They also operate within the same community, thus they are exposed to similar socio-economic, cultural and political realities in the community. Hence, the similarity in literature. Nevertheless, deliberate care is needed when interpreting findings from the ECEC sector even for areas where convergence has been found.

While there is broad convergence, one area that ECEC leaders give more attention to compared to their counterparts in the school sector is parent engagement. Siraj-Blatchford and Manni (2007) highlighted that leaders of effective ECEC centres also encourage and facilitate parent and community partnerships.

In fact, several scholars have written about the importance of parent engagement in ECEC. Belsky et al., 2007 and Melhuish, 2010 in Taguma et al., 2012, found that the quality of parenting and the home-learning environment was associated with positive gains in the children's early development, their social development, their later academic success and high school completion. Sylva et al., 2003, found the quality and frequency of parent-child interaction to have strong positive effects on the children's cognitive development. Given the important role of parenting and the home-learning environment in the development of young children, it is imperative that ECEC leaders give high priority to engagement of parents. Apart from these reasons, engagement of parents is important for the continuity of the children's experiences across different environments which would be greatly enhanced when ECEC centres work closely with parents (Bodrova et al., 2004).

3.3 Components of the conceptual framework

The focus of this study is on how principals, who are the designated heads of the kindergartens, harness professional expertise and resources to improve their kindergarten's ability to provide for the learning and development of the children. The focus on leadership of the principals is not to suggest that principals alone should be the only source of leadership at the kindergartens. Rather, the study considers how principals in this formal role capitalise on formal and informal relationships to build capacity for learning.

Many studies on educational leadership have focused on leadership traits, gender, beliefs and values. There is some empirical evidence to suggest that a small number of personality traits explain a high proportion of variation in leadership effectiveness. Sociologists and philosophers including Bourdieu (in Lingard and Christie, 2003) have explained how the background of a person could have an impact on their world views and how they respond to situations. However, no attempt will be made to verify the influence of these factors within the Singapore context.

The literature review also brought to light the importance of moral leadership in educational settings. Moral leadership will also not be an explicit focus of this study. It is assumed that the exercise of moral leadership is embedded in the daily practices of leaders including what leaders do in support of learning.

In this section, the rationale for the selection of the key components of the conceptual framework of this study will be discussed.

The literature on leadership for learning and those on capacity building of organisations seem to have great similarities in that they seem to focus on three broad themes: (a) promoting the learning of teachers, (b) nurturing a culture supportive of learning and (c) managing the children's programme of learning.

Table 3.1 provides a comparison of the key pieces of work on leadership for learning and building capacity for learning. The work of Siraj-Blatchford and Manni (2007), Leithwood et al. (2008) and Robinson et al. (2008) have been taken to represent works on leadership for learning while the work of Youngs and King (2002) and Senge (1990) have been used to represent capacity building.

On the first broad theme, promoting learning of teachers, commitment to learning of members of the organisation (teachers) was the common thread. Siraj-Blatchford and Manni (2007) highlighted the need for reflection; Robinson et al. (2008) underscored the importance of the involvement of the principal in promoting and participating in teacher development; Senge (1990) reminded of the importance of personal mastery and the synergistic power of team learning.

On the second broad theme, nurturing a culture that is supportive of learning, the common components appear to be having a shared vision, distributed leadership and building a team culture. Leithwood et al. (2008) suggested looking at redesigning the organisation to support distributed leadership and building a team culture while Robinson et al. (2008) highlighted the importance of an orderly environment. Youngs and King (2002) emphasized

establishing a professional community with a learning culture that pervades the organisation. Senge (1990) on the other hand encouraged us to examine the underlying mental models held by staff that may fuel or hinder the progress of the organisation as a whole.

On the third broad theme, managing the children's programme, the common thread appears to be the planning, coordinating and evaluating of the programme. Siraj-Blatchford and Manni (2007) highlighted the importance of partnerships with parents and the community; Leithwood et al. (2008) underlined the need to take cognisance of the context of the school; both Youngs and King (2002) and Robinson et al. (2008) reminded us of the importance to look at resourcing for the programme. Youngs and King (2002) surfaced the idea of coherence in purpose, plans and actions echoing Senge (1990) reminded us of the importance of seeing the organisation as a whole, exercising systems thinking.

Table 3.1 Comparison of the key elements of leadership that have an impact on children’s learning from studies on leadership for learning and capacity building

	Siraj-Blatchford and Manni (2007)	Leithwood et al. (2008)	Robinson et al. (2008)	Youngs and King (2002)	Senge (1990)
Promoting learning of teachers	<ul style="list-style-type: none"> • Encouraging reflection • Commitment to ongoing professional development 	<ul style="list-style-type: none"> • Understanding and developing people 	<ul style="list-style-type: none"> • Promoting and participating in teacher training and development (Effect size=0.84) 	<ul style="list-style-type: none"> • Building teacher knowledge, skills, and dispositions 	<ul style="list-style-type: none"> • Providing for personal mastery – the ongoing pursuit of self-discovery, and learning • Providing for team learning – using the synergistic power of working and learning together
Nurturing a culture that is supportive of learning	<ul style="list-style-type: none"> • Identifying and articulating a collective vision • Ensuring shared understandings, meanings and goals. • Distributing leadership • Building a learning community and team culture 	<ul style="list-style-type: none"> • Building a shared vision • Providing for school leadership that is widely distributed • Redesigning the organisation • Influencing staff motivation, commitment and working conditions 	<ul style="list-style-type: none"> • Establishing goals and expectations (0.42) • Providing an orderly and supportive environment 	<ul style="list-style-type: none"> • Building a school-wide professional community 	<ul style="list-style-type: none"> • Fostering a shared vision for collective commitment to the cause of the organisation. • Looking into mental models held by staff as these influence how they view the world and the issues that surface.
Managing the children’s programmes	<ul style="list-style-type: none"> • Leading and managing, striking a balance • Monitoring and assessing practice • Communicating effectively • Encouraging and facilitating parent and community partnership 	<ul style="list-style-type: none"> • Managing the teaching and learning programme • Responding to the context 	<ul style="list-style-type: none"> • Planning, coordinating, evaluating teaching and learning, and the curriculum (0.42) • Resourcing strategically 	<ul style="list-style-type: none"> • Fostering coherence in school goals and actions • Building technical resources 	<ul style="list-style-type: none"> • Exercising systems thinking – understanding the whole, not only the parts as the parts in any organisation are never totally independent of one another.

The key difference between the two literature strands appear to be the emphasis on systems thinking in the literature on capacity building. The emphasis on systems thinking in the capacity building literature encourages the view of organisations as being constituted by interdependent parts and thus members of organisations need to understand relationships and patterns, not just snapshots or static data points. The assumption is that

efforts to improve the organisation’s capacity is contingent on the ability of members to see across the different components of the organisation and act in the interest of the entire organisation. Systems thinking will be discussed further in a later section (Section 3.6.2) in this chapter.

The three common components will be considered as key constructs of the conceptual framework and the unique features highlighted by the different researchers will be included and discussed in Sections 3.4 to 3.6. As this study takes the view of leadership that ultimately builds capacity, the headings used by Youngs and King (2002) will be used.

Table 3.2 *Mapping of three broad areas of leadership from literature over Youngs and King’s (2002) conceptual framework*

Three broad areas of leadership that impact learning outcomes	Youngs and King (2002)
promoting the learning of teachers	building teacher knowledge, skills, and dispositions
nurturing a culture supportive of learning	building a school-wide professional community
managing the children’s programme of learning	fostering coherence in school goals and actions

3.4 Building teacher knowledge, skills and dispositions

The link between an individual teacher’s knowledge, skills and dispositions with student achievement has been well documented in the literature on teacher education and professional development (Borko et al., 2010; Darling-Hammond, 1998, 2000; Knapp et al., 2003; Spillane and Loius, 2002; Timperley, 2008). In fact, teachers’ continuous professional development has been found critical for planned changes in schools (Elmore et al.,1997; Smylie, 1996). OECD’s comparative review of school leadership has also identified developing teacher quality as one of the focus areas of effective leaders (Schleicher, 2012).

Learning needs to take place at different levels, at individual, group and organizational level. Fullan (2010) and Lieberman and Mace (2008) explained why this is necessary.

"Individuals and groups are high in capacity if they possess and continue to develop the knowledge and skills if they are committed to putting the energy to get important things done collectively and continuously".

(Fullan, 2010:57)

"We are coming to understand that learning rather than being solely individual (as we have taken it to be) is actually also social. It happens through experience and practice. In plain terms - people learn from and with others in particular ways. They learn through practice (learning as doing), through meaning (learning as intentional), through community (learning as participating and being with others), and through identity (learning as changing who we are). Professional learning so constructed is rooted in the human need to feel a sense of belonging and of making a contribution to a community where experience and knowledge function as part of community property."

(Lieberman and Mace, 2008:227)

Individual teachers must be able to align the considerations they have for the subject they intend to teach with considerations of students' interests and prior knowledge and the teaching context within which the programme is to be delivered in order to be effective in classroom practice.

Kolb's (1973) Experiential Learning Model begins with concrete experience. The learner needs to involve herself fully, openly, and without bias in the new experience. She must be able to reflect on and observe these experiences from different perspectives. Next she needs to be able to integrate these reflections into a theory of practice and apply this theory as she makes decisions while teaching. This explains the importance of reflection in the teachers' learning process as found by Siraj-Blatchford and Manni (2007) in their study on effective centres.

Collectively, teachers in an educational institution need to use their individual knowledge, skills and dispositions effectively in order to contribute towards advancing the work of the entire school. Furthermore, the impact of the teachers' work within a setting needs to be organised for the collective impact on the learning of the students to be felt, and this depends on the efforts of leaders (Youngs and King, 2002). The collective efforts of the teachers, seen as a whole, is also subjected to the influence of the prevailing

culture of the professional community of the school, the availability of technical tools, and whether there is alignment of plans and coordination. Senge (1990) reminded us of the synergistic power of team learning. The importance of taking into account individual, interpersonal and organisational learning as three interlocking layers of activity was also central in the work of Knapp et al. (2003) and Stoll (2009), which has been mentioned earlier in this chapter.

Robinson et al. (2008) found that the principals' participation and promotion of professional learning of teachers has great impact on the outcomes of the children's learning. Apart from the signalling effect, principals need to understand professional issues well so that they can chart the direction of the school and facilitate the setting up of structures and processes to support professional learning and change in the school.

Learning of the teachers at each of these layers, individual, group and organisational, will be elaborated on below.

3.4.1 Professional learning of teachers – individual

Research on teacher professional development at the individual level has shown that learning needs to be in an area of the teacher's interest and within the teacher's sphere of influence (Darling-Hammond, 2000; Imants and van Veen, 2010; Timperley, 2008). A teacher's learning should also be grounded in the teacher's own questions related to classroom practice (Borko et al., 2010; Imants and van Veen, 2010; Timperley, 2008).

Timperley (2008) suggested that teachers learn by first examining their own practices. When teachers identify a gap in the learning of their students, they are likely to strive to acquire knowledge and skills to bridge the gap. As they succeed in acquiring these new knowledge and skills, and apply them with success in teaching, they are likely to be encouraged to continue to seek improvements, creating an upward spiral in learning.

Teachers' learning is best where it is experiential, with integration of knowledge and skills (Smylie, 1996). In research on Effective Schools, on-

site staff development was found to be a common feature (Sammons et al., 2005). Best practice literature also pointed to a range of school level structures and processes that can be made available in the workplace, including reflection, clinical supervision, interactive learning from curriculum and instructional development, using action research to investigate a new area or a problem (Smylie, 1996).

Change of job roles and involvement in decision making, including the handling of problems and work processes associated with instruction and pedagogy, have also been cited as opportunities for professional growth (Imants and van Veen, 2010).

For continuity and sustainability, professional development may take on a cyclical model, for example developing and enacting lessons and then individually or collectively reflecting on these experiences (Borko et al., 2010). Such cyclical arrangements will also ensure the effective transfer of learning into the classroom - an important condition for meaningful professional learning for teachers (Darling-Hammond, 2000; Timperley, 2008).

Timperley (2008) pointed out that learning is a slow process and that the learner needs to be given time and multiple opportunities to learn and apply the new skills and information. It is not uncommon that learners understand the new ideas partially at the start, and will need multiple practice sessions to deepen their understanding of the new task/strategy. Hence, on-going support is necessary throughout the learning process.

3.4.2 Professional learning of teachers – collective

When individual teachers grow in professional knowledge the learning does not always translate into professional growth at the collective level - specific conditions need to be present for individual growth to result in collective growth. One set of conditions is associated with principles of adult learning. Broadly, just as learning for children needs to engage the cognitive, the social and emotional, the same is true for teachers (MacBeath, 2010). Adult

learning principles apply including the need for sharing of ideas, collective enquiry and problem solving, active learning, making meaning of the new knowledge through opportunities to reflect and think about issues at the meta-cognitive level. Hence, learning needs to be highly collaborative, involving peer interaction, sharing of craft knowledge, and feedback (O'Donoghue and Clark, 2010; Smylie, 1996; Wenger, 2000; York-Barr, 2008).

Team work is an important prerequisite for the delivery of holistic school programmes and thus learning together should feature in professional learning. Team learning helps create shared experiences, common conceptual and technical knowledge for professional exchange (Borko et al., 2010). Having opportunities for professional reflection and dialogue with colleagues, sharing, listening and acting on these insights together, contribute towards building trust and allows the organisation to benefit from the learning of the teachers as a group. Team learning was cited by a number of writers as an important part of organisational learning, including Senge (1990) and Pont et al. (2008). The OECD report, "Building a high quality teaching profession", noted that teachers in the school sector who exchange ideas and information with colleagues, and those who co-ordinate their work with other teachers had more positive teacher-student relations (Schleicher, 2011).

Literature on team learning also included a strand on the use of informal knowledge networks such as social networks, and formal networks such as professional bodies (Hannah and Lester, 2009).

There is also a strand of literature on group action research which is believed to help teachers to reflect on their practice based on a series of actions starting with data collection, implementation, monitoring and evaluation of the changes, and pursuing continuous improvement in practice.

3.4.3 Professional learning of teachers – organisational

Kline and Saunders (1998), explaining how learning at the organisational level takes place, wrote,

“.....learning begins at the level of the individual, proceeds through the level of the team, and is internalized, codified and stored at the level of processes and systems so well established that everyone who comes in contact with them is able to participate in them in a consistent manner. This is the surest path to the emergence of a true Learning Organization, which is an organization that learns on its own, quite apart from the many individual learnings that will also take place within it.”

(Kline and Saunders, 1998:15)

Organisational learning is taking place when an organisation is able to accumulate and preserve the behaviours, mental maps, norms and values of its members as collective memories over time (Hedberg, 1981, in Fiol and Lyles, 1985) and deploy these collective memories to achieve performance goals (Bowen et al., 2007).

Senge (1990) presented useful points for thinking about organisational learning in schools through the application of the 'learning organisation'. Systems thinking which focuses on the whole rather than on parts, goes beyond understanding events to understanding the underlying structures and the inter-relationships of the component parts, and this is central to organisational learning (ibid.).

The literature on organisational learning also included mechanisms for managing the flow of information, documentation of learning, dissemination of the learning to a wider audience within the organisation, assimilation of information so that it becomes knowledge of the organisation and the translation of the knowledge into organisational practice as well as the control of information and knowledge as a management strategy.

In the concluding paragraph of this section, it is necessary to point out that many insights on teachers' professional development and learning, what they learn, how they learn and how this knowledge improves practice is still based on research studies which lack sufficient rigour for the findings to be generalised (Borko, 2004, in Imants and van Veen, 2010). The actual

benefits of the asserted attributes of good professional development have rarely been examined systematically, either separately or in combination (Knapp et al., 2003). In addition, there are few studies which have explored the links between teacher learning, classroom practices, and student achievement (Borko et al., 2010). Most literature reports are evaluation studies focusing on effects of programme design and delivery; on the use of teacher learning communities, discourse patterns and levels of participation. Few studies examine changes in teachers' knowledge and skills, and even fewer address the impact of professional development on student learning (Dede et al., 2006, in Borko et al., 2010).

3.5 Nurturing a school-wide professional community

3.5.1 Characteristics of a professional community

Higher student achievement has been linked to strong professional communities (Louis and Marks, 1996; Louis and Marks, 1998, in Youngs and King, 2002), thus the need to nurture strong professional communities for the purpose of capacity building.

Although there are variations in the definition of what a professional community is, generally there is agreement that a professional community is characterised by (a) shared goals for student learning (Youngs and King, 2002) and collective responsibility to reach them (King and Bouchard, 2011), (b) formalisation of work processes including those for instructional routines (Imants and van Veen, 2010), (c) meaningful collaboration among faculty members (Ho and Chen, 2013; King and Bouchard, 2011; Youngs and King, 2002), and (d) opportunities for teachers to exert influence over their work (King and Bourchard, 2011; Youngs and King, 2002).

Shared goals for student learning

Principals' efforts to sustain shared goals for student learning has been associated with better student outcomes (Leithwood, 1994). The link

between the vision and learning of students was said to be the overall purpose that the vision and goals provide for the students and staff (Mulford and Silins, 2003). A shared vision is vital as it provides the focus and energy for learning. Senge (1990) explained that the shared vision is not just an important idea, although it may have been inspired by an idea. It is “a force in people’s hearts” if it is compelling and it has the support of some people in the organization.

Articulating a learning focused vision, fostering collective commitment to this vision, and having a set of clear goals aligned with the vision for the entire staff to work towards were also written about as important for effective leadership by Bush and Middlewood (2011), Kruger (2009), Hallinger (2010), Leithwood et al. (2008), Murphy et al. (2007), Robinson et al. (2008), Rodd (2005), Senge (1990), Siraj-Blatchford and Manni (2007).

Formalisation of work processes including those for instructional routines

Formalisation of work processes involves establishing rules and instructions on the execution of work processes (Ellstrom, 2001), and this is to create an orderly environment (Robinson et al., 2008). It allows standardisation and is an important measure for consistency and quality assurance (Alder and Borys, 1996). However, a common argument against formalisation of work processes is that it impedes organisational learning (Nordhaug, 1994) as standardisation would reduce the latitude for individual decision making (March, 1991).

However, in a situation where many activities compete for time and attention, standardisation of some work processes allows time to be reallocated from areas that may be regarded as routine to those requiring creative solutions (Ellstrom, 2001). Secondly, standardisation creates the opportunity for previously implicit knowledge to be externalised, and the process of externalising and codifying good practice can itself be rich learning to those involved. Thirdly, standardising processes also involves making the process transparent, which itself is useful in facilitating learning about a specific process and makes possible feedback concerning the work process. With

the process transparent and known to everyone, it also makes feedback to individuals on task performance easier (Adler and Cole, 1993 in Ellstrom, 2001).

Meaningful collaboration among staff

Lieberman and Mace (2008) wrote that learning is a social activity that happens through experience and practice. People learn through doing, through participating and being with others (ibid.), when the experience is meaningful and adds to his/her identity (ibid.). There is growing consensus that the most effective professional learning is focused on teachers' classroom practice and is collaborative (Newmann et al., 2000; Budd and Earley, 2007).

Meaningful collaborations among staff also include arrangements of mentor-mentee, group learning activities such as group visits to effective settings, watching videos together (Mulford and Silins, 2005), group inquiry into assumptions, evidence, and alternative solutions to problems (Imants and van Veen, 2010; King and Bouchard, 2011; Youngs and King, 2002) or innovations.

Respect and trust are important features of team and organisational learning (Spillane and Loius, 2002) as they are necessary to

"enabling teachers to be engaged in discussions that are both supportive and challenging, and that maintain a balance between respecting individual community members and critically analysing issues in their teaching"

(Borko et al., 2010:550).

Coleman (2011) describes trust as

"confidence in the integrity and abilities of another which serves as a basis for discretionary individual or collective action".

(Coleman, 2011:87)

Trust is socially constructed (Coleman, 2011). Trust for colleagues are often fostered through opportunities for vicarious learning, arrangements of mentorship and use of social persuasion (Smylie and Hart, 1999).

Trust between teachers and their principals is fostered when principals' actions are aligned with their beliefs and the school goals, when principals consistently support the teachers' work, and manage staff conflicts and conflicts between staff and themselves proactively and effectively (Smylie and Hart, 1999; Youngs and King, 2002).

Muijs and Harris (2007) have described the significance of trust in supporting distributed leadership. When principals work on building trust between the staff members and themselves, school capacity is likely to be strengthened (Youngs and King, 2002).

When the level of trust is raised, there is also an increased level of collective teacher efficacy. Collective teacher efficacy is a group level attribute and the product of the group interactive dynamic based on Bandura's social cognitive theory. It refers to the perceptions of teachers on whether the efforts of the entire staff will have a positive effect on students. Bandura's (1997) definition of collective teacher efficacy in Goddard, Hoy and Hoy (2000) is as follows:

"The groups' shared belief in its conjoint capabilities to organize and execute courses of action required to produce given levels of attainments".

(Bandura, 1997, in Goddard, Hoy and Hoy, 2000:482)

Collective teacher efficacy has been found to be significant in predicting the achievement of students (Goddard, Hoy and Hoy, 2000). In Bandura's ground-breaking study in 1993, two important conclusions were reached, "(a) student achievement (aggregated to the school level) is significantly and positively related to collective efficacy, and (b) collective efficacy has a greater effect on student achievement than does student social-economic background (SES) (aggregated to the school level)." (Goddard, Hoy and Hoy, 2000:497). Goddard, Hoy and Hoy (2000) believed that a consequence of high collective teacher efficacy is the acceptance of challenging goals, strong organisational effort and a persistence which leads to better performance.

Opportunities for teachers to exert influence over their work

Involving teachers in providing leadership would allow teachers to exert influence over their work, and help teachers develop greater ownership and commitment to organisational goals (York-Barr and Duke, 2004).

In sharing responsibility with teachers, there is the opportunity for the leader to build trust (Cosner, 2009, King and Bouchard, 2011; Mulford and Silins, 2003). When principals share decisions related to curriculum and professional development, there is increased trust among teachers and enhanced collective responsibility for student learning (Spillane and Loius, 2002; York-Barr and Duke, 2004; Youngs and King, 2002). Teacher involvement ensures that teacher perspectives inform management decisions and result in more robust decisions (ibid.).

One way to involve teachers is through some form of distributed leadership, a subject that several scholars including Fullan (2005a), Gronn (2002), Heck and Hallinger (2010), Harris (2008), Leithwood (2004), MacBeath (2010), Mulford and Silins (2003), Robinson (2010), Robinson et al. (2008), Spillane et al. (2004), and Yukl (2006) have written on in relation to capacity building.

Leithwood et al. (2008) suggested looking at redesigning the organisation to support distributed leadership and team learning. Imants and van Veen (2010) noted that teachers perceive participation in decision making in instructional, pedagogical and curricular topics as useful. In contrast, they often oppose their involvement in decision making associated with administrative topics.

Addressing the control and command of leaders in a distributed leadership arrangement, Leithwood et al. (2008) wrote that there is

“no loss of power and influence on the part of the head teachers when, for example, the power and influence of many others in the school increase.”

(Leithwood et al., 2008:35)

In a setting where there is distributed leadership the total or aggregated leadership far exceeds a setting where leadership is the domain of a few

people at the top of the hierarchy, therefore, organisational outcomes are superior (Knapp et al., 2003; MacBeath, 2010).

Indeed, school improvement and subsequently improved student learning outcomes have been associated with multiple leaders with overlapping but different responsibilities in decision making (Gronn, 2002; Heck and Hallinger, 2010; Yukl, 2008). However, it should be noted that not all decentralised leadership structures are associated with better team performance (Mehra et al., 2006).

Associated with distributed leadership is teamwork. In a setting where leadership is distributed, staff members consult one another and have conversations on how to approach a problem in formal and informal groups. Communication amongst staff is high and the patterns of communication are complex. Decisions related to instruction and pedagogy and major school decisions are made together, although there may not always be consensus. Studies have documented high alignment and interdependence of teachers when they are involved in joint problem solving. Even where there may not be consensus, the process of consultation and discussion encourages commitment and ownership of the decisions. Staff members are aware of the running of the organisation, activities are well coordinated, and teamwork prevails (Leithwood et al., 2004; Robinson et al., 2008).

The psychological underpinnings for distributed leadership can be found in the empirical work of Deci and Ryan on the Self-Determination Theory (SDT). SDT showed that universally, individual motivation is affected by basic psychological needs including autonomy, competence and relatedness (Deci and Ryan, 2008). Applying this in the school setting, for principals and teachers to be motivated, their needs for relatedness, autonomy and competence may be met through support for the building of meaningful relationships with the school community (relatedness), opportunities to partake in decision-making (autonomy) and professional development opportunities to improve their competence (competence).

A culture supporting a school-wide professional community

A culture supportive of learning is necessary for building capacity of educational institutions (Bossert et al., 1998, in Hallinger, 2010; Cunningham and Cresso, 1993; Leithwood and Heck, 2010; Eraut, 2000; Hallinger et al., 2010; Leithwood et al., 2004 ; Leithwood, 2005; Mulford and Silins, 2003; Sammons et al., 2005; Schein, 1990, 1992, 2009). A culture supportive of learning is one that protects instructional time, has high expectations for teacher and pupil learning (Sammons et al., 2005); has clear goals (Robinson et al., 2008); pays attention to planning, coordinating and evaluating teaching and the curriculum (Greenfield, 1995; Robinson et al., 2008); and is safe, caring and encouraging (Jaruszewicz and White, 2009; Spillane et al., 2002;). It is also one where continuous improvement is valued, and where the values and practices being advocated for teaching and learning are modelled by the principal (Colmer, 2009; Hallinger, Leithwood and Heck, 2010).

Senge (1990) on the other hand highlighted the importance of going beyond the presenting structures and behaviours to examine the underlying mental models held by staff as an important imperative for the progress of organisations.

“The discipline of working with mental models starts with turning the mirror inward; learning to unearth our internal pictures of the world, to bring them to the surface and hold them vigorously to scrutiny. It also includes the ability to carry on “learningful” conversations that balance inquiry and advocacy, where people expose their own thinking effectively and make that thinking open to the influence of others.”

(Senge, 1990:14)

3.6 Fostering coherence in purpose, plans and actions

3.6.1 The concept of coherence

Programme coherence may be thought of as a measure of organisational integration (Newmann et al., 2001). It refers to the extent to which student

programmes and staff professional development at a school are coordinated, aligned with shared goals and sustained over time. It is also associated with how well a leader buffers the school from conflicting external influences (Louis, Kruse, et al., 1996, in Newmann et al., 2001).

Factors that might make the achievement of strong programme coherence difficult include internal issues such as the lack of consensus, and external tensions such as incoherent external policies (Newmann et al., 2001). Newmann et al., (2001) suggested a four-tier strategy for programme coherence, which includes

- (a) Having a focus in school improvement plans – where a few educational goals are pursued, and where professional development, hiring of staff, staff deployment, staff evaluation, acquisition of instructional materials, and grants and partnerships focus on these areas.
- (b) Staff development focuses on building team expertise rather than individual expertise in these same areas.
- (c) Government policy emphasises instructional programme coherence as a key dimension of school improvement plans.
- (d) Funding targets these same areas over a focused and sustained period that stretches over multiple years.

In safeguarding programme coherence, however, it is important to give room for extenuating circumstances and individual needs, so that the school does not become too clinical or mechanistic (Newmann et al.'s, 2001). Studies have often found regimentation and rigidity in organisations that have taken programme coherence to the extreme. An example of regimentation include narrowly focusing the school's instructional programme to increase student scores in standardised tests in a highly coherent manner and neglecting other aspects of student learning and needs, or requiring all staff to conform to a certain professional development regime regardless of their prior knowledge and experience.

3.6.2 Systems thinking and coherence

Systems thinking has been applied by organisations including schools as a strategy to bring greater coherence in thinking about and planning for the functioning of organisations. Systems thinking refers to viewing issues as component parts of a system, rather than the issues in isolation (Senge, 1990). Systems thinking encourages a set of thinking habits that focus on understanding relationships and patterns rather than snapshots or static single data points, and a cyclical rather than linear cause and effect. Instead of reacting to specific parts or events and potentially contributing to the development of unintended consequences, issues are dealt with in the context of their relationship with other parts of the system.

“In general, systems thinking is characterised by these principles

- *Thinking of the big picture*
- *Balancing short-term and long-term perspective*
- *Recognizing the dynamic, complex and interdependent nature of systems*
- *Taking into account both measurable and non-measurable factors*
- *Remembering that we are all part of the system in which we function, and that we each influence those systems even as we are being influenced by them.”*

(Anderson and Johnson, 1997:18)

Anderson and Johnson’s (1997) conception of systems thinking will be adopted in this study.

With respect to managing the children’s programme, Siraj-Blatchford and Manni (2007) highlighted the importance of partnerships with parents and the community. Partnership with parents should go beyond merely helping and information, it should involve parents in decision making and policy issues (ibid.)

Leithwood et al. (2008) underlined the need to take cognisance of the context of the school when decisions are made with regard to the learning of the children. Both Youngs and King (2002) and Robinson et al. (2008) reminded us of the importance of looking at resourcing for the programme.

3.7 Conceptual framework for the study

Table 3.3 provides a summary of the key concepts discussed from Sections 3.3 to 3.6.

Table 3.3 Key concepts of Conceptual Framework

Key Concepts of Conceptual Framework	
(1) Building teacher knowledge, skills and dispositions	Borko et al., 2019; Darling-Hammond, 1998, 2000; Elmore et al., 1997; Fullan, 2010; Knapp et al., 2003; Kolb, 1973; Lieberman, 2008; Robinson et al., 2008; Senge, 1990; Smylie, 1996; Siraj-Blatchford & Manni, 2007; Spillane, 2002; Stoll (2009); Timperley, 2008; Youngs and King, 2002,
-(a) Individual, group, organisational learning	Borko et al., 2010; Bowen et al., 2007; Darling-Hammond, 2000; Dede et al., 2006 in Borko et al., 2010; Hannah & Lester, 2009; Hedberg, 1981 in Fiol & Lyles, 1985; Imants & van Veen, 2010; Kline & Saunders, 1998; Knapp et al., 2003; Kolb, 1973; MacBeath, 2010; O'Donoghue & Clark, 2010; Pont et al., 2008; Sammons et al., 2005; Senge, 1990; Siraj-Blatchford & Manni (2007); Smylie, 1996; Stoll, 2009; Timperley, 2008; Wenger, 2000; York-Barr, 2008; Youngs & King, 2002
(2) Nurturing a centre-wide professional community	Louis and Marks, 1996; Louis and Marks, 1998, in Youngs and King, 2002
(a) Shared goals for student learning	Bush & Middlewood, 2011; Kruger, 2009; Hallinger (2010) Leithwood, 1994; Leithwood et al., 2008; Mulford & Silins, 2003; Murphy et al., 2007; Robinson et al., 2008; Rodd, 2005; Siraj-Blatchford & Manni, 2007; Senge, 1990;
(b) Formalisation of work processes	Adler & Borys, 1996; Adler & Cole, 1993 in Ellstrom, 2001; Ellstrom, 2001; Imants & van Veen, 2010; March, 1991; Nordhaug, 1994; Robinson et al., 2008
(c) Meaningful collaborations among staff	Borko et al., 2010; Budd & Earley, 2007; Ho, 2013; Coleman, 2011; Imants & van Veen, 2010; Lieberman & Mace, 2008; Muijs & Harris, 2007; Mulford & Silins, 2005; Newmann et al., 2000; King & Bouchard, 2011; Youngs & King, 2002; Smylie & Hart, 1996; Spillane, 2002; Youngs & King, 2002
Collective teacher efficacy	Bandura, 1997, in Goddard, Hoy and Hoy, 2000
(d) Opportunities for teachers to exert influence over their work	Borko et al., 2010; Cosner, 2009; Fullan, 2005; Gronn, 2002; Heck & Hallinger 2010; Harris, 2007; Hallinger et al., 2007, 2010; Imants & van Veen, 2010; King, 2011; Knapp et al., 2003; Leithwood, 2004, 2008; Leithwood et al., 1998, 2004, 2004; King & Bouchard, 2011; MacBeath, 2010; Mehra et al., 2006; Mulford & Silins, 2003; Robinson, 2010; Robinson et al, 2008; Sharp et al., 2011; Smylie & Hart, 1996; Spillane, 2004; York-Barr & Duke, 2004; Yukl, 2006; Youngs & King, 2002;
Self Determination Theory – Need for self determination	Deci and Ryan, 2008
(e) A culture supporting a Centre-wide professional community	Bossert et al, 1998 in Hallinger, 2010; Colmer, 2009; Cunningham & Cresso, 1993; Eraut, 2000; Hallinger et al., 2010; King & Bouchard, 2011; Leithwood & Heck, 2010; Leithwood et al., 2004, 2005; Mulford & Silins, 2003; Sammons et al., 2005; Schein, 1990, 1992, 2009; Khamis & Coleman, 2005; Robinson et al., 2008; Greenfield, 1995; Robinson et al., 2008; Jaruszewicz & White, 2009; Spillane, 2002; Youngs & King, 2002;
Examining into mental models	Senge, 1990;
(3) Fostering coherence in purpose, plans and actions	Leithwood et al., 2008; Newmann et al., 2001; Youngs & King, 2002;

Key Concepts of Conceptual Framework	
(a) The concept of coherence	Newmann et al., 2001
(b) Systems Thinking	Senge, 1990;
Thinking of the big picture and the whole organisation/system	Anderson & Johnson, 1997; Leithwood et al., 2008; Siraj-Blatchford & Manni, 2007; Youngs & King, 2002; Robinson et al., 2008
(c) Partnerships with parents	Siraj-Blatchford & Manni, 2007
(d) Resourcing for Programmes	Youngs & King, 2002; Robinson et al., 2008

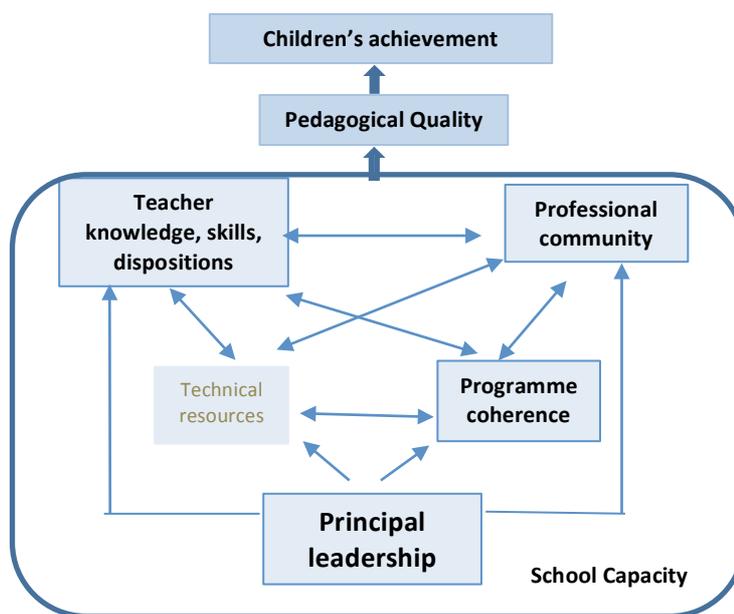
The conceptual framework for this study will be an adaptation of Youngs and King's (2002) framework. Youngs and King (2002) framework has five key dimensions and these are (1) building teacher knowledge, skills, and dispositions, (2) building a school-wide professional community, (3) fostering coherence in school goals and actions, (4) building technical resources and (5) principal leadership. [Figure 3.1](#) provides a visual representation of the key constructs of the conceptual framework for building the capacity for learning as adapted from Youngs and King (2002).

Youngs and King's (2002) framework was chosen over others for the following reasons:

- it has taken into account the key concepts discussed from [Sections 3.3 to 3.6](#) found to be important for capacity building;
- the framework has also taken into account the interactions of the five dimensions.

The interaction of the five dimensions is an important consideration as the literature on systems thinking remind us that systems do not exist in isolation. In addition, my personal experience as a leader suggests that they may be interaction between the dimensions. Adopting a conceptual framework that includes interactions will ensure that the interactions of the dimensions are kept in view in the study.

Figure 3.1 - Conceptual framework for building centre capacity for learning



Adapted from Youngs and King (2002)

Three of the dimensions in this framework have been discussed in detail in Sections 3.4 to 3.6, thus, in the section some interactions will be discussed and adaptations made to Youngs and King's (2002) framework will be highlighted.

Based on literature, interactions of the dimensions do occur. For example, the existence of a professional community will have an impact on individual and group learning and the knowledge, skills and dispositions of teachers, and vice versa (King and Bouchard, 2011). The presence of the professional community, with its shared vision and shared decision making, will help to protect the coherence of the programme. The coherence of purposes, plans, and actions on the other hand is likely to support team building and boost faith in the professional community by its members (Newmann et al., 2000).

While Youngs and King's (2002) framework include relevant components to address the research questions of this study, four adaptations will be made. Firstly, as the focus of the study is on principals' leadership, and funds and resources are often not within the sphere of influence of principals, the dimension on technical resources will not be included in the framework. Secondly, partnership with parents is a critical area of work in early childhood

care and education (Siraj-Blatchford and Manni, 2007), thus, partnership with parents will be included under the dimension of coherence (in purpose, plan and action). Thirdly, kindergartens are subjected to influences in the macro environment, thus, some data will be collected on how principals respond to changes in the macro environment. Fourthly, efforts to examine mental models (Senge, 1990) as a discipline for building of a professional community will be included in the study.

The key concepts in the conceptual framework of this study have been summarised in Table 3.3. The conceptual framework brings together the key concepts that will guide data collection, analysis and interpretation. No attempt will be made to verify the robustness of the framework. Instead, the framework will be used as it is, to guide the exploration of the leadership landscape and to understand the context within which leadership is exercised.

CHAPTER 4 Methodology

4.1 Introduction

In this chapter, the term 'methods' has been used to refer to the specific strategies and procedures in the design and execution of the study, including those associated with sampling, data collection, data analysis, and interpretation of findings. The term 'methodology' has been used to denote the broad inquiry logic or approach, including the philosophical paradigm and theoretical lens which guides the selection of specific methods (Teddlie and Tashakkori 2010).

The key conceptual elements of the methodology are outlined in Section 4.2 of this chapter. A mixed methods convergent design as described by Creswell and Plano Clark (2011) has been used and a pragmatist philosophical stance adopted for this study. The research design and ways in which the methods were mixed are outlined in Section 4.3. The details of data collection, analysis and interpretation of the survey are provided in Section 4.4 while information on the selection of cases, categorisation of cases for comparison and analysis in the multi-case study are provided in Section 4.5.

4.2 Conceptual considerations

A mixed methods approach was adopted with the aim of providing a comprehensive discussion of the research question. Before embarking on why mixed methods research was adopted, allow me to first provide an outline of mixed methods research.

4.2.1 Mixed Methods Research (MMR)

MMR is a relatively new research methodology with its beginnings in the late 1980s (Creswell, 2011). This methodology has evolved over time and is still evolving. Initially, MMR was seen as the mixing of two methods (qualitative and quantitative) alone, but later it was seen as mixing all phases of the research process. There has been an increasing use of MMR in social science research over the last few decades and today MMR has become accepted by many researchers as a methodology (Creswell, 2014a).

Johnson et al. (2007) derived a definition for MMR based on their understanding of 19 different definitions provided by 21 highly published mixed methods researchers. They defined MMR as

“the type of research in which a researcher or team of researchers combines elements of qualitative and quantitative research approaches (e.g. use of qualitative and quantitative viewpoints, data collection, analysis, inference techniques) for the purposes of breadth and depth of understanding and corroboration” (p123)

The guiding methodological principle of MMR is one of methodological eclecticism (Teddlie and Tashakkori, 2010). This means that “practitioners of mixed methods select and then synergistically integrate the most appropriate techniques from a myriad of QUAL⁴, QUAN⁵, and mixed strategies to thoroughly investigate a phenomenon of interest” (Teddlie and Tashakkori, 2010:5).

Greene et al. (1989) discussed the ways in which MMR is useful in addressing different types of research questions.

4.2.2 Compatibility issues in mixing quantitative and qualitative methods.

Notwithstanding the growing use of MMR in social science research, some methodologists have put forward the “incompatibility thesis”, arguing that qualitative and quantitative methodologies have different epistemological

⁴ Qualitative

⁵ Quantitative

origins and should not be mixed (Howe, 1988). The incompatibility thesis had arisen from the debates between quantitative thinkers holding the positivist paradigm and qualitative thinkers holding the constructivist and interpretivist paradigms (ibid). Quantitative thinkers have maintained that going by the positivist paradigm, social science inquiries should be quantifiable and objective. They also hold the view that context free generalisations are possible and that social science relationships can be reliably and validly determined using quantitative methods (ibid). On the other hand, the qualitative thinkers supporting the incompatibility thesis upheld strictly the constructivist or interpretivist paradigm, arguing that realities are constructed by individuals and these are time, values and context bound, and hence free generalisations are not possible (ibid). They dislike a detached passive style of writing, preferring instead detailed, rich and empathic descriptions.

MMR methodologists have argued that there are commonalities in the two paradigms. Both use empirical observations to construct arguments and speculate why the outcomes happened as they did, and incorporate measures to minimise bias (Johnson and Onwuegbuzie, 2004). Huberman (1987) further argued that in any study, only parts of the study can be legitimated on "scientific grounds" and a considerable amount of "non-mechanical judgment" had to be deployed.

"[In] any study, there are only bits and pieces that can be legitimated on "scientific" grounds. The bulk comes from common sense, from prior experience, from the logic inherent in the problem definition or the problem space. Take the review of the literature, the conceptual model, the key variables, the measures, and so forth, and you have perhaps 20% of what is really going into your study ... And if you look hard at that 20%, if for example you go back to the prior studies from which you derived many assumptions and perhaps some measures, you will find that they too are 20% topsoil and 80% landfill" (Huberman, 1987, p12)

Howe (1988) argued that even in the positivist approach, many subjective decisions have to be made throughout the research process including when drawing conclusions, interpreting data, deciding on what data to emphasise or publish, and what findings are significant. Howe (1988) further asserted

that the incompatibility thesis has overblown the differences between the quantitative and qualitative methods.

I consider the incompatibility thesis a useful reminder of the importance of a philosophical stance in guiding research. At the same time, I agree with Huberman (1987) that in any study, only parts of a study can be legitimated on “scientific grounds” and a considerable amount of judgmental decisions had still to be deployed. I also agree with Howe (1988) that many subjective decisions have to be made throughout the research process even in the positivist approach. In my view, the incompatibility thesis could have overstated the difficulties in mixing quantitative and qualitative methods.

4.2.3 Rationale for using Mixed Methods

Subscribing to the arguments on the usefulness of MMR by methodologists including Greene et al. (1989), Howe (1988), Huberman (1987), Teddlie and Tashakkori (2010), Creswell (2011), Creswell (2014b), Ivankova et al. (2006), Onwuegbuzie (2004), Johnson and Onwuegbuzie (2004), Feilzer (2010) and Greene (2008), this study has adopted MMR.

A core assumption of MMR is that when a researcher combines statistical trends with stories and personal experiences, this collective strength provides a better understanding of the research problem than either form of data alone (Creswell, 2014b; Teddlie and Tashakkori, 2010; Ivankova et al., 2006; Johnson and Onwuegbuzie, 2004). Johnson and Onwuegbuzie (2004) wrote that

“effective use of this principle is a major source of justification for mixed methods research because the product will be superior to monomethod studies”

(Johnson and Onwuegbuzie, 2004:18).

Illustrating how quantitative and qualitative methods could complement each other, Feilzer (2010) noted that when two respondents gave the same answer in a quantitative study, the different considerations and assumptions of the respondents surfaced through qualitative analysis. She pointed out that considering the survey results alone and not examining the attitude and

other social and psychological aspects of the context, researchers would be missing out on important information. The Princeton Study on the 20th Century decline in fertility rate in Europe was cited by Greene (2008) as having been overly dependent on theory and failing to take into account the cultural and other social influences which are difficult to quantify.

The nature of this study is exploratory and descriptive, with a scope that covers the entire kindergarten sector in Singapore, hence there was need for the research design to cater for this breadth of scope. Two focus group sessions were conducted very early in the study to quickly scan the leadership practices among kindergarten principals. Some leadership practices were found to be prevalent among kindergartens, for example, principals' participation in the design of the curriculum, and their involvement in staff reflection, and the frequency of these practices could be quantified to provide an overview of these practices in the Singapore landscape. As these practices were prevalent, it was also possible to show up discernible frequency patterns across demographic variables using quantitative methods. Hence, a survey method was used to obtain information on these practices. At the same time, there were also practices which were unique for various reasons, for example, a few principals had adopted strategies such as "lesson study⁶" to help teachers improve pedagogy, and some kindergartens have adopted established international programmes. In order to capture these practices, open-ended questions were included in the survey.

Each kindergarten is subject to a different combination of external forces and internal dynamics. Different leadership options arise as a result of these contextual variations. A multi-case study approach was adopted to examine the context within which different leadership practices, for example, using "lesson studies" were enacted.

⁶ An approach where a group of teachers plan, enact and review a lesson together almost like holding a magnifying glass to examine what worked and what did not work and why it worked or did not work.

The survey and the multi-case study would together provide the breadth and depth in scope to answer the research question comprehensively.

4.2.4 The worldview or philosophical stance

An ontological position, or the position on the nature of reality, adopted for this study is one where singular and multiple realities exist, and hence a pluralistic approach has been adopted. Testing of hypotheses, carrying out factor analysis of data and collecting multiple perspectives from different data sources are all acceptable in the research.

The philosophical stance adopted for this study was pragmatism. Pragmatism is the paradigm most frequently associated with MMR (Johnson and Onwuegbuzie, 2004; Creswell, 2014b and Feilzer, 2010). Pragmatists focus on the subject of the research and the consequences of the research. The maxim of this paradigm is that “The instrumental value of anything is to be determined by the experiences of its use and the practical consequences of its use” (Murphy, 1990, in Johnson and Onwuegbuzie, 2004:16).

In conducting research, the focus of a pragmatist is on the consequences of research, that is, on the research questions (Creswell and Plano Clark, 2011). Agreeing, Greene (2010) wrote that

“The pragmatist attends to context, practicality, and instrumentality - not to philosophy - in service of this overall commitment to problem solutions” (p138).

The pragmatist inquirer is also alert to lived experiences and the actionable value of results, privileging inquiry results that have direct application in addressing problems (Greene, 2011) and this may be achieved through the use of multiple methods of data collection to inform the questions under study.

The pragmatist worldview favours a pluralistic approach oriented toward “what works” and how it will benefit the practice field. Thus a combination of deductive and inductive strategies are used with both quantitative and qualitative data.

Subscribing to the stance of a pragmatist, I have given top priority to understanding the issues central to this study. In deciding on the methodology, for instance, MMR was chosen over qualitative methods alone after taking into consideration practical realities such as the possibility that a qualitative study may be dismissed as lacking in rigour and therefore of little value to policy makers. I have therefore deployed pluralistic approaches to achieve the goal of understanding the leadership landscape. Although a conceptual framework was identified to guide the development of the survey and the interview protocol for the multi-case study, the lived experiences including those outside of the conceptual framework were given room to surface, using a combination of deductive and inductive strategies. While I recognise the importance of being objective in the interpretation of the empirical data, I also take cognisance of the many subjective decisions that I have had to take in the entire research process.

4.2.5 The conceptual framework

Yin (2009) advocated theory development before the start of the case study as, unlike in an ethnographic study, there should be sufficient blueprint at the start of the case study.

In designing this study, the conceptual framework was identified very early on. The conceptual framework helped in refining the research questions and in determining which parts of the inquiry would be studied using qualitative and quantitative methods.

The conceptual framework has been described in Chapter 3. Briefly, the Conceptual Framework used was modified from the work of Youngs and King (2002) on organisational capacity. Youngs and King (2002) asserted that there were five dimensions in the building of the capacity for learning in a school, and one of which was principal leadership. Principal leadership had an effect on the remaining four dimensions, including that of technical resources which was dependent on the availability of funds and was often not within the direct purview of the principal. Hence, only the three dimensions, namely, building teacher knowledge, skills, and dispositions,

nurturing a centre-wide professional community, and fostering coherence in centre purpose, goals and actions have been included in the conceptual framework .

The conceptual framework played the following roles:

- it provided direction on the conceptualisation of hypotheses in the inquiry, and what to include in the design of the questionnaire and interview protocol, which analytical procedures to use for data analysis for each survey question and what codes to use in analysing the qualitative data, and
- it provided a starting point for interpretation and discussion of findings.

Indeed, the conceptual framework served the purpose of providing a lens to approach the research question, the design of the research instruments, and the analysis of data. It also acted as a hanger for the research findings but as with any study with a qualitative component, it was also the intent of this study to advance theory. In the design of the study, deliberate effort was made to collect data outside of the conceptual framework. For example, in the design of the interview protocol for the principals, the principals were asked indirectly how they led their centres, rather than directly whether they had performed the practices outlined as key constructs of the conceptual framework. The findings could provide empirical evidence on how the concepts in the conceptual framework apply to kindergartens, and specifically, kindergartens in Singapore.

4.2.6 Positionality or positioning of researcher

Banks (1998) has suggested four typical profiles of researchers based on the extent to which they are embedded in the shared research setting and extent of emotional connection between the researcher and the research participants which might influence responses. The four typical profiles from the most deeply embedded to the least deeply embedded are: the indigenous insider, the external insider, the external outsider and the

indigenous outsider. Merton (1972) and others argued that insidersness-outsidersness can be viewed as a continuum.

I see myself as being somewhere midway between a total insider and a total outsider. I have spent the last 35 years playing various roles in schools and the Ministry of Education (MOE) headquarters – first as a secondary school teacher and principal, then as line officer of principals in primary and secondary schools, and in the eight years prior to starting on this research project I have been a director overseeing programmes outside of the main curriculum in schools, and overseeing policies for the regulation of kindergartens - I am clearly someone who has been socialised in education generally, and education in secondary schools specifically. Although colleagues of similar seniority may see me as one with intimate knowledge of the early childhood sector, I am certainly not indigenous to the sector. The emotional distance that I feel may be explained in part by the following reasons. I have never run a kindergarten personally, hence I “have not sunk my teeth” into the daily interactions and problems faced on the ground. Although my past involvement was advocating for improvements in the kindergarten sector, this was done at the systems level and my emotional investment was more directed towards making progress systemically, and less towards the well-being of individuals in the field. In fact, there were few opportunities for me to work directly with kindergarten principals on an extended basis, hence there were few one-to-one emotional ties with the kindergarten principals. Furthermore, all kindergartens in Singapore were operated either by community groups, non-profit organisations or commercial agencies until recently, and governance and regulation processes were bureaucratic and executed at a distance. As a civil servant, I knew that even if I were to work with the kindergarten principals upon my return to work, there would still be a decided distance between the civil servant and the kindergarten principals.

How do the kindergarten principals, the participants of my research study, see me? - an outsider; a civil servant who would never fully appreciate their problems of low pay and status; someone distant from the MOE who is in a

position to influence policies at the systems level and make their lives better but not one in a position to have an impact on their bonuses. The general view on participation, gathered informally from participants, was that other than time commitment, there was little to lose if they participated anonymously in my research study. On the other hand, there was also little to gain from participation, which could be why some turned down my invitation to participate.

I enjoyed easy access to the funded sub-sector as the headquarters of the chain had strongly encouraged the participation of their principals. Even so, two principals who had indicated in their survey questionnaire returns that they were interested in participating in the case study, changed their minds when the time commitment needed for the case study became clear to them. This could also be as suggested above that they saw no possible gain from their participation or that they did not want to expose themselves to someone from MOE headquarters.

To guard against any potential pitfalls arising from my previous appointment, the following were carried out:

- *Check for possible distortions in responses arising from the possible perception of power difference between me (the researcher) and the principals of the Funded kindergartens.* I repeated an interview with one of the Funded kindergarten principals four months later, but this time, I was replaced by two young full-time research students from the National Institute of Education, Singapore, as the interviewers. These research students had no previous dealings with the kindergarten principal, and no known positional power or influence over the principal. The principal was chosen simply because her kindergarten was located where access was easiest for the research assistants. A comparison of part of the interview is attached at [Appendix 7](#).
- *Check on my own bias in the coding of the interview transcripts.* I sought the help of a fellow Singaporean doctoral candidate from another field to repeat the inductive coding of one interview transcript so that I could check my own coding against this one done by a person

with no vested interest in the sector. An extract of the comparison is attached at [Appendix 10](#).

Apart from how the informants may react to me as a researcher, I was aware that I had privileged information of the sector at a macro level. An attitude of doubt was adopted at different stages of the research process. Effort was made to scrutinise the analysis and interpretation to ensure that such privileged knowledge did not bias this research.

4.2.7 Ethical considerations

The study was carried out in a respectful and sensitive manner. The aims, objectives and processes were made known to all participants in advance. Participation was on a voluntary basis for both the survey and multi-case study, and participants were told that they could cease participation at any point. Transparency, confidentiality and anonymity guidelines as stated by the British Educational Research Association in its Ethical Guidelines for Educational Research (2011) were adhered to.

For the survey, the key ethical issues were related to whether participation was voluntary and if confidentiality of information was going to be maintained. To address these ethical issues, information including the aims and objectives of the survey, the voluntary nature of participation, confidential treatment of responses, and promise to use pseudo names, were made known to the participants in advance. These promises were delivered accordingly. For example, for anonymity, the questionnaire did not require the principals to identify themselves by personal name or the kindergarten they came from except if they were going to participate in the multi-case study.

The ethical issues arising from the case studies were more complex. All kindergartens and interviewees were identified by numbers from the point of recording of the interviews. Details which might lead to the identification of the participant and the kindergarten they came from were deliberately left out in the case write-ups to protect the identity of the participants and the

kindergartens. Apart from dealing with participation and confidentiality, the researcher ensured that she did not inadvertently appear to be checking on information provided by one individual or group with another. In addition, the researcher also ensured that nothing was done which might undermine the respect for the principal or any member of the community while executing the study. The researcher also indicated clearly to the participants the amount of time that would be taken up by their involvement.

Research assistants were employed to assist in the keying in of survey data, in the execution of a repeat interview, as well as in the transcription of the interviews, and they were briefed thoroughly on confidentiality of information. They were also required to sign a form to pledge that they would keep the information confidential.

Apart from being the post-graduate student researcher, I was formerly a director overseeing the policy and regulation of the kindergarten sector. How the participants might respond to me has been discussed in [Section 4.2.6](#). Suffice to say here that participation was handled sensitively. Whenever there were indications that a potential survey participant or a potential multi-case study participant was reluctant to participate, their wishes were respected.

Ethics approval for this project was given on 21 May 2012. A copy of the documents for ethics approval has been attached at [Appendix 1](#).

4.3 The research design

The research design adopted was a Convergent Parallel Design, as described by Creswell (2014b), and Creswell and Plano-Clark (2011). The Convergent Parallel Design is the MMR design with the longest history, and the one most commonly used among MMR researchers (Creswell and Plano-Clark, 2011).

As in other convergent designs, both quantitative and qualitative data were collected during the first phase of the research process and the two sets of findings were merged into an overall interpretation. The quantitative and qualitative aspects of the study were given equal weight in the analysis and interpretation of findings.

This being a study with the system of kindergartens as its boundaries, a macro view of the landscape was obtained through a pen and paper questionnaire, and the distinctive and contextual details of the sector were obtained through a multi-case study.

The questionnaire was developed from scratch, adopting good practice for questionnaire development (Fowler, 2009). It was necessary to develop a questionnaire as the “leadership terrain” in Singapore was not known, there being no records of previous studies on kindergarten leadership focusing on learning in Singapore and no known instrument that could be adopted or adapted for the study.

To ensure that the questionnaire met construct validity requirements, a conceptual framework as described in Chapter 3, (a modified version of Youngs and King’s 2002 theoretical framework) was used to guide in its development. Local information on leadership practices was gathered through focus group sessions with informants from the population under study. Another strategy adopted to ensure validity of the questionnaire was to have more than one question on important information, or the use of triangulation.

Reliability was ensured through field-testing: ensuring that terms used were understood in the same way and creating a consistent environment for the administration of the questionnaire. The development of the questionnaire will be elaborated on in [Section 4.4.2](#).

The questionnaire focused on answering the “what” aspects of all the four research questions. Closed-ended questions, aimed at capturing the range of leadership practices and central patterns of leadership were included in the survey in order to gather information to build a macro picture of the system.

Open-ended questions were also included to gather information on areas where some variation might be seen, and to allow triangulation with information already gathered through the closed-ended questions.

As the kindergarten system in Singapore is relatively small, all principals were invited to participate in the survey, and the overall response rate for the survey was 51.3% (n=229). The response rates of principals from different kindergarten types was not even. The survey sample and response rates across kindergarten types will be discussed in [Section 4.4.4](#).

A multi-case study using the approach described by Yin (2009) was also carried out to address the four research questions. The seven kindergartens represented a range in leadership and management strength as the intent was to have two comparisons made in a cross-case analysis: between the Funded and Non-Funded kindergartens, and between stronger and weaker kindergartens. The two-by-two matrix below indicates the number of kindergartens in each category. No volunteer could be found for the Non-Funded and weak category. The categorisation of kindergartens into stronger and weaker kindergartens will be discussed in [Section 4.5.1](#).

Table 4.1 Matrix showing the number of kindergartens in multi-case study

Funded, strong F1, F2, F3	Non-Funded, strong NF1, NF2
Funded, weak F5*, F6	Non-Funded, weak None

* F4 was the field-testing site

The multi-case study allowed the distinctive features and contexts of the cases to be studied. It relied on multiple sources of evidence, and data converging in a triangulating fashion for its findings (Yin, 2011). The multi-case study in this research project served multiple purposes in addressing the research questions. Firstly, to obtain more granular information on the leadership practices tapping into the in-depth personal perspectives of individuals; secondly, to add an explanatory dimension to the study by answering the “how” of practices; thirdly, to understand the context within

which the practices were operationalised, thus answering the “why” question; fourthly, using qualitative findings to illustrate the quantitative results; and finally, to surface points not included in the conceptual framework. As mentioned earlier, it was envisaged that the findings from the multi-case study would also help towards understanding the use of the modified version of Youngs and King’s (2002) theoretical framework.

The use of a conceptual framework (as described in [Section 3.3](#)) for the multi-case study helped to ensure that there was construct validity. The use of protocols for interviews helped to ensure the reliability of the multi-case study.

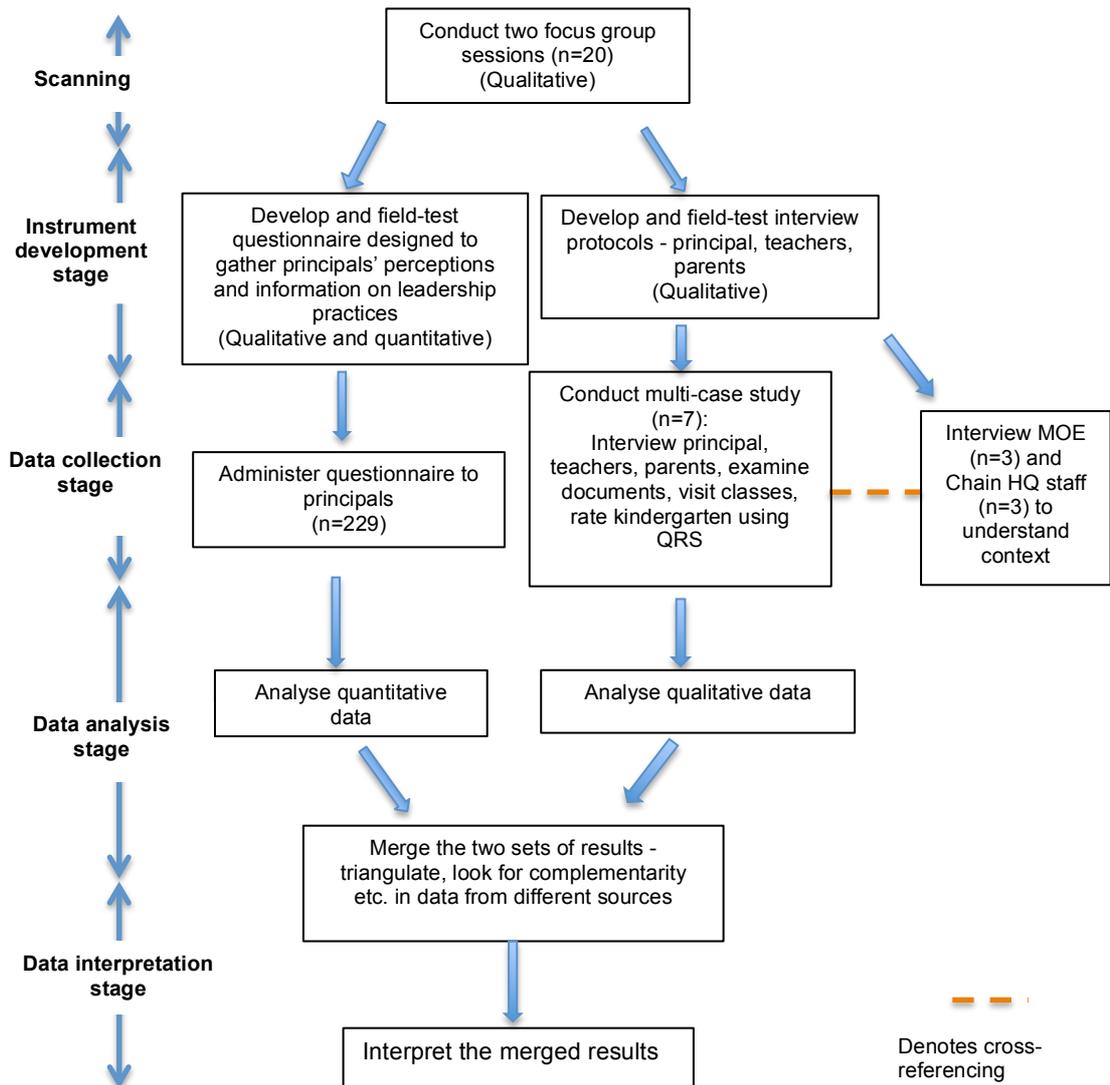
In order to obtain a broad picture of the possible factors in the macro environment which might influence the principals’ leadership at each centre, a number of personnel of both the MOE (which directs the policies at the macro level) and of the operating headquarters of kindergarten chains (which directs the policies at the chain level) were also interviewed. The information obtained from these interviews were used mainly as background information. Parts of these interviews which provided information to explain specific policies were also analysed.

Data collection for the survey and multi-case study took place separately and sequentially, although the latter was not driven by methodological needs but rather by the fact that the investigator was working alone most of the time.

The quantitative data and qualitative data were analysed separately. The quantitative data was analysed using SPSS version 22, while the qualitative data from the survey and the multi-case study were analysed using NVivo version 10.

Merging of findings from the survey and multi-case studies took place at the discussion phase. The schema below provides a visual summary of the research design.

Figure 4.1 - Research design



As stated in Chapter 1 and 3, the key research question for this study is **How do kindergarten principals in Singapore build the capacity for learning of their centres?** From this key research question, the four research sub-questions are:

- 1) In what ways do principals build teachers' knowledge, skills and dispositions?
- 2) In what ways do principals nurture a kindergarten-wide professional community?

3) In what ways do principals foster coherence in purpose, plans and actions?

4) What contextual features affect principals' efforts to build the capacity for learning of their kindergartens?

Table 4.2 below provides the mapping of data addressing the four research sub-questions. The table, drawn up after the analysis had been completed, includes elements which make up the theoretical lens, as well as themes and issues outside of the theoretical lens but which have arisen from the analysis.

Table 4.2 Mapping of research questions with data type and analysis

Research Questions	Data Types (QUANT=Quantitative QUAL=Qualitative)	Data Analysis
<p>In what ways do principals build teachers' knowledge, skills and dispositions?</p> <p><u>Individual learning</u></p> <ul style="list-style-type: none"> • Identification of learning needs 	Case studies – Interviews of principals and teachers, documents – QUAL	QUAL - Topic coding via meaning condensation
<ul style="list-style-type: none"> • The areas of learning 	Survey: SQ11-QUANT	QUANT – Descriptive and inferential statistics
<ul style="list-style-type: none"> • Professional development activities of teachers 	Survey: SQ10 and SQ11-QUANT Case studies – Interview of principals, teachers, parents - QUAL	QUANT – Descriptive and inferential statistics QUAL - Topic coding via meaning condensation
<ul style="list-style-type: none"> • Systems and structures put in place to support staff learning 	Survey: SQ14 – QUANT Case studies – Interview of principals, teachers, parents - QUAL	QUANT – Descriptive and inferential statistics QUAL - Topic coding via meaning condensation
<u>Group learning</u>	Survey: SQ 10, items 10.4, 10.5 and 10.12 – QUANT SQ1 – QUAL Case studies – Interview of principals, teachers, parents, observation, documents - QUAL	QUANT – Descriptive QUAL - Topic coding via meaning condensation
<u>Organisational learning</u>	Case studies – Interview of principals, teachers, parents, observation, documents - QUAL	QUAL - Topic coding via meaning condensation
<p><u>Other relevant data (Section 6.5)</u></p> <ul style="list-style-type: none"> • Mindsets of leaders towards leadership for learning • Role modeling by principals 	Survey: SQ1, SQ9 – QUAL; SQ1, SQ7, SQ15 - QUANT SQ19, SQ20	QUANT – Descriptive and inferential statistics QUAL - Topic coding via meaning condensation

Research Questions	Data Types (QUANT=Quantitative QUAL=Qualitative)	Data Analysis
In what ways do principals nurture a kindergarten-wide professional community? Shared goals for student learning	Survey: SQ1 – QUAL Case Studies – Interviews of principals, teachers - QUAL	QUAL - Coding, pile sorting, descriptive statistics
Meaningful collaboration among staff	Survey: SQ8 – QUAL Case studies – Interview of principals, teachers, parents - QUAL	QUAL – Coding, pile sorting, descriptive statistics
Opportunities for teachers to exert influence over their work	Survey: SQ1, SQ15 – QUAL Case studies – Interview of principals, teachers, parents - QUAL	QUAL –Coding, pile sorting, descriptive statistics
Formalisation of work processes	Survey: SQ15 – QUAL Case studies – Interview of principals, teachers, parents, checking of documents- QUAL	QUAL –Coding, anecdotes
A culture for learning	Survey SQ8, SQ 15 - QUAL	QUAL - Coding, pile sorting, descriptive statistics

Research Questions	Data Types (QUANT=Quantitative QUAL=Qualitative)	Data Analysis
In what ways do principals foster coherence in purpose, plans and actions? <u>Organisational Integration:</u> Alignments in planning <ul style="list-style-type: none"> • between programme approach and needs of children • between programme needs and professional development of staff • between enacted and espoused programme 	Case Studies – Interview of principals, teachers, parents – QUAL. Observation of classes and studying of documents made available – QUAL.	QUAL - Topic coding via meaning condensation
Organisational Integration: Focus on teaching and learning and building team expertise	Survey: Q3 – QUANT SQ1-QUAL	QUANT- Descriptive statistics, principal axis factoring QUAL - Topic coding
Organisational Integration: engagement of parents as supporters	Survey: SQ3 –QUANT, SQ17-QUANT SQ16 –QUANT Case Studies – Interview of principal and parents -QUAL	QUANT-descriptive statistics QUAL - Topic coding via meaning condensation
<u>Systems Thinking</u>	Case Studies – Interview of principals, teachers, parents (QUAL)	QUAL - Topic coding via meaning condensation
Buffering kindergarten from conflicting external influences	Case Studies – Interview of principals, teachers, parents (QUAL)	QUAL - Topic coding via meaning condensation

Research Questions	Data Types (QUANT=Quantitative QUAL=Qualitative)	Data Analysis
<p>Contextual features that affect the building of capacity for learning</p> <p>Background and Leadership of principal</p> <ul style="list-style-type: none"> Principals' mindset on teachers' learning 	<p>Survey: SQ7-QUAL and QUANT, SQ9-QUAL</p> <p>Case Studies – Interviews of principals, teachers - QUAL</p>	<p>QUANT-descriptive statistics</p> <p>QUAL - Topic coding via meaning condensation</p>
<ul style="list-style-type: none"> Signaling of the importance of teachers' and pupils' learning 	<p>Survey: SQ19 and SQ20 – QUANT</p> <p>Survey: SQ1-QUAL</p> <p>Case Studies – Interviews of principals, teachers - QUAL</p>	<p>QUANT - descriptive statistics</p> <p>QUAL - Topic coding via meaning condensation</p>
<ul style="list-style-type: none"> Time spent guiding teachers in their work and planning for teachers' professional development 	<p>Survey: SQ6-QUANT</p>	<p>QUANT-descriptive statistics, principal axis factoring</p>
<p>Background of the kindergarten, children and teachers</p>	<p>Survey: P1-13-QUANT</p>	<p>QUANT – descriptive Statistics</p>
<p>Interaction of kindergarten type, children and staff with leadership practices</p>	<p>Survey: SQ3, 4, 10, 11, 14, 16, 17 - QUANT</p>	<p>QUANT- Inferential Statistics</p>
<p>Local circumstances other than kindergarten type, children and staff background</p>	<p>Case studies – Interviews of principals, teachers and parents - QUAL</p>	<p>QUAL - Topic coding via meaning condensation</p>
<p>Macro environment</p>	<p>Case studies - Interviews of principals, teachers and parents - QUAL</p>	<p>QUAL - Topic coding via meaning condensation</p>

4.4 Specific details of methods – Survey

4.4.1 The objectives

The purpose of the questionnaire was to obtain information to address all research questions, but focussing on the factual content. Although primarily focusing on factual content, an attempt was also made to investigate softer issues such as mindsets, attitudes, ownership and agency. The information collected on these issues was used to triangulate the findings from the multi-case study.

4.4.2 Validity and reliability

The questionnaire was developed following good practice for questionnaire design. One of the key considerations was validity, whether the questionnaire would serve the purpose that it had set out to do. Validity was addressed by first defining the objectives of the survey guided by the conceptual framework, then gathering inputs from the study population through focus group discussions. The items in the questionnaire were drafted, and then they were evaluated by a 'specialist panel' consisting of nine people, two mentors of primary school principals, two mentors of kindergarten principals, two kindergarten accreditation assessors, and one psychometrician. Based on the recommendations of the specialist panel, the items were amended before they were field tested (Dillman, Smyth and Christian, 2009; Fowler, 2009; Gillham, 2008). The different stages of the questionnaire design are described in more detail in the next few sections.

Gathering input from the field

The starting point for drafting the items in the questionnaire was the dimensions examined in each of the research questions. To illustrate, the first research question was on how the principals support the continuous professional learning of teachers - items included how important various professional development strategies were, and structures put in place by principals to support teachers' professional learning. Two focus group discussions, involving a total of twenty educators, were convened to gather input for the questionnaire. The purpose of gathering input was to take into account the range of local leadership practices, as well as the leadership terms used by the group being studied. The first focus group session was to obtain factual inputs, while the second session focused on refining the inputs. The protocol used for the focus group sessions have been included at Appendix 2. A sample of the inputs from the session has been included in Table 4.3.

Table 4.3 A sample of input for key tasks that principals perform

i)	Personal professional development <ul style="list-style-type: none">• Attend meetings to keep abreast with developments
ii)	Administration / maintenance and control functions <ul style="list-style-type: none">• Monitor and approve purchases• Monitor teacher attendance daily• Monitor student health check• Monitor by walking around school compound• Interact with children• Observe classes (informal)• Collect, bank in and key in fees collected• Look into fee arrears• Monitor and approve staff professional training• Student management system• Ensure environment is safe and clean• Ensure teaching resources are age appropriate• Ensure teaching resources are in good condition• Develop SOPs to manage disease outbreaks• Conduct fire drills• Arrange field trips, sports day, open house• Support the work of grassroots leaders• Check inventory• Look into registration of students• Attend to petty cash claims• Plan the budget, manage the accounts• Check for SOP adherence
iii)	Structures and processes to support teaching and learning <ul style="list-style-type: none">• Learning needs analysis (staff)
iv)	Curriculum and pedagogy, learning of children <ul style="list-style-type: none">• Approve children's portfolio• Review and develop curriculum with teachers• Make provision for children with special needs• Prepare the annual centre report
v)	Professional guidance of staff <ul style="list-style-type: none">• Staff induction• Review and approve lesson plans• Observe classes (formal)• Counseling and coaching staff• End of term evaluation of teachers• Planning staff retreats and professional development• Team building
vi)	Personnel functions <ul style="list-style-type: none">• Staff deployment and appraisal• Looking after staff welfare• Mediate staff issues
vii)	Change making / bringing about improvements <ul style="list-style-type: none">• Gather input for strategic and action plans (seasonal)
viii)	Communication with staff <ul style="list-style-type: none">• Conduct morning assembly and briefing of teachers• Conduct staff meetings
ix)	Communication with parents <ul style="list-style-type: none">• Check and respond to emails• Attend to enquiries of parents, public

Preliminary item design

Drafting the items

The items for the survey were drafted taking into consideration the input from the focus group. To illustrate, from the input on the “key tasks that principals perform” (given in [Table 4.2](#)), I had the range of practices that principals performed to provide professional guidance (staff induction, review and approve lesson plans, observe classes-formal, counsel and coach staff, end-of-term evaluation of teachers, plan staff retreats and professional development, team building), what they do to monitor teaching and learning (i.e. approve children’s portfolio, review and develop curriculum with teachers, make provision for children with special needs, prepare the annual centre report). The input on professional guidance together with the input from another question specifically on structures that have been put in place to support the professional development of teachers provided the content for SQ10 (refer to [Appendix 3](#) for the questionnaire), on modes/strategies for professional development of teachers at the kindergarten, and SQ14, on the structures that have been put in place to support teachers in their professional development. The input from this focus group question also provided the content for SQ3 on routine tasks performed by principals. Through the input on this same focus group question (given in [Table 4.3](#)), I also realised that principals had to perform many administrative and operational functions. Hence, a question on the proportion of their time spent on working with different groups of people at the kindergarten (SQ5) was added to explore whether administrative and operational functions were a key pre-occupation of principals.

The focus groups also allowed the researcher to gain insight into principals’ understanding of concepts embedded in the study and/or the language they use. An example of how the researcher and the focus group participants differed in the understanding of terms, such as “observing classes”, where the participants have taken it literally to mean observing the class but with no intent to discuss the lesson or to provide feedback, while the researcher had assumed that class observation and feedback came together. Hence, in

drafting the item, the item was drafted carefully as “observe classes and coach teachers on pedagogy”. A sentiment shared by the focus groups was that the principals simply had too much to do and wished they had more time to provide leadership for teaching and learning. They had said that the phrase, “too much to do and too little time to work on them”, described most accurately the situation they were in. Even though this was a “catch all” phrase, it was included in SQ4 to reflect that the student researcher understood the situation the principals were in. To circumvent the problem of capturing no specific reason for this survey question, participants were asked to tick two reasons rather than one.

Two other key considerations influenced the drafting of items and these were:

- *Whether textbook or socially acceptable answers would be given in place of accurate answers.* Dillman (2009), Fowler (2009), and Gillham (2008) have written about the use of open-ended and indirect questions to avoid textbook and socially acceptable responses. This strategy was adopted where it was likely that the respondents would give textbook or socially acceptable responses. For example, in Survey Question 8 (SQ8), an open-ended question was used where the content was on developing a “culture to support learning”. The alternative to this would have been a closed-ended question with a response template consisting of several common strategies for respondents to tick, such as building of trust, teamwork and ownership. These terms connote positive leadership behaviours and are likely to be ticked off in closed response options regardless of actual beliefs of respondents. In contrast, an open-ended item would allow respondents to provide more spontaneous responses.
- In SQ3 of the questionnaire, respondents were asked to indicate the amount of time they had spent on specific leadership tasks per week, while at SQ6, they were asked to indicate the total number of hours spent on broad categories such as guiding teachers and catering for teachers’ professional learning. These questions would not have been

sufficient to establish if indeed high priority was given to the learning. The strategy of triangulation was used. A question with pairs of tasks (SQ9) was designed where respondents were forced to choose one that they thought was more important and to give reasons to explain why one was more important than the other. Together the questions, SQ3, SQ6 and SQ9 provided information on the mindsets of the respondents.

- *Length of the questionnaire.* As the questionnaire was long, the format of the questions and response template were designed to vary in order to mitigate the chances of the respondents just ticking off without deliberation (Oppenheim, 2001). In addition, demographic information of the participants was placed at the end of the questionnaire as this section was factual and needed less effort to complete. A decision was also made to administer the survey face-to-face so that doubts could be clarified on-the-spot.

Critical Evaluation by “Specialist Panel”

The ‘specialist panel’ (whose constitution has been mentioned at the start of [Section 4.4](#)) evaluated the draft questionnaire for face validity and gave specific feedback on the draft. The panel affirmed the validity of the questionnaire. The panel also suggested two changes (listed below) which were carefully considered and subsequently adopted.

- a) Integrate the two questions to save respondents’ time - one asking how the principals spend their time currently, the other asking how they would spend their time in the ideal state.
- b) Breaking the ranges in the answers in the biodata section (for example, size of kindergarten, and age of principal) into narrower ranges to allow greater granularity in analysis, if necessary.

Field-testing was carried out to check on reliability

A further check on the validity of the questionnaire was carried out via field-testing. Twelve principals broadly representative of the research population in qualifications, age, ethnic background and kindergarten type were

identified to take part in the field-testing which was conducted in two sessions, each with six principals. The purpose of the field test was to find out if the participants understood the terms in the same way, if they had the necessary information to answer the questions, and if the amount of time needed to complete the questionnaire was sufficient. This was a necessary step in securing instrument reliability. For each session, the participants were first asked to complete the questionnaire and then they were asked to participate in a group discussion of the questionnaire.

During the group discussion, participants were encouraged to raise questions. The student researcher also took the opportunity to check for understanding of terms such as 'systems', 'structures', 'culture', and the way the participants would respond to SQ3, where they were asked to indicate the amount of time they spend on a list of tasks and how much time they would want to spend on the same list of tasks.

Going by the questions raised, it appeared that SQ10, asking for the number of people serving in the "leadership or management team" at the kindergarten was problematic. There was confusion by the principals of the difference between the governing board and the leadership team among staff. This idea of having a leadership team amongst staff appeared to be new to the majority of principals at the field-testing sessions. This issue was addressed by adding a note to the administrative briefing at the start of the administration of the questionnaire.

To reduce the difficulty of recall for SQ3, an additional question, akin to a page in the diary (named SQ2 in current questionnaire), was added so that participants could use the space to jot down some points. A note was added to the administrative brief to inform the participants of the intent of the question and that the responses to this question would not be analysed.

Overall, the questionnaire was long. For both field-testing sessions, the first completed questionnaire was submitted in 45 minutes and the last was submitted in 1 hour 15 minutes. Provision was made for participants to take a short break during the administration of the questionnaire if they so wished.

The questionnaire has been attached at [Appendix 3](#).

4.4.3 Data Collection

Sampling

All kindergarten principals (N=434) were invited to participate in the survey with the exception of the 12 who participated in the field-testing of the survey. In total 234 principals participated in the survey.

The proportion of principals responding from commercial and ethnic-based kindergartens was small, 5.2% and 0.4% respectively. These two categories of kindergarten were combined with the mission-based kindergarten to form the Non-Funded (or NF) kindergartens.

Of the 234 principals who participated in the survey, one principal from a NF kindergarten and four from the Funded kindergartens were Executive Principals whose job scopes and responsibilities were substantively different from those in the study population, hence they were taken out of the respondent pool. The final number of respondents was 229.

Table 4.4 *Number of respondents in the data set*

Kindergarten Type	Frequency	As % of possible respondents
Non-Funded (NF)	60	28
Funded	169	74
Total	229	100

Administration of the questionnaire

The questionnaire was administered face-to-face using the paper and pencil mode, with the investigator personally administering the questionnaire in August and September 2012 over four sessions in order to accommodate the different schedules of the participants and to work within the physical space constraints.

Standard briefing

To provide a consistent environment across the four sessions, all participants were briefed using a standard briefing script. The script for the briefing has been attached at Appendix 4.

Checking on completeness

As the questionnaire was administered face-to-face, the investigator could scan for completeness as the completed questionnaires were returned.

4.4.4 Data analysis

In studying leadership practices, comparisons were made between the Non-Funded and Funded kindergartens, and not among four groups as originally conceptualised. This regrouping was viewed as a refinement as the availability of funds was probably one of the most important factors, if not the most important factor, that explained the differences in leadership practices across kindergartens. Further, some cells would have had too few respondents for meaningful statistical comparison if the comparison had been made four ways.

Dealing with disproportionate representation from different types of kindergartens.

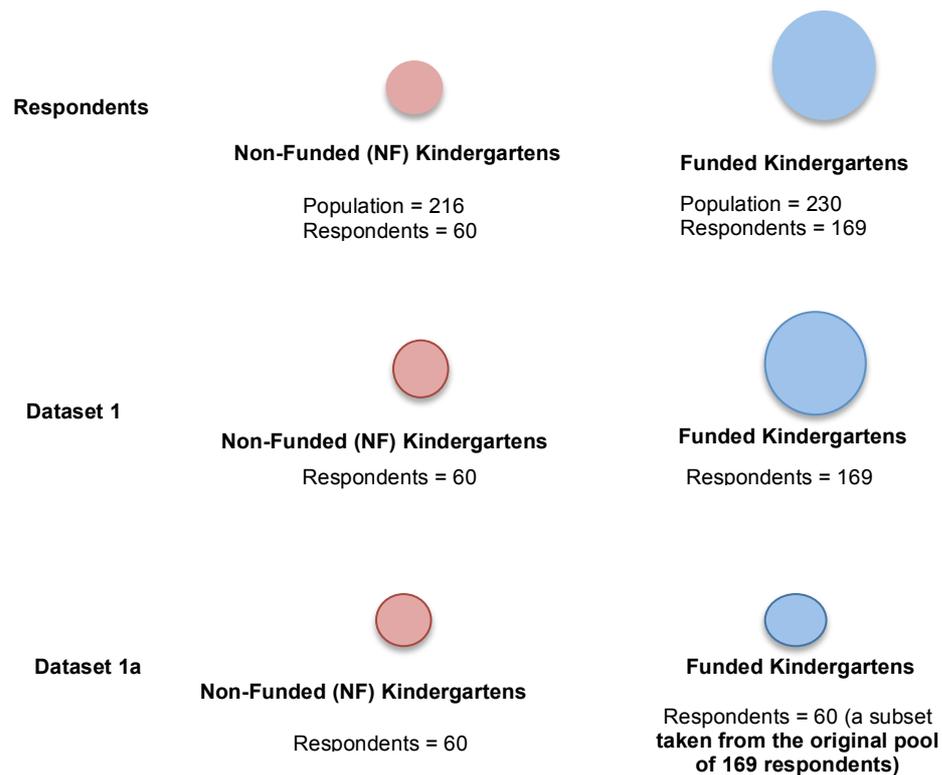
Sixty respondents or 26% of the principals from non-government funded (NF) kindergartens responded to the survey while 169 or 74% of principals from funded (Funded) kindergartens did so. For easy reference, this dataset consisting of responses from 229 kindergarten principals was named Dataset 1.

To address the imbalance in the representation of respondents from the Non-Funded (NF) kindergartens and government-funded (Funded) kindergartens, some items were analysed a second time, with all respondents from NF kindergartens (n=60) and a randomly selected sample of 60 principals from the pool of 170 Funded kindergarten principals who completed the questionnaire. This dataset with all 60 respondents from NF kindergartens

and a pull-out dataset of 60 respondents from Funded kindergartens was named Dataset 1a.

The figure below is a diagrammatic representation of the datasets.

Figure 4.2 - Diagram showing the size of survey sample and datasets



A comparison was then made of the analysis using Dataset 1 and Dataset 1a to determine if there were differences between the two datasets. As the differences were within a narrow range, within one percentage point, a decision was made to use Dataset 1 for the entire analysis as pulling out a subset of 60 from the original Funded respondent pool of 170, also meant the statistical power of the analysis would be compromised. Doing this would not in any way mitigate the bias of the sample from the NF sector which would continue to exist whether the entire sample or a pull-out of the sample of Funded kindergarten was used as a comparison.

Admittedly, it is an inherent challenge to obtain information about non-respondents to establish any possible biasness of respondents, and the same can be said of the NF group. In view of the relatively weaker response rate from the NF group, generalization of the findings on the NF group needs to be done cautiously.

Analysis of open-ended questions

The open-ended questions in the survey were analysed using NVivo version 10. Responses were coded and each new activity or area in the response formed a new node. Nodes were then grouped into themes or Parent Nodes. The number of counts for each Node and Parent Node was aggregated. A sample of how the open-ended questions were analysed has been provided at [Appendix 16](#).

4.5 Specific details of methods – Multi-case study

4.5.1 Selection of cases

A multiple case design was adopted. The original intent was to study eight kindergartens with two belonging to each kindergarten type (Commercial, Mission-based, Ethnic-based, Community-based) as it was envisaged that the results would cluster according to kindergarten type. It was also the intent of the study to understand how leadership practices may differ across contexts (fourth research sub-question). The plan was to select one 'stronger' kindergarten and one 'weaker' kindergarten in terms of building capacity for learning from each kindergarten type. A 'stronger' kindergarten would be one where the principal had done much to nurture a safe and supportive environment for learning while a weaker kindergarten would be one where the principal had done little for this area. A comparison of the 'stronger' or 'weaker' settings across types would surface type-specific differences and issues, while a comparison of the 'stronger' and 'weaker' kindergartens within the type would take care of type specific issues and give

insights on what might work best to build capacity for learning for that given type.

Subsequently, the cases were selected from amongst forty-five volunteers who had indicated at the end of the questionnaire that they were willing to consider participating in the case study phase of this project. The following were the steps taken in identifying the kindergartens for the multi-case study.

1) The list of 45 kindergartens was sent to MOE who scanned the list and eliminated those for whom they had little information and also those that were going to participate in accreditation during the period of my field work. MOE eventually provided a list of seventeen Funded kindergartens and five NF kindergartens from the list of 45, with a spread of 'stronger' and 'weaker' kindergartens based on accreditation or mock accreditation scores. However, as the list of 45 had no 'weaker' NF kindergartens, the 'weaker' NF kindergarten category was not represented.

2) With the help of MOE, a Funded kindergarten was invited as the site for field-testing of the interview protocols. A Funded kindergarten was chosen as there were more Funded kindergartens in the MOE shortlist and the likelihood that more Funded kindergartens would be included in the multi-case study. The kindergarten chosen was one considered average, that is, mid-way in scores based on the accreditation instrument.

3) Two NF and nine NF Kindergartens with very similar backgrounds were removed by the researcher, narrowing the options to three NF and seven Funded kindergartens that gave the widest spread of kindergartens in terms of ethnic, religious and social economic background.

4) MOE looked through the list again to ensure that the list consisted of the widest spread in terms of accreditation scores.

5) All 10 principals were invited to participate in the multi-case study. One NF kindergarten and two Funded kindergartens rejected the invitation to participate. Hence, the final number of kindergartens included in the study

was seven, two NF, named NF1 and NF2, and five Funded named F1, F2, F3, F5 and F6 (with F4 as the field-testing kindergarten).

On the categorisation of the kindergartens as 'stronger' and 'weaker' kindergartens, the scores from the accreditation or mock accreditation based on the Quality Rating Scale (QRS) gave a rough gauge of the leadership though not specifically leadership for learning, as the focus of the instrument was on leadership in general. The QRS was the instrument in the Singapore Preschool Accreditation Framework (SPARK) launched by MOE in 2010 to provide the ECEC sector with benchmarks to guide their quality improvement efforts. The instrument was based on five core values, the Child our focus, leadership with vision, partnership for growth, innovation with purpose, professionalism with impact. The QRS instrument has six criteria: *Leadership, Planning and Administration, Staff Management, Resources, Curriculum and Pedagogy*. It was developed through wide consultation and validated against established instruments such as the Early Childhood Environment Rating Scale Revised (ECERS-R), the Early Childhood Rating Scale Extension (ECERS-E) and the Programme Administration Scale (PAS) and the correlation with these instruments were 0.5, 0.3, 0.5 respectively. The instrument was subjected to psychometric studies on reliability and validity⁷. Henceforth, the QRS will be referred to as the SPARK instrument.

As the kindergartens participated in SPARK over a period of two years, for comparability, a decision was made for the researcher to score the kindergartens as stronger or weaker centres using the SPARK instrument during the multi-case study phase.

The SPARK instrument has been attached at [Appendix 5](#). The scores for the seven centres have been tabulated at [Table 4.5](#).

Kindergartens NF1, NF2, F1, F2 and F3 fell within the emerging range (from score 2.0 to 3.9). Of these, four centres (NF1, NF2, F1, F2) had ratings within

⁷ Cronbach's Alpha for the entire instrument was 0.85, while inter-rater reliability was 0.65 – 1.00, suggesting that the instrument was reliable.

a narrow range of 0.3 from one another (from 3.5 to 3.8) and will be referred to as Emerging Centres with High Average. Centres F5 and F6 had average scores that were below the emerging range - 1.5 and 1.3 respectively. For the purpose of comparison of leadership practices, the terms **Emerging with High Average** (NF1, NF2, F1, F2), **Emerging** (F3) and **Below Emerging** (F5, F6) will be used to describe the three categories by QRS ratings.

Table 4.5 QRS scores assigned to centres included in Multi-case Study

CRITERIA		ITEMS	NF1	NF2	F1	F2	F3	F5	F6	
1	Leadership	1.1	Strategic Leadership	3	4	4	4	3	2	2
		1.2	Curriculum Leadership	4	4	5	5	3	1	1
2	Planning and Administration	2.1	Strategic Planning	4	3	2	4	3	1	1
		2.2	Programme Structure and Implementation	4	3	4	4	2	1	1
3	Staff Management	3.1	Induction and Deployment	3	3	3	2	3	2	1
		3.2	Professional Development and Performance Appraisal	4	4	4	4	2	1	1
		3.3	Staff Well-being	4	4	4	4	4	2	2
4	Resources	4.1	Teaching and Learning Environment and Resources	4	4	5	4	3	2	1
		4.2	Collaboration with Parents	4	4	5	4	3	3	1
		4.3	Collaboration with Community	4	3	3	4	4	2	1
5	Curriculum	5.1	Integrated Curriculum and Holistic Development	4	4	4	4	2	1	1
		5.2	Aesthetics and Creative Expression	3	3	3	4	2	1	2
		5.3	Environmental Awareness	2	3	4	4	2	1	1
		5.4	Language and Literacy	4	3	4	4	3	1	1
		5.5	Motor Skills Development	3	4	4	4	3	2	2
		5.6	Numeracy	3	3	3	4	2	1	2
		5.7	Self and Social Awareness	4	4	3	4	4	2	2
6	Pedagogy	6.1	General Principles for Pedagogy	3	3	3	4	3	1	1
		6.2	Assessment of Children's Learning and Development	4	4	5	6	4	2	1
Total				68	67	72	71	55	29	25
Average				3.6	3.5	3.8	3.7	2.9	1.5	1.3
				Emerging with high average			Emerging	Below Emerging		

4.5.2 Personnel interviewed

The researcher spent two days at each kindergarten during which the principal, three teachers and three parents were interviewed. Classes were observed, documents and artefacts were also studied during the stay. There were slight variations in the actual number of people interviewed as participation depended on the willingness of the people identified to do so. Group interviews were conducted where schedules did not permit individual interviews or if the interviewees preferred the group interview format.

4.5.3 Data collection window

The case studies were carried out in February and March 2013. The windows for data collection were based on time slots negotiated with the principal. The class visits and study of the artefacts took place in between the interviews, which were scheduled by the principals. In six of the seven cases, the principals allowed the investigator to step into classrooms at any time of the day.

4.5.4 Range of data collected

Interviews conducted for the principals, teachers and parents were semi-structured interviews covering all four research sub-questions although the focus was different for each informant group. While the interviews for the principals covered the four research sub questions fairly evenly, the interviews for the teachers focused on opportunities for professional development and dialogue, whether they had opportunities to partake in decision-making, and how they worked with parents and the community. The interviews for parents on the other hand, focused on the parents' perception on whether the kindergarten programme was meeting the learning needs of their children, the learning environment of the kindergartens, and how the kindergartens worked with parents.

Semi-structured interviews were favoured over structured interviews to allow different aspects of leadership as well as data relevant the conceptual

framework to surface. A sample of the interview protocol used with the principals has been included in [Appendix 6](#).

In regard to documents, each kindergarten was asked to provide a sample of teachers' learning needs analysis, teachers' reflection logs, documents on curriculum planning and review, classroom observation records, schedules of staff meetings, communication log with parents and artefacts showing the staff working on the centre's mission or vision, or teachers working together. To allow for perspectives that might not have been included in the conceptual framework, the principals were asked to include other documents and artefacts that would tell a story of how they provided leadership for learning at their centres. One centre reverted with the full list of documents requested for.

The purpose of looking at documents was to gather information for triangulation. To illustrate this point, examining a sample of teachers' learning needs analysis should provide information on the alignment of the needs of the teacher and the actual development support they received, and such information can be used to triangulate information from the interviews on the coherence of plans. Looking at the reflection logs of the teachers should give a sense of the depth of reflection, and the follow-up action which the teacher has taken, and such information can be triangulated with information gathered from the interviews on how lesson reviews are done.

A summary of the notes taken of observations made from documents, artefacts and class visits was made after each visit. A sample of notes taken for F3 has been included in [Appendix 8](#). The notes were also coded and analysed in the data analysis phase.

4.5.5 Analysis of data

The interviews were transcribed with the assistance of two research assistants. The convention used for transcription is at [Appendix 9](#).

A set of codes was written first based on the conceptual framework. Upon reading the transcripts and summary notes, additional codes including those

which did not fit the conceptual framework were added to this set of codes (see Table 4.6). Codes were still added into the set during the coding of the transcripts when additional points surfaced. Hence, the codes were created both inductively and deductively. For illustration, the codes associated with the theme of cultivating an environment supportive of learning has been provided below.

Table 4.6 Codes associated with theme of cultivating an environment supportive of learning

Themes	Sub-themes	Codes based on conceptual framework or original codes (deductive)	Codes added during coding (inductive)
Cultivating learning environment	Shared goals for children's learning	P* role modeling P fostering shared mission Teachers articulate shared mission P fostering shared vision Teachers articulate shared vision Teachers demonstrate that they have shared vision P establishing shared values Shared values are evident in daily practice of teachers	Teachers themselves have missionary zeal
	Promoting and participating in teaching and learning	P participating in curriculum planning P participating in lesson review P participating in site-based professional forum P setting professional standards P monitoring children's learning P mentoring and coaching staff P inspiring staff P demonstrating lessons P supporting staff initiated professional development activities	P managing staff distractions P affirming/recognising staff efforts in teaching P not involved in curriculum or teaching and learning
	Meaningful collaborations among staff	P building relationships/bonds with staff P building teamwork P building trust P building staff confidence P providing opportunities for shared learning P establishing staff work groups	P uses divisive practices P seen as favouring a small group of staff
	Opportunities for teachers to influence work	P having a mindset of empowerment P respecting colleagues P giving teachers options P consulting staff P leaving class level decisions to staff P planning work with staff P facilitating staff innovations	P uses controlling practices P being quick to judge P adopting a hands-off approach

Themes	Sub-themes	Codes based on conceptual framework or original codes (deductive)	Codes added during coding (inductive)
	Establishing stability in the environment	P establishing routines in daily operations P acting as buffer between parents and teachers so teachers can concentrate P anticipating and preparing staff for change and transitions P providing for continuity	P solving staff conflicts P seen as solving problems P looking after hygiene factors and staff wellbeing P being transparent P being available for staff consultation P planning for transition

* P: Principal

In coding the transcripts, the transcripts were coded independently of the codes generated from the conceptual framework (original codes). The codes generated based on the conceptual framework and those generated from the transcripts (independent codes) were compared. Where the codes from the independent coding did not coincide with the original codes, they were considered for inclusion into the set of original codes. The “codes added during the coding”, as shown in the table above, were the additional codes added from the independent coding.

Case write-ups were done for all seven cases but they have not been included in the main text to keep within the word count limit. Three of these case write-ups (NF1, F2, F6) have been included at [Appendix 17](#) to contrast the stronger kindergarten (centres that were Emerging with High Averages) and weaker kindergartens in the system (centres that were Below Emerging), and the key points of the remaining four cases have been tabulated in the Summary of Cases at the [Appendix 18](#).

Cross case analysis involved comparison of practices between the Funded and NF kindergartens, and comparison between kindergartens that were Emerging with High Averages and kindergartens that were Below Emerging were carried out. The findings of the cross-case analysis will be integrated with findings from the questionnaire and presented in Chapters 6, 7, 8 and 9.

4.5.6 Integration of findings

As mentioned earlier, the data were analysed separately and integration of findings took place at the discussion.

4.6 Summary

In this chapter, the key conceptual elements of the methodology together with ethical issues and positionality have been outlined. The research design has also been described and details of the specific methods of the survey such as the design of the survey questionnaire and the treatment of data was discussed. Details of the case studies such as the selection of cases, categorisation of centres as stronger and weaker centres for comparison, how the codes were aggregated have also been explained. The findings from the survey and case studies will be discussed in Chapter 6, 7, 8 and 9.

CHAPTER 5 Participants, their kindergartens and their professional development

5.1 Introduction

This chapter provides the background of the participants, the centres they come from, and their professional development. The chapter is organised in five sections as follows:

- Section 5.2 provides the profile of the participants of the questionnaire and their centres,
- Section 5.3 provides the profile of the participants of the multi-case study and their centres,
- Section 5.4 provides information on the participants' own training
- Section 5.5 provides a summary of the chapter.

The findings for this chapter come from both the survey and the multi-case study. The table below (Table 5.1) provides a summary of the data source and approaches to data analysis.

Table 5.1 Mapping of research questions with data type and analysis (RQ4)

Questions answered	Data Types (QUANT=Quantitative QUAL=Qualitative SQ=Survey Question)	Data Analysis
Profile of questionnaire participants and their centres	Survey: P1- P13 - QUANT	QUANT – Descriptive and inferential statistics
Profile of participants of multi-case study and their centres	Case studies – Documents (QUANT)	QUANT – Descriptive statistics
Principals' own training	Survey: SQ3, 19 and 20 – QUANT	QUANT – Descriptive and inferential statistics

5.2 Questionnaire participants and their kindergartens

A total of 229 kindergarten principals (52.8%) participated in the survey. The response rate by kindergarten type (Funded or Not-Funded) has been tabulated below (Table 5.2).

Table 5.2 Number of participants by kindergarten type

Kindergarten Type	Frequency	As % of possible respondents
Non-Funded (NF)	60	28
Funded (F)	169	74
Total	229	100

5.2.1 Profile of questionnaire participants

Roles

The participants in the analysed dataset consisted of three subgroups of people. Ten participants were 'Acting Principals', who have yet to be confirmed in their roles as principals. Twenty participants played dual roles - as principal of their kindergartens and administrator with responsibilities beyond their kindergartens. The rest of the participants were in the role of principal.

Ethnic background

Among the respondents, 71% were Chinese, 10% were Indians, 16% were Malays, and 3.1% belonged to other ethnic groups. The ethnic distribution roughly mirrors the ethnic distribution of Singapore (Chinese – 74.2%, Malay – 13.3%, Indian – 9.2%), (Singapore Department of Statistics, 2012) with slight under representation of 3% for the Chinese population and slight over representation of 3% for the Malay population.

Gender

All participants were females except for six (3%) from the Funded kindergartens. The 6 male participants were from age groups ranging from 25 to 49 years old.

Age

About 72% of participants were within the age range of 35-54 years old, 15% were younger and 13% were older. Chi-square analyses revealed that principals from Funded kindergartens were about four times as likely to be aged 20-34 years old as principals from Non-Funded kindergartens, $\chi^2(2, n = 229) = 12.570, p = .002, \text{odds ratio} = 4.10$. Principals from Funded kindergartens were also less likely to be more than 60 years old as compared to principals from Non-Funded kindergartens (Odds Ratio = 7.59). On the whole, the principals of Funded kindergartens were from a younger age range as compared to their counterparts in the Non-Funded kindergartens. The age distribution of the participants has been provided in Table 5.3.

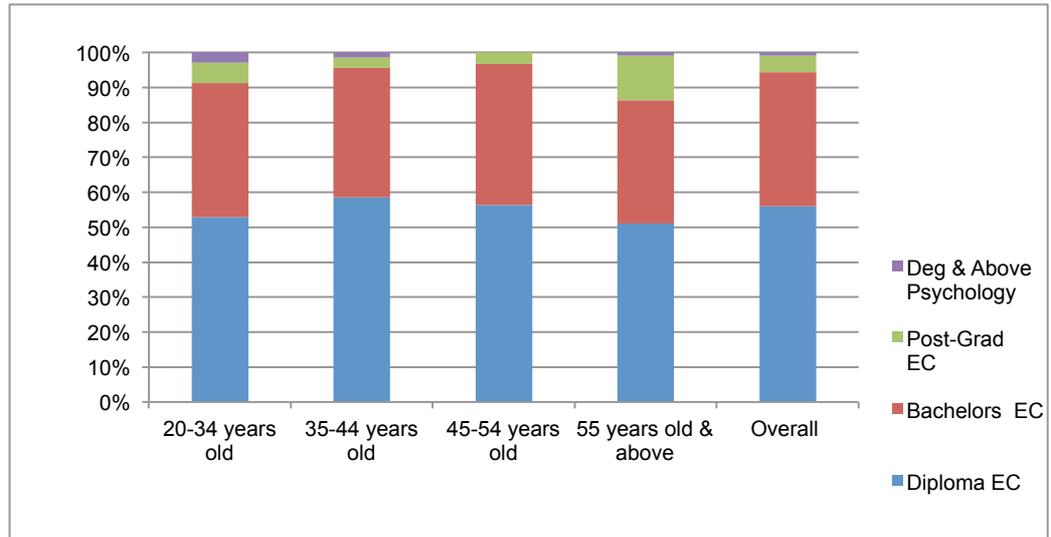
Table 5.3 Overall number of participants by age

Years as principal	Non-Funded		Funded		Total	
	Frequency	%	Frequency	%	Frequency	%
20-34 years old	3	5	30	18	33	14
35-59 years old	52	87	137	81	189	83
More than 60 years old	5	8	2	1	7	3
Total	58	100	163	100.0	229	100

Qualifications

In terms of professional qualifications, 56% of participants held Diploma level qualifications in early childhood care and education (ECCE); 38% held degrees in ECCE, 5% held post-graduate degrees in ECCE, and a very small percentage held degrees in Psychology. About 10 % of participants also had degrees in other fields. The distribution of qualifications by age group is shown in the stacked bars below (Figure 5.1).

Figure 5.1 - Distribution of qualifications by age group



55 participants (24%) acquired their highest qualification in a Singapore institution funded by the Government.

The proportion of participants with degrees was higher for the age group of 55 and above. Findings from the multi-case study suggest that principals acquired higher qualifications as they progressed in their career.

Comparing the formal professional qualifications of participants across kindergarten types, there was a significant difference in the percentage of ECCE degree holders for Non-Funded kindergarten participants (63%) and Funded kindergarten participants (37%). Chi square analyses revealed that principals from Non-Funded kindergartens were three times as likely to be degree holders compared to principals in Funded kindergartens, $\chi^2(2, n = 229) = 12.194, p = .000, \text{odds ratio} = 2.85$.

Years as Teacher

Among the participants, the Non-Funded participants spent a longer period as teachers prior to their appointment as principals compared to the participants from Funded kindergartens. About 45% of the Non-Funded participants have more than 10 years of experience in the role of a teacher

while 30% of the Funded participants have more than ten years of teaching experience, and this difference is statistically significant. Chi-square analyses revealed that participants from Funded kindergartens were about twice as likely to have one to five years of teaching experience as compared to principals from Non-Funded kindergartens, $\chi^2(2, n = 229) = 4.982, p = .083$, odds ratio = 2.05. Conversely, principals from Non-Funded kindergartens were about twice as likely to have 11 or more years of teaching experience compared to principals from Funded kindergartens (odds ratio = 1.93).

Years as principal

Principals from Non-Funded kindergartens have been in this role for an average of 10.9 years (standard deviation, $s = 6.6$) while principals from Funded kindergartens have been in this role for an average of 8.4 years ($s = 6.2$). This difference is not statistically significant.

Prior external work experience

70% of all participants had working experience outside of the pre-school sector (Non-Funded: 79%; Funded: 67%). This difference is not statistically significant.

It is not clear from the profile of the principals in the survey and multi-case study if they are representative of the population as similar data on the population profile was not available. More data on the background of the participants of the survey is in [Appendix 11](#).

5.2.2 Background of the kindergartens led by the participants

Pupil Enrolment

11%, 62% and 27% of the participants came from kindergartens with pupil enrolments of less than 100, between 100-199, and more than 200 respectively (Refer to [Table 5.4](#)).

Table 5.4 Overall number of participants by number of children in kindergarten

Number of Students	Frequency	%
Below 100 children	26	11
100 to 199 children	142	62
200 children and above	61	27
Total	229	100

5.3 Multi-case study participants and their kindergartens

5.3.1 Profile of the kindergartens studied

Seven kindergartens were studied using the case studies method described by Yin (2009). The seven kindergartens was a subset of those who participated in the survey.

All five government funded kindergartens (F1, F2, F3, F5, F6) belonged to the only non-profit government funded kindergarten chain at the time of the study (from here on referred to as Funded kindergartens) and the remaining two were non-profit, non-government funded kindergartens (NF1, NF2). Six of the kindergartens were already SPARK⁸ certified at the time data was collected. Please refer to [Section 4.5.1](#) on the selection of kindergartens for the multi-case study.

All but 1 principal of kindergartens that are Emerging with High Averages and the Emerging kindergarten had more than three years of work experience outside of ECEC. Both principals of the Below Emerging kindergartens had no prior work experience outside of ECEC. [Table 5.5](#) provides the profile of the kindergartens.

⁸ SPARK is the short form for Singapore Pre-school Accreditation Framework. A kindergarten is SPARK certified when it has been validated by MOE as having met minimally the emerging standards spelled out on the Quality Rating Scale (QRS).

Table 5.5 Profile of the kindergartens studied as cases

Kindergarten	Type	Principal's profile			Teacher's Profile		Pupil's profile		SPARK Certified (Emerging with High Average = HE; Emerging=E; Below Emerging = BE)
		No. of years as P	Highest Prof Qualification	Work experience outside of ECEC (Yes/No)	% with degree	% with > 3 years of teaching	Pupil Enrolment (No.)	Financial Assistance pupils (%)	
NF1	Non-funded, Mission-based	5	Masters (ECCE)	Yes	5	71	489	5	Yes (HE)
NF2	Non-funded, Mission-based	7	Masters (ECCE)	Yes	17	67	146	0	Yes (HE)
F1	Funded ⁹	5	Bachelors (ECCE)	No	0	57	103	2	Yes (HE)
F2	Funded	6	Bachelors (ECCE)	Yes	0	29	172	7	Yes (HE)
F3	Funded	10	Dip (ECCE)	Yes	0	57	120	40	Yes (E)
F5	Funded	5	Dip (ECCE)	No	0	100	125	30	Yes (BE)
F6	Funded	10	Masters (ECCE)	No	0	75	95	30	No (BE)

5.3.2 The personnel interviewed

Table 5.6 provides a summary of the personnel interviewed and the interview format.

Table 5.6 Personnel interviewed and format of the interviews at each centre

Kindergarten	Personnel Interviewed			
	Principal	3 Teachers ¹⁰	3 Parents ¹¹	Others
NF1	Yes	Yes (Group interview)	Yes (Group interview)	Manager and Vice-principal
NF2	Yes	Yes	Yes	-
F1	Yes	Yes	Yes (Group interview)	-
F2	Yes	Yes	Yes	-
F3	Yes	Yes (Group interview)	Yes (Group interview)	-
F5	Yes	Yes (Group interview)	Yes	1 additional teacher
F6	Yes	No, 2 teachers and 1 relief teacher were interviewed (Group interview)	No (Requested for phone interview but parents did not pick up call)	-

⁹ F means government funded; NF means not government funded.

¹⁰ Individual interviews were carried out unless otherwise indicated.

¹¹ Individual interviews were carried out unless otherwise indicated.

Individual interviews were planned for teachers and parents. However, a few centres requested for group interviews citing timing as the reason. These requests were acceded to as turning down these requests may result in fewer interviewees.

Having group interviews allowed observations on the dynamics of the group to be made, and for the accuracy of the factual responses to be checked by other participants present. Indeed, on the former, the group interview of the teachers of F3 allowed the trusting relationships of the teachers to be observed. On the other hand, the dynamics may prevent sensitive matters to be raised. Even if raised, the severity of these sensitive matters may be muted. Group interviews also risked 'group think' when all group members converge in thinking once the first view has been articulated or when an influential member of the group has made a point. These dynamics had to be managed during the interviews.

5.4 Principals' own professional development

This section provides information on the principals' own professional development. By participating in professional development, the participants were role modelling continuous professional learning.

5.4.1 Participation in professional development activities

In Survey Question 19 (SQ19), 219 participants (96%) indicated that they had participated in professional development activities specific to their leadership role over the last three years.

In SQ20, respondents were asked to indicate the types of training and professional development activities that they were involved in over the last three years. Attending MOE conferences/seminars (Item 20.02) was the

most common professional development activity for both Funded and Non-Funded kindergarten participants.

In SQ3, participants were asked to indicate the amount of time they spend on “keeping abreast with developments in the sector”. The participants’ responses suggest that they spend on the average 3 hours per week ($n = 213$, $s = 1.95$) on such activities.

5.4.2 Principals’ participation in professional development by kindergarten type

With regard to whether they had attended in-service developmental courses over the three years prior to the survey, there was a difference in the responses of participants from Non-Funded and Funded kindergartens (Refer to [Table 5.7](#)).

Table 5.7 *Frequency comparisons and Chi-square analysis by kindergarten type for principals’ PD participation (SQ19)*

Kindergarten Type	Frequency		χ^2 , $df=1$
	Yes	No	
Non-Funded (NF)	54 (90%)	6 (10%)	7.933*
Funded (F)	166 (98%)	3 (2%)	
Total	220 (96%)	9 (4%)	

Note. * = $p < .05$, $n=229$

90% of Non-Funded respondents gave the positive answer, while a significantly higher percentage, 98.2%, of participants from Funded kindergartens gave the same answer.

Principals from Non-Funded kindergartens were significantly more likely to have not taken part in any professional development activity over the three years prior to the study compared to principals from Funded kindergartens, $\chi^2(1, n = 229) = 7.933$, $p = .011$ (using Fisher’s Exact Test statistic as 25% of cells have expected count less than 5), odds ratio = 4.926. (However, these results should be interpreted with caution because of the small cell sizes.)

A comparison was made of the types of training and professional development activities that the participants were involved in. The responses have been summarised in Table 5.8 below:

Table 5.8 *Frequency comparisons and Chi-square analyses by kindergarten type for principals' learning activities*

Item	Non-Funded (NF) (n = 60)		Funded (F) (n = 169)		Total (n = 229)		χ^2 , df=1	Odds Ratio
	Yes	No	Yes	No	Yes	No	χ^2	
20.01 Leadership courses	39 (65)	21 (35)	135 (80)	34 (20)	174 (76)	55 (24)	5.374*	2.138
20.02 MOE Courses	54 (90)	6 (10)	161 (95)	8 (45)	215 (94)	14 (6)	2.140	
20.03 Other Courses ¹²	37 (62)	23 (38)	129 (76)	40 (24)	166 (73)	63 (27)	4.775*	2.005
20.04 Learning Journeys	28 (47)	32 (53)	112 (66)	57 (34)	140 (61)	89 (39)	7.163**	2.246
20.05 Overseas Learning Journeys	10 (17)	50 (83)	98 (58)	71 (42)	108 (47)	121 (53)	30.34***	6.901
20.06 Discussion with other principals	42 (70)	18 (30)	120 (71)	49 (29)	162 (71)	67 (29)	0.22	
20.07 Induction programmes	14 (23)	46 (77)	73 (43)	96 (57)	87 (38)	142 (62)	7.415**	2.499
20.08 Mentoring by others	11 (18)	49 (82)	77 (46)	92 (54)	88 (38)	141 (62)	13.875**	3.728
20.09 Performance Feedback from Supervisor	18 (30)	42 (70)	78 (46)	91 (54)	96 (42)	133 (58)	4.746*	2.000
20.10 Acad studies/ qualifications	30 (50)	30 (50)	54 (32)	115 (68)	84 (37)	145 (63)	6.209*	2.130

Note. * = p < .05, ** = p < .01, *** = p < .001. Percentages are shown below frequencies in parentheses.

Going for overseas learning journeys (Item 20.05) was the least common for the Non-Funded group, whereas attending academic studies and qualification courses (Item 20.10) was the least common for the Funded group.

¹² Other courses refer to all other courses organised by agencies other than MOE. For Example, courses organised by the Association of Early Childhood Educators (AECES) and other local and international bodies.

As shown in the [Table 5.8](#), χ^2 statistics revealed that principals from Funded kindergartens were significantly more likely to have attended the following activities:

- leadership courses (Item 20.01),
- conferences/seminars organised by non-MOE agencies (Item 20.03),
- local learning journeys (Item 20.04),
- overseas learning journeys (Item 20.05),
- induction programmes (Item 20.07), and
- mentoring or coaching from others (Item 20.08).

They were also more likely to have had performance feedback from supervisors (Item 20.09) than their Non-Funded counterparts.

Principals from Non-Funded kindergartens ticked on average 5.22 activities ($s = 2.19$), whereas principals from Funded kindergartens ticked on average 6.31 activities ($s = 2.10$). Using an independent t-test (as the data was normally distributed), it was found that principals from Funded kindergartens were involved in a significantly greater number of categories of training and professional activities over the last three years than principals from Non-Funded kindergartens, $t(215) = 3.252$, $p = .001$.

In the multi-case study, principals from Funded kindergartens elaborated on how they were coached and mentored.

Each cluster of ten to fifteen principals in the Funded chain were assigned a mentor whose role was to coach the principals in leadership skills and build their confidence as leaders.

Four out of five principals from the Funded chain spoke about the quantum leap they made in leadership competence under the guidance of these mentors in the multi-case study. An extract of this is provided below.

F5 - Principal: "When we have the cluster principal in, that's when we have a lot of support. That's when we were guided individually ... by the cluster principal, and we [became] more focused on what we could do, what we could not do. That's where we get all the help and support ... how to lead your teachers and how to focus on

certain areas that you are weak in ... to improve, because as a principal, and before I became a principal, I was actually the administrator here ..."

F2 - Principal: "I think the cluster principals influenced me. They were also looking for servant leadership. They also make us read."

Apart from individual coaching, the mentors also organised group meetings for the principals during which ideas were shared and discussed, friendships were forged and alliances were established.

The group meetings organised by the mentors probably provided a social process of discussion and critique around 'what' and 'how' to improve and this is necessary for improvements in leadership practice (Hadfield et al., 2015).

5.5 Summary

All participants were females except for six (3%).

About 72% of participants were within the age range of 35-54 years old. On the whole, the principals of Funded kindergartens were from a younger age range as compared to their counterparts in the Non-Funded kindergartens.

56% of participants held Diploma level qualifications in early childhood care and education (ECCE); 38% held degrees in ECCE, 5% held post-graduate degrees in ECCE, and a very small percentage held degrees in Psychology. Principals from Non-Funded kindergartens were three times as likely to be degree holders compared to principals in Funded kindergartens,

Participants from Funded kindergartens were about twice as likely to have one to five years of teaching experience as compared to principals from Non-Funded kindergartens. However, principals from Non-Funded kindergartens were about twice as likely to have 11 or more years of teaching experience compared to principals from Funded kindergartens. These differences were statistically significant.

Principals from Non-Funded kindergartens have been in this role for an average of 10.9 years ($s = 6.6$) while principals from Funded kindergartens have been in this role for an average of 8.4 years ($s = 6.2$).

98% of participants from Funded settings and 90% of Non-Funded participants have participated in professional development activities in the three years prior to the study. Participants took part in a range of professional development activities, and the most common activity they attended were conferences/seminar, leadership courses and having conversations with fellow principals.

Principals from Funded kindergartens were involved in a significantly greater number of categories of training and professional development activities than principals from Non-Funded kindergartens. However, principals from Non-Funded kindergartens were significantly more likely to have pursued academic study/qualifications than their Funded counterparts.

A mentoring system for principals in the Funded system was perceived by principals as having contributed to a quantum leap in their leadership skills.

The information gathered on the participants will be used in the discussion section of the next 4 chapters on findings.

CHAPTER 6 Building teachers' knowledge, skills and dispositions

6.1 Introduction

The findings from the survey and the multi-case study will be organised by research question (RQ) and will be presented in this and the next three chapters. As sampling of the participants for the survey and multi-case study have been discussed in Chapter 4 and the profile of the participants of the survey and the centres they come from have been discussed in Chapter 5, the chapters on findings will be dedicated to reporting the findings for each of the four RQs. The four RQs are:

RQ1: In what ways do principals build teachers' knowledge, skills and dispositions?

RQ2: In what ways do principals nurture a kindergarten-wide professional community?

RQ3: In what ways do principals foster coherence in purpose, plans and actions?

RQ4: What contextual features affect principals' efforts to build the capacity for learning of their kindergartens?

For each RQ, the findings from the survey and multi-case study have been combined and presented under headings reflecting the key components of the conceptual framework.

This chapter provides information on the findings for RQ1, "In what ways do principals build their teachers' knowledge, skills and dispositions?". The chapter is organised in six sections as follows,

Section 6.1 provides information on how the chapters on the findings (chapters 6 - 9) have been organized.

Sections 6.2 – 6.4 provide the data for RQ1, with each section focusing on a key component in the conceptual framework, that is, individual, group and organisational learning.

Section 6.5 provides data from both the survey and the multi-case study which do not fall within the conceptual framework but which may help answer RQ1.

Section 6.6 provides a discussion of the findings for RQ1.

The table below (Table 6.1) provides a summary of the data source and approaches to data analysis.

Table 6.1 Mapping of research questions with data type and analysis (RQ1)

Research Questions	Data Types (QUANT=Quantitative ; QUAL=Qualitative ; SQ=Survey Question)	Data Analysis
<p>In what ways do principals build teachers' knowledge, skills and dispositions?</p> <p><u>Individual learning</u> (Section 6.2)</p> <ul style="list-style-type: none"> • Identification of learning needs 	<p>Survey: SQ14.9-QUANT</p> <p>Case studies – Interviews of principals and teachers, documents – QUAL</p>	<p>QUANT – Descriptive and inferential statistics</p> <p>QUAL - Topic coding via meaning condensation</p>
<ul style="list-style-type: none"> • The areas of learning 	<p>Survey: SQ11-QUANT</p>	<p>QUANT – Descriptive and inferential statistics</p>
<ul style="list-style-type: none"> • Professional development activities of teachers 	<p>Survey: SQ10 and 11-QUANT</p> <p>Case studies – Interview of principals, teachers, parents - QUAL</p>	<p>QUANT – Descriptive and inferential statistics</p> <p>QUAL - Topic coding via meaning condensation</p>
<ul style="list-style-type: none"> • Systems and structures put in place to support staff learning 	<p>Survey: SQ14 – QUANT</p> <p>Case studies – Interview of principals, teachers, parents - QUAL</p>	<p>QUANT – Descriptive and inferential statistics</p> <p>QUAL - Topic coding via meaning condensation</p>
<p><u>Group learning</u> (Section 6.3)</p>	<p>Survey: SQ 10, (items 10.4, 10.5 and 10.12) – QUANT</p> <p>SQ1 – QUAL</p> <p>Case studies – Interview of principals, teachers, parents, observation, documents - QUAL</p>	<p>QUANT – Descriptive</p> <p>QUAL - Topic coding via meaning condensation</p>
<p><u>Organisational learning</u> (Section 6.4)</p>	<p>Case studies – Interview of principals, teachers, parents, observation, documents - QUAL</p>	<p>QUAL - Topic coding via meaning condensation</p>
<p><u>Other data</u> (Section 6.5)</p> <ul style="list-style-type: none"> • Mindsets of leaders towards leadership for learning • Role modeling by principals 	<p>Survey: SQ1, SQ9 – QUAL; SQ1, SQ7, SQ15 - QUANT SQ19, SQ20</p>	<p>QUANT – Descriptive and inferential statistics</p> <p>QUAL - Topic coding via meaning condensation</p>

6.2 Teachers' individual learning

6.2.1 Areas of learning

Common Areas

This section is based on quantitative data gathered through the survey.

In Survey Question 11 (SQ 11), participants were asked to indicate the three most common areas for which their teachers receive training and development in. They were also asked to indicate the rank order of the three most common topics.

SPARK was most frequently ranked among the top three most common areas of training. This was followed by “curriculum development”, “motor skills development”, “literacy”, “aesthetics”. The least ticked items were ‘project management’, ‘special education’ and ‘self and social skills’.

Differences between Funded and Non-Funded kindergartens

There were some differences in the focus of the Funded and Non-Funded kindergartens. Teachers from Funded kindergartens were 2.21 times as likely to participate in ‘motor skills development’ related training as teachers from Non-Funded kindergartens. However, teachers from Non-Funded kindergartens were 2.03 times as likely to participate in ‘innovation’ related training, and 3.88 times as likely to participate in ‘teacher leadership training’ as teachers from Funded kindergartens. The descriptive and inferential statistics can be found in Appendix 13, Table A13.1.

6.2.2 Professional development activities of teachers

This section reports on data of quantitative and qualitative nature from the survey and the multi-case study respectively.

In Survey Question 10 (SQ 10), the participants were asked to rate how important a list of 15 strategies for professional development of teachers

were on a Likert scale of “1” to “4”, with 1 being the least important and “4” the most important¹³.

The mean ratings of the participants have been tabulated below (Table 6.2).

Table 6.2 Descriptive statistics on importance of different teacher PD strategies

(Importance based on a Likert Scale of 1 to 4)

	Item	Total (n)	Mean (\bar{x})	Standard deviation (s)	Median (\tilde{x})
10.1	Observe teaching ¹⁴	224	3.58	0.69	4
10.2	Post observation discussion	225	3.59	0.70	4
10.4	Termly curriculum dialogue	228	3.58	0.63	4
10.15	Coaching	226	3.25	0.81	3
10.13	Courses leading to certification	227	3.24	0.78	3
10.10	MOE Seminars	229	3.17	0.71	3
10.12	Learning organised for entire staff	228	3.17	0.80	3
10.8	Sharing leadership	217	3.09	0.78	3
10.7	Discussing with teachers their development needs	217	2.99	0.76	3
10.9	Learning journeys	220	2.93	0.76	3
10.6	Weekly teacher reflection	215	2.93	1.11	3
10.3	Peer observation	202	2.82	1.15	3
10.5	Weekly pedagogy dialogue	213	2.81	1.02	3
10.11	Seminars by professional association	227	2.72	0.76	3
10.14	Job rotation	214	2.53	0.80	2.5

Observing teaching, convening post observation discussions with teachers and having termly dialogues on the curriculum were given the highest ratings while job rotation was given the lowest rating.

¹³ They could also indicate that they had not explored a particular strategy/mode by ticking the “unexplored” box, in which case the candidate would be treated as not being part of the sample for that particular strategy/mode.

¹⁴ Item 10.1 and 10.2 are often seen as components of a cycle of class observation. These two components of class observation were separated in SQ10 as the Focus Group providing input for the questionnaire had observed that it was not uncommon that principals observe classes without giving feedback to the teachers.

Table 6.3 Descriptive statistics and Mann-Whitney U analyses by kindergarten type on importance of different teacher PD strategies

(Importance based on a Likert Scale of 1 to 4)

	Kindergarten Type	Non-Funded				Funded				Mann-Whitney U
		n	M	SD	Median	n	M	SD	Median	
10.1	Observe teaching	60	3.38	0.99	4	164	3.65	0.52	4	4486
10.2	Post observation discussion	60	3.36	1.02	4	165	3.67	0.51	4	4450.5
10.3	Peer observation	59	2.11	1.53	2	143	3.12	0.78	3	2673***
10.4	Termly curriculum dialogue	60	3.54	0.73	4	168	3.60	0.60	4	5004
10.5	Weekly pedagogy dialogue	60	2.58	1.35	3	153	2.91	0.85	3	4163
10.6	Teacher reflection	60	2.42	1.52	3	155	3.13	0.84	3	3585**
10.7	Discuss with teacher their development needs	58	2.92	0.94	3	159	3.01	0.68	3	4529.5
10.8	Sharing leadership	60	3.03	0.90	3	157	3.11	0.73	3	4663.5
10.9	Learning journey	60	2.85	0.90	3	160	2.96	0.71	3	4573
10.10	MOE seminar	60	3.09	0.87	3	169	3.20	0.65	3	4956
10.11	Seminars by professional association	60	2.63	0.85	2.5	167	2.75	0.72	3	4577.5
10.12	Learning organised for entire staff	60	3.05	1.03	3	168	3.21	0.70	3	4864.5
10.13	Certifiable courses	60	3.21	1.03	3.5	167	3.25	0.67	3	4653.5
10.14	Job rotation	60	2.38	0.89	2.5	154	2.58	0.76	2.5	4053.5
10.15	Coaching	60	3.01	1.08	3	166	3.34	0.67	3.5	4242.5

Note. * = $p < .05$, ** = $p < .01$, *** = $p < .001$.

Non-Funded and Funded kindergartens shared the top three most important strategies/modes to support professional development of teachers and these were: observing teaching, convening post observation discussions with teachers, and having termly dialogues on the curriculum. Refer to [Table 6.3](#) for the statistics.

Differences between Funded and Non-Funded kindergartens

Mann-Whitney U analyses showed that principals from Funded kindergartens rated peer observation (Item 10.03) ($U=2673$, $p < .001$) and weekly teacher self-reflection (Item 10.06)($U=3585$, $p < .01$) as more important strategies for

teacher professional development than principals from Non-Funded kindergartens. These differences were statistically significant.

Observing teaching

The multi-case study provided some granularity on the frequency of teaching observation, how principals carried out teaching observation and how they conducted post observation conversations with teachers. There appeared to be differences in the way four principals of Emerging Centres with High Averages and two principals of Below Emerging Centres handled these tasks.

Formal teaching observation was conducted as part of the centres' teacher performance appraisal system once or twice a year by principals of Emerging Centres with High Averages and Emerging Centres. Principals gave feedback on the perceived strengths and weaknesses of the lesson, with little or no provision for teacher reflection or professional dialogue.

All principals claimed that they had dropped-in to visit classes every day, but not all could provide evidence that they had drawn on these sessions for the teachers' professional development.

At the Emerging Centres with High Averages and Emerging Centres, the Principals were role modelling specific teaching strategies and providing support for the delivery of lessons by co-teaching classes with teachers.

Principal of F2 (an Emerging Centre with High Average), for example, co-designed lessons with teachers. Thereafter, she would arrange for one teacher to teach the lesson. She would gather the group to reflect on the lesson together after the class had been conducted. In the Principal's words, this Lesson Study Method "..... is like taking a magnifying glass and looking into each lesson to study what works".

Principal of F1 (an Emerging Centre with High Average) would step in and out of classrooms many times a day to look at the fresh displays, the recordings on flip charts and the artefacts produced by the children as a way of monitoring the learning of the children and helping the teachers identify

gaps in their scaffolding of learning. The Principal would share her observations with teachers the following morning when she and her staff sat together to review the previous day's learning of the children. They would also quickly review the lessons planned for the day.

Principal of NF1 (an Emerging Centre with High Average) would demonstrate teaching and have debrief sessions with the teachers on the lesson conducted. She also looked through the lesson plans of teachers on a weekly basis and gave feedback to the teachers on their plans. In addition she dedicated at least two hours a day for teachers to drop into her office to discuss lesson plans with her. The time blocks set aside for daily discussion of lesson plans were made known to the teachers and this was a routine in her schedule (Refer to [Appendix 17](#)).

Induction of staff

In five of the seven cases, an experienced teacher or a senior teacher was assigned the role of 'buddy' to new teachers. On induction arrangements for new teachers, all four Emerging Centres with High Averages had structures for induction, the Emergent Centre and the Below Emerging Centres either had loose structures or no structure for induction of new teachers.

6.2.3 Systems and structures put in place for staff professional learning, innovation and change

This section reports both quantitative and qualitative data from the survey and the multi-case study respectively.

Learning needs analysis

From the responses to SQ14, where participants were asked to tick as many responses applicable to them as possible, 59% indicated that they did learning needs analysis with staff, despite the fact that learning needs analysis with staff has been included as a standard in the SPARK instrument. Comparing the situation between the Funded and Non-Funded kindergartens, Funded kindergartens were 3.39 times as likely to have a

training needs analysis for teachers compared to principals from Non-Funded kindergartens. (Refer to [Table 6.4](#)).

The multi-case study provided granularity on how some principals carried out learning needs analysis. Two questions were asked about the identification of learning needs during the interviews of principals and teachers. They were asked if there was a process for teachers to identify their learning needs, and how this was done. All seven kindergartens claimed that a learning needs analysis of teachers was carried out every year.

Information gathered suggests that at the Emerging Centres with High Averages (F1, F2, NF1, NF2) and the Emerging Centre (F3), the learning needs analysis involved one or more conversations between the teacher and their supervisor or mentor, whereas at one Below Emerging Centre (F5) the analysis was carried out solely by the teachers with no input from the supervisor or mentor. The remaining Below Emerging Centre (F6) did not carry out the learning needs analysis of teachers.

Another difference between the Emerging Centres with High Averages and the Below Emerging Centre was in the use of the analysis for the identification of training courses. At the Emerging Centres with High Averages, the courses identified for the teachers to attend were aligned with the learning needs of the teachers while such alignment was not found at the Below Emerging centres.

Funding structures

In SQ14, 83% indicated that they had a budget for professional development of teachers. The descriptive and inferential statistics of this SQ have been provided below ([Table 6.4](#)).

Table 6.4 Frequency comparisons and Chi-square analyses by kindergarten type on structures and processes to support staff learning

		Non-Funded		Funded		Total		x ² , df=1	Odds Ratio
		(n = 60)		(n = 169)		(n = 217)			
	Item	Yes	No	Yes	No	Yes	No		
14.1	Sponsor	45 (75)	15 (25)	141 (83)	28 (17)	186 (81)	43 (19)	2.064	
14.2	Subsidy	39 (65)	21 (35)	128 (76)	41 (24)	167 (73)	62 (27)	2.587	
14.3	Budget	21.7 (78)	13 (47)	143 (85)	26 (15)	190 (83)	39 (17)	1.237	
14.4	Loans	11 (18)	49 (82)	22 (13)	147 (87)	33 (14)	196 (86)	1.014	
14.5	Time Off	46 (77)	14 (23)	117 (69)	52 (31)	163 (71)	66 (29)	1.193	
14.6	Professional Discussions	23 (38)	37 (62)	72 (43)	97 (57)	95 (42)	134 (59)	0.333	
14.7	Relief Teacher System	30 (50)	30 (50)	89 (53)	80 (47)	119 (52)	110 (48)	0.126	
14.8	30 Hrs Training-All	14 (23)	46 (77)	78 (46)	91 (54)	92 (40)	137 (60)	9.594***	2.82
14.9	Learning Needs Analysis	22 (37)	38 (63)	112 (66)	57 (34)	134 (59)	95 (42)	15.988***	3.39
14.10	Performance Feedback	36 (60)	24 (40)	110 (65)	59 (35)	146 (64)	83 (36)	0.496	

Note. * = p < .05, ** = p < .01, *** = p < .001. Percentages are shown in parentheses below frequencies.

81% indicated that they had fully sponsored the course fees for continuing professional development (CPD) courses that teachers attended. 73% indicated that they had subsidies for degree and certification courses. 71% indicated that they gave teachers time off to attend the courses, and 52% indicated that they had a system of relief teachers to cover the duties of teachers who were attending classes. In other words, some kindergartens may have paid the fees for the CPD courses and also paid the teacher's wage for the duration of the course, and at least 20% had given the teachers time off to attend the courses even though they did not have a system of relief teachers to cover the duties of the teacher.

Policy commitment to providing at least 30 hours of training for each teacher annually

40 % of participants had a system of providing more than 30 hours (4.25 man-days) of professional development for teachers. Comparing the situation between the Funded and Non-Funded kindergartens, it was found that principals from Funded kindergartens were 2.82 times as likely to have a policy commitment to providing at least 30 hours of training for each teacher annually.

Protected time for professional conversations

42 % had indicated that they had protected time for staff to discuss professional matters.

Kindergartens that provided four-hour sessions found it difficult to have teachers come together for learning activities. This is so as kindergartens typically had two sessions, with the same group of teachers teaching both groups of children. The kindergarten would have to declare at least one shorter day in order to create a time slot for teachers to gather.

Daily teacher reflections

As discussed in [Section 6.2.2](#), based on the questionnaire responses to SQ10, Funded kindergartens rated peer observation and weekly teacher self-reflection as significantly more important strategies for professional development than principals from Non-Funded kindergartens.

In the multi-case study, all centres claimed that they required their teachers to reflect daily on the classes they had conducted. The majority also required teachers to submit their reflections and lesson evaluations, however except for centres NF1, NF2, and F1 these were not read by supervisors nor subsequently used for revision of lesson plans. The reflections were also one-sided and cursory in nature, often documenting the responses of the children and not the interactions of the teacher with the children. At centre F2, instead of reading the teachers' reflections, the principal conducted

structured reflection sessions with the teachers on a weekly basis using the Lesson Study Approach.

System of relief teachers

119 (52%) participants indicated that they had a relief teacher system to tap on when they need to find adults to stand in for teachers who are away.

6.3 Teachers' group learning

This section includes qualitative and quantitative data from the survey, and qualitative data from the multi-case study.

The overall mean rating for the item, "training/development organised for the entire teaching staff of kindergarten" (Item 10.12), was 3.17 (n = 228, s = 0.80) - it was ranked sixth by the mean ratings alone. Item 10.4 on "Discussion of the curriculum with teachers at least once a term", ranked second (mean = 3.58, n = 228, s = 0.63), and item 10.5 on "Discussion of pedagogy with teachers on a weekly basis", ranked 13th (mean = 2.81, n = 213, s = 1.0). All three items mentioned were also likely to be group learning activities, but as the last two items were not stated explicitly as group activities the responses to these items could not be attributed to learning in a group format without further interrogation.

In SQ1, where the respondents were asked to state the three most important seasonal tasks which they had performed in their role as principal and to indicate the people involved in these tasks, at least 46 participants had indicated that they had involved either their senior teachers only, or their senior teachers as well as teachers in curriculum planning and review, indicating that discussion of the curriculum was likely to be a group activity. The responses suggested that discussions of the curriculum and pedagogy were both group learning activities.

Through interviews with teachers and principals, and by going through kindergarten work schedules, information was gathered on whether there

were group learning activities and if so, how these were conducted. Provision for group learning was made at all Emerging Centres with High Averages and Emerging Centres. Group learning was structured into the work schedules. For example, centre NF1 had meetings dedicated to professional sharing on a fortnightly basis during which teachers gathered views from colleagues on new projects, shared insights from innovations, or shared learning from courses that they had attended. The principal of kindergarten F1 conducted short morning meetings daily to reflect and plan with teachers. The principal of kindergarten F2 conducted weekly meetings by level groups during which she facilitated reflection on lessons conducted using the Lesson Study approach. Lessons for the week would also be planned together. Conversely, the principals of the Below Emerging Centres did not provide regular platforms for the teachers to discuss professional matters and to learn together.

6.4 Organisational learning

Organisational learning is taken to be the creation of a collective memory at institutional level and the enactment of solutions or refinements to practices arising from such learning.

The information on organisational learning given below came solely from the multi-case study.

6.4.1 Evidence of organisational learning

The Emerging Centres with High Averages and Emerging Centres have structures for individual and group learning, and there was some evidence that organisational learning had taken place. The following provide evidence of organisation learning at these centres:

- Centre NF1 had a fortnightly platform for the teachers to come together to reflect on how best to approach specific innovations.

Through this platform, they had decided and planned for the implementation of goal setting in the curriculum.

- At NF2, learning from past experience of spending an inordinate amount of time preparing the children's portfolios, the staff came together to find ways to reduce the burden on teachers without losing rigour in monitoring and documenting the development of the children. They decided to send the children's artefacts home in a plastic folder every quarter without annotating the children's progress on these artefacts. In place of annotating the progress of the children on the artefacts, they documented and provided information on the children's progress on a checklist. This new approach, wise or otherwise, was the result of collective memory and learning.
- Kindergarten F1 had learnt through parent feedback that there was need for some teacher directed learning especially in the area of literacy, and decided to teach phonetics upon studying the issue raised by parents.
- Kindergarten F2 learnt that an effective way to communicate and develop trusting relationships with parents was to be transparent. They had thus been providing parents with a note every Friday detailing the learning objectives and activities which teachers had attempted in the week.
- Kindergarten F3 learnt that their literacy programme needed a lift as children were behind their age peers in literacy when they entered Primary 1. After a review of their literacy programme, they decided that they would focus on reading.

Differences in practices between Emergent Centres with High Averages and Below Emergent Centres in how the teachers' professional knowledge, skills were developed have been summarized in [Table 6.5](#) below.

Table 6.5 Findings on teachers' professional learning and organisational learning

Centre	Learning Needs Analysis (LNA) done	Link between LNA and courses attended	LNA done with supervisor	Buddy for new teachers	Teacher reflection submitted and used	Principals dropped in to visit classes daily	Principals co-teach with teachers	Regular group meetings for professional learning	Evidence of Organisational learning
NF1	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Fortnightly	Yes
NF2	Yes	Yes	Yes	No	Yes	Yes	No	Weekly	Yes
F1	Yes	Yes	Yes	Yes	Yes	Yes	No	15 mins daily	Yes
F2	Yes	Yes	Yes	Yes	Lesson Study	Yes	Yes	Weekly	Yes
F3	Yes	Yes	Yes	Yes	No	Yes	Yes	Monthly	Yes
F5*	Yes	No	No	No	No	No	No	None	No
F6*	No	NA	NA	Yes	No	No	No	None	No

* Below emerging centres

Based on the information from the multi-case study, there were differences between Emergent Centres with High Averages and Below Emergent Centres in how the teachers' professional knowledge, skills and dispositions were built.

6.5 Other relevant data

6.5.1 Mindsets on leadership for learning

In Survey Question 7 (SQ7), participants indicated where they would place five different 'tasks' on a two by two matrix with urgency and importance as variables. For the task "reflecting on a lesson with teachers", 213 participants (93%) had indicated the task as "important". Of these, 121 participants (53%) had indicated this task as "urgent" while 92 participants (40%) had indicated task as "not urgent".

Comparisons were made based on the participants' years of experience as Principal. The statistics of item 7.01 have been provided at [Table 6.5](#) below.

Table 6.6 *Frequency comparisons and Chi-square analysis by years as principal for item on customising student activity (SQ7.01)*

Years as principal	Urgent but not important	Not urgent and not important	Urgent and important	Not urgent but important	χ^2 , <i>df</i> =6
Less than 5 years	6 (6)	3 (3)	41 (44)	45 (47)	25.374***
5 to 10 years	0 (0)	7 (11)	31 (47)	28 (42)	
10 years or more	0 (0)	0 (0)	42 (71)	17 (29)	
Total	6 (3)	10 (4)	118 (52)	95 (41)	

Note. ***= $p < .001$. Percentages are shown in parentheses below frequencies.

Principals with eleven years or more experience in this role were significantly more likely to rate Item 7.01 (customising activities for students with teachers) as “Urgent and Important” compared to principals with less than five years of experience, $\chi^2(6, n = 220) = 25.374$, $p = .000$, odds ratio = 3.254.

Principals with less than five years of experience were also about twice as likely (odds ratio 2.224) to rate this item as “Not urgent but important” compared to principals with more than eleven years of experience.

The participants’ years of experience as principal made no significant difference on responses to other items in SQ7, that is, “going through the portfolios of students”, “visiting the home of a student who has been absent for a week”, “reflecting on a lesson with teachers”, and “responding to the Ministry of Education’s request for data on student enrolment”.

Further, in SQ 9 where participants ($n = 229$) were given pairs of tasks and asked to indicate which one within each pair was the more important at their kindergarten, 68% of all participants had indicated that the more active, interactive task of coaching and counselling staff was more important than the administrative task of monitoring and approving staff professional training.

In addition, participants were also asked to indicate the three most important actions that they had taken to improve teaching and learning in SQ15. On the average, 1.28 actions were related to professional growth of staff, indicating that the participants did view professional development of teachers as important for improving teaching and learning. They were also asked to indicate what impact these actions had. The responses included the acquisition of professional knowledge and skills, renewal of interest in reflective practice, inducing fresh ideas and perspectives, and helping to ease new teachers into their centres. Some examples illustrative of this point have been given below.

Case 27

Action: "More teachers have been sent for training courses and workshops that focused on teaching and learning";

Impact: "The teachers have gained knowledge and are motivated to translate learning into action in the classroom"

Case 25

Action: "Hand-held teachers in new tasks, e.g. setting up of science centre, to demonstrate to them how to help children explore activities at science centre";

Impact: "With support given, teachers became more open to try "new things" with their children resulting in the children enjoying going to the science centre and teachers becoming more skilful in facilitating the children's learning"

Case 118

Action: "We have sent almost all, except one teacher for a workshop on questioning techniques";

Impact: "Teachers are now better able to ask questions to prompt children's thinking and elicit answers from them on their thinking".

The multi-case study surfaced the possibility that some principals did not feel empowered to play the role of a professional leader. The principal of F6 was in her eleventh year in this role although she was posted to this centre twenty-one months before the study. She considered herself as the middle manager at the kindergarten as she had to report to a "Business Administrator" and an "Advisory Board" - an arrangement which is common across the other kindergartens (F1, F2, F3 and F5) in the chain. When she was asked if her role had changed when her title was changed from that of

“Supervisor” to “Principal” a few years ago, she said that her role had not changed.

Principal of F5 also alluded to having had interactions with Board members that were not empowering. Although role perceptions could be influenced by mindsets, the possibility that the environment in which the principals were working were less than supportive should not be ruled out.

6.5.2 Role modelling by participants

Although the intent for attending in-service developmental courses may not have been for role modelling purposes, in reality the principals’ participation in such courses would still have had a modelling effect for teachers. As mentioned in Chapter 5 Section 5.4.1, 90% of Non-Funded respondents indicated that they had attended in-service developmental courses over the three years prior to the survey while a significantly higher percentage, 98.2%, of participants from Funded kindergartens gave the same answer. Principals of Funded kindergartens were also involved in a significantly greater number of categories of training and professional activities over the three years than principals from Non-Funded kindergartens, $t(215) = 3.252, p = .001$.

6.5.3 Non-Funded Kindergartens did not have sufficient funds for staff professional development

The interviews of principals in the multi-case study surfaced the shortage of funds for staff professional development. The principal of NF1 spoke about how grateful she was that her kindergarten emerged as a recipient of the MOE Innovation and Outstanding Kindergarten Awards as the awards came with cash and tokens for teacher training. With the help of the awards she was able to send some teachers for training and also purchase some teaching tools and resources.

In the interviews with the officers from the headquarter of the Funded chain, the Funded chain headquarter staff acknowledged that the funding provided to them by the government allowed the headquarter to commit to funding a

minimum number of training hours for each teaching staff, something which they would not have been able to afford on their own. The government funding had also enabled the setting up of the mentoring scheme and professional development strategies that gave their principals broader exposure to possibilities in ECEC, such as sending selected principals on overseas learning journeys.

6.6 Discussion of findings

6.6.1 The availability of funds played a part in professional learning opportunities

The information gathered through the open-ended question in the questionnaire on the three actions that participants had taken to improve teaching and learning suggested that the participants were aware of the importance of professional growth of teachers. In responding to this question, each participant (n=229) had indicated on the average 1.28 actions associated with building teacher competence.

The findings uncovered several differences between the Funded and Non-Funded kindergartens in terms of structures put in place to support professional learning of principals and teachers, and some of these structures have been associated with funding.

One example of this is the policy commitment to provide 30 hours of professional development for teachers. Funded kindergartens were 2.82 times as likely to have a policy commitment to provide 30 hours of professional development for teachers compared to their Non-Funded counterparts. A similar pattern was seen in the differences in learning opportunities between principals of Funded and Non-Funded kindergartens where participation in professional learning was significantly higher in the former (98.2%) than the latter (90%).

An examination of the categories of professional development activities¹⁵ for which participation was significantly higher in the Funded kindergartens confirmed that indeed the majority were activities that needed funding to participate in with the exception of induction programmes. The key differences have been summarised below:

Table 6.7 Differences in opportunities for learning for principals and teachers of Funded and Non-Funded kindergartens

	Funded kindergartens	Non-Funded kindergartens	Remarks
Principals' participation rate in professional development in the 3 years prior to study	98.2%	90%	Significant difference $\chi^2(1, N=229)=7.933$, $p=.011$ (using Fisher's Exact Test)
Number of categories of professional development activities that principals were involved in over 3 years	6.31	5.22	Significant difference $t(215)=3.252$, $p=.001$
Principals perform Learning Needs Analysis with staff (ratio of Funded to Non-Funded kindergartens)	66% (3.39 times)	37% (1 time)	Significant difference $\chi^2 = 15.988$ $p < .001$
Policy commitment to providing 30 hours of professional development for teachers (ratio of Funded to Non-Funded kindergartens)	46% (2.82 times)	23% (1 time)	Significant difference $\chi^2 = 9.59$ $p < .01$

These findings suggest that the availability of funds may explain some differences in learning opportunities between Funded and Non-Funded kindergartens.

The Funded chain headquarter staff when interviewed confirmed that the Funded kindergartens were able to provide more learning opportunities for principals and teachers arising from the funding support. The Funded chain had ring-fenced part of the government funding to professional development of staff.

¹⁵ Six categories of professional development for which participation was significantly higher for the Funded kindergartens were: leadership courses, conferences/seminars organised by non-MOE agencies, local learning journeys, overseas learning journeys, induction programmes, and mentoring or coaching from others.

On the other hand, the availability of fewer funds in the Non-Funded kindergartens may explain why Non-Funded kindergartens were 3.39 times less likely than Funded kindergartens to have learning needs analysis for teachers. When the chances of proceeding with relevant learning activities after learning needs analysis was low, there was no purpose for principals to conduct learning needs analysis for teachers. In fact, if they had carried out learning needs analysis with teachers and had not followed up with training activities, they would have raised teachers' expectations and not met these expectations.

Hence, funding and the lack of it may explain some of the differences between Funded and Non-Funded kindergartens in the professional training of teachers and principals.

6.6.2 Some infrastructures to support professional learning were not present

System of relief teachers

In the survey responses, 119 (52%) participants indicated that they had a relief teacher system so that the children could be looked after while the teachers were away attending training courses or activities. In the multi-case study, the reasons for why about half of centres did not have a relief teacher system was explored. Reasons given included difficulty in finding suitable candidates to play this role and the lack of funding support from their governing boards. At many centres, the principal had to stand in for the teachers when the teachers were away attending courses or when they were on medical leave. As the principals were often also not given support for clerical and administrative work, having to stand in for teachers meant giving up their own time for planning and management. Thus, the lack of a relief teacher system was likely to be a barrier to releasing the teachers for professional development.

Time for group meetings and professional conversation

Another finding relevant to professional development of teachers is the lack of time for the teachers to come together.

The lack of common slots for teachers to gather may explain in part the absence of group learning opportunities where teachers could learn with and from their peers, and where professional and social networks could be established. Professional development opportunities are particularly effective when teachers work collaboratively to inquire (Lieberman and Mace, 2008) and reflect on their practice. The impact of the lack of such opportunities will be discussed further in the next section.

6.6.3 Professional learning strategies for individuals were favoured over those for groups

The top ranked strategies for staff professional development adopted by centres for the professional development were as follows:

- 1st - Post observation discussion
- 2nd - Observing teaching
- 3rd - Having termly dialogue on the curriculum
- 4th - Coaching

Three out of four top ranked strategies were for individual learning involving an asymmetrical relationship where the principal who was in a position of authority was in a helping relationship with the teacher who is in a less powerful position. 42% of participants indicated that they had protected time for staff to discuss professional matters, and this strategy was ranked 13th among 15 strategies. The other strategies that did not involve asymmetrical relationships and which were group learning strategies were also ranked very low, for example, learning journeys, weekly teacher reflection and peer observation, ranked 10th, 11th and 12th respectively.

Triangulating the evidence from the open-ended questions and those from the multi-case study, the reasons that may explain why individual learning

strategies were favoured over group learning structures included the existence of infrastructures such as the performance management system where the principal had to observe each teacher a certain number of times annually to collect enough data to justify the performance bonus.

Another infrastructure that could have affected the choice of professional learning strategies was structural - that of finding common time slots for teachers to gather.

In addition, the lack of explicit statements in regulatory documents and the SPARK instrument for teachers' group learning could have contributed further to the pattern. This will be discussed further in Chapter 10.

Research on power seems to indicate that when relations of power and status are asymmetrical, the knowledge and perspectives of those higher in the social hierarchy are advantaged over the those lower in the hierarchy (Bunderson and Reagans, 2011). Thus, whether observation or post observation discussion or coaching, professional conversations are likely to be lop-sided, privileging the views of the supervisor or coach. Learning situations where the supervisor gives feedback to the supervisee are likely to be especially contrived in an East Asian culture where the power difference between supervisors and supervisees is relatively greater (Hofstede, 1986).

In addition, as learning is also a social activity requiring interaction between people (Vygotsky, 1978), the lack of group learning platforms may limit opportunities for information exchange, vicarious learning, building of teamwork and social capital which are the foundations for building a professional community (Loehr and Schwartz, 2003).

Evidence from the longitudinal study in the United Kingdom on the impact of work of a group of early years practitioners with accredited skills and thus given Early Years Professional Status seem to suggest that improvements in the quality of interaction between adults and children require a mixture of modelling, mentoring and formal professional development (Hadfield et al., 2012). Thus, focusing on individual learning approaches in professional

development may not be sufficient for improving the quality of interaction between adults and children and the learning outcomes of the children.

The literature on organizational learning suggests that group learning is an important antecedent of organizational learning (Kline and Saunders, 1998). Thus without group learning opportunities, or where group learning activities are few and far in between, organisational learning is less likely to take place. It is thus important that individual learning opportunities are complemented by group learning activities.

The cross-case analysis in the multi-case study surfaced that where the principals had demonstrated the following three leadership practices:

- participated in the learning needs analysis of staff, and ensured that the courses attended by staff were aligned with the learning needs analysis,
- visited classes on a daily basis, and
- played an active role in teaching either by scheduling and facilitating professional dialogue on a regular basis (daily, weekly, fortnightly, monthly) or by co-teaching with teachers,

professional learning had gone beyond individual teacher and group level to the organisational level. Where any of the three practices were not demonstrated in full, for example, in the case of F5, organisational learning was not evident. (Refer to [Table 6.6](#)) The need for the involvement of the principal for organisation learning to be effected is not unexpected. This finding corroborates with evidence from Robinson et al.'s (2008) study indicating that the principal's promotion of and participation in the learning of has a great impact on learning outcomes of the children. The involvement of the principal may be particularly important in a culture of 'command and control' found to be prevalent in Singapore by Hairon and Dimmock (2012), where the principal is expected to decide on almost all matters 'big and small'.

CHAPTER 7 Nurturing a kindergarten-wide professional community

7.1 Introduction

This chapter provides information on the findings for Research Question 2 (RQ2), “In what ways do principals nurture a kindergarten-wide professional community?” The chapter is organised in seven sections as follows,

- Section 7.1 (this section) provides information on how this chapter is organized.
- Sections 7.2 – 7.5 provide the data for RQ2, with each section focusing on a key component in the conceptual framework: shared goals for student learning, meaningful collaboration among staff, opportunities for teachers to exert influence over their work, and formalization of work processes.
- Section 7.6 provides data which have not been discussed in the constructs of the conceptual framework.
- Section 7.7 provides a discussion of the findings for RQ2.

The findings for RQ2 come from both the survey and the multi-case study. The table below provides a summary of the data source and approaches to data analysis.

Table 7.1 Mapping of research questions with data type and analysis (RQ2)

Research Questions	Data Types (QUANT=Quantitative QUAL=Qualitative)	Data Analysis
In what ways do principals nurture a kindergarten-wide professional community? Shared goals for student learning (Section 7.2)	Survey: SQ1 – QUAL Case Studies – Interviews of principals, teachers - QUAL	QUAL - Coding, pile sorting, descriptive statistics
Meaningful collaboration among staff (Section 7.3)	Survey: SQ8 – QUAL Case studies – Interview of principals, teachers, parents - QUAL	QUAL – Coding, pile sorting, descriptive statistics
Opportunities for teachers to exert influence over their work (Section 7.4)	Survey: SQ1, SQ15 – QUAL Case studies – Interview of principals, teachers, parents - QUAL	QUAL – Coding, pile sorting, descriptive statistics
Formalisation of work processes (Section 7.5)	Survey: SQ15 – QUAL Case studies – Interview of principals, teachers, parents, checking of documents - QUAL	QUAL – Coding, anecdotes
Relationship between culture and learning (Section 7.6)	Survey SQ8, SQ 15 - QUAL	QUAL - Coding, pile sorting, descriptive statistics

7.2 Shared goals for children’s learning

In SQ1 the participants were asked to provide the three most important seasonal tasks that they carried out and list the people involved in these tasks. Out of 523 tasks in the responses, four were coded to ‘values, mission and vision’ (Refer to Appendix 16). One example is Case number 218, where the respondent had indicated that s/he had “reviewed centre’s mission, vision, philosophy and core values” with his/her vice-principal and teachers. The majority of the tasks were managerial and administrative in nature.

In the multi-case study, principals of Emerging Centres with High Averages had either a clear vision for the learning of the children and/or a clear philosophy on the approach to achieve this vision. These were sometimes also shared by the teachers and translated into goals for the children’s learning. The principal of kindergarten F1 wanted the children to be engaged learners and had adopted the Reggio philosophy to guide both herself and

her staff in their teaching practices. The principal of centre F2 wanted the children to remain curious about their surroundings and hence, in planning the programme for the children, she had paid attention to making the learning activities enjoyable and meaningful for the children. Centre staff and parents at both centres were able to speak about the vision and approach with conviction. The principal of centre NF1 had the vision of all the children at her centre growing up with good values and character. This vision was shared by the staff at the action level and discussed extensively at professional sharing sessions. Values education and having kind thoughts for others permeated programmes at the kindergarten. At the interview, teachers and parents provided details on how the teachers had weaved values into the daily activities, demonstrating the shared views of the two groups of stakeholders. The principal of Centre NF2 was particular that the children were confident and interested in learning, and that there was a caring and respectful environment for learning. She had translated this into an operating standard requiring teachers not to raise their voice with the children, and teachers knew they should always meet this standard.

Except for NF2, the teachers of the other Emerging Centres with High Averages appeared to show commitment towards the shared goals of learning set for the teachers to achieve, and these apparently served as the driving force behind the teachers' efforts to improve their professional skills.

On the other hand, centres that were Below Emerging, for example kindergarten F6 where the principal appeared to be overwhelmed by the day-to-day administrative and operational work of the centre, teachers were neither able to explain what the centre was focusing on nor provide details on the approach they were taking to facilitate the learning of their children.

7.3 Meaningful collaborations among staff

In SQ8, the principals were asked to provide two strategies they thought had been most useful in building a culture to support learning among staff. The

entries that involved staff coming together were in descending order of frequency: sharing ideas and resources (frequency=130), peer sharing (49), attending training or professional development together (21), planning together (20). The other strategies, including buddy system (4), had frequency of less than ten. There were no entries that suggested the building of structures to support collaboration among staff (Refer to [Appendix 16](#)).

In the multi-case study, a sense of trust, teamwork and being connected to one another was palpable at centres NF1 and F2. Meaningful collaborations among staff were also found at these centres. At NF1, teachers felt supported by their colleagues, the principal and the manager. Teachers spoke about how they had seeded ideas on teaching and learning as well as the operations of the kindergarten and how these ideas were supported and built upon by the principal and manager. They also spoke with pride and commitment about how these ideas were brought to fruition. At Kindergarten F2, the teachers spoke about their lack of experience, and about how colleagues and the principal had supported them. An environment where they could obtain support from colleagues and the principal gave them security despite their lack of experience.

At both NF1 and F2, there was also confidence among staff that they could garner the support of their colleagues to develop and execute a good idea. They also had faith that their supervisors were discerning of good ideas, were able to help them refine these ideas and provide the necessary support to bring the ideas to fruition. At NF1, in particular, the teachers had confidence that they would always have the support of their colleagues and they would somehow be successful. The principal shared that collective efficacy amongst teachers developed as the kindergarten began receiving awards.

Conversely, at the Below Emerging Centres, there was neither trust, teamwork nor staff connectedness. At Centre F6, for example, each teacher went about conducting their own classes, and none of the teachers initiated

conversations with colleagues even when they concurrently felt that certain activities in the planned lessons should be removed.

7.4 Opportunities for teachers to exert influence over their work

Non-Funded kindergartens were 3.88 times as likely to participate in 'teacher leadership training' as teachers from the Funded kindergartens, suggesting that there is a possibility that teachers in Non-Funded kindergartens could be given more opportunities to lead and exert influence over their work. However, there was insufficient information from the survey and multi-case study to verify this possibility.

A wide range of practices was reported in SQ1 on the involvement of teachers in planning which is directly related to teaching and learning, or work which had downstream impact on teaching and learning. In the majority of instances (375 out of 523 or 71.7%), all teachers were involved in planning and reviewing. In 148 instances (about 28% of these instances), the senior staff or the principal and senior staff were involved in the decisions.

Staff professional development planning was not common - 12 participants indicated it as a seasonal task, but in all these cases the teachers were involved in the planning.

Table 7.2 below summarises the categories of seasonal tasks and the people involved in planning and reviewing them.

Table 7.2 Summary of the pattern of involvement of teachers in various aspects of planning associated with professional work

Activity	Frequency of entries involving these people				Total frequency for this node
	All teaching and support staff with principal	All teaching staff with principal	Senior Teachers or level heads with principal	Principal with governing board	
Drafting vision, mission, values	2	2	0	0	4
Strategic planning	8	29	3	2	42
Coaching and mentoring	0	0	3	2	5
Staff development planning	2	10	0	0	12
Staff deployment	0	5	7	5	17
Planning and reviewing the curriculum, learning activities, events	12	150	19	8	189
Planning and reviewing parent engagement	9	12	1	1	23
Planning and reviewing operating procedures for emergencies, health and safety checks	3	1	1	2	7
Planning and reviewing class allocations	0	8	1	0	9
Planning and reviewing calendar of activities	0	8	5	4	17
Planning and reviewing the class schedule /time table	0	48	21	31	100
Planning and reviewing the action plan	14	48	6	4	72
Planning and reviewing the budget	0	4	9	13	26
	50 (9.6%)	325 (62.1%)	76 (14.5%)	72 (13.8%)	523 (100%)

Based on the way the responses to SQ1 were phrased (for example, use of the term ‘we’) and the people involved in the activities, it appeared that these pieces of planning were also group endeavours.

In SQ15, where respondents were asked to write about three most important actions that they had taken to improve teaching and learning in the three years prior to the survey, the responses reflected a fair amount of teacher involvement in planning. Many respondents mentioned that planning together allowed multiple perspectives to be shared and hence better quality of planning and problem solving. A few examples of these have been given below.

Case number 138

Action: Involved teachers in getting resources for children and school.

Impact: Teachers identified a wider range of toys and the children had the right toys to play with.

Case number 160

Action: Implemented a new structure for lesson planning that included a greater variety of activities to promote children's holistic development.

Impact: Teachers are able to go on with new ideas for an hour every day.

Involving teachers in planning also allowed teachers to lend support for and learn from one another.

Case number 192

Action: Implemented teachers' contact time.

Impact: Teachers have been able to discuss/share amongst their colleagues about teaching, pedagogy, in a formal way.

There were also examples of such collaborations leading to happier teachers.

Case number 56

Action: Empowering teachers to collaborate within the same level.

Impact: Teachers are happier; lessons are more interesting and creative, hence learning of children has been enhanced.

Evidence from the multi-case study supported the data gathered through the questionnaire. The multi-case study also provided some granularity on how teachers have been involved in planning and decision making. All kindergartens had some form of arrangement that allowed teachers to participate in the decision-making process: teachers were given the role of coordinating the learning programme for a particular level. Typically, the level coordinators would work with teachers of the same level to plan lessons and learning spaces. Hence, some room had been given to teachers to exert influence over their work especially when it involved the learning of the children. However, there were some variations even in this arrangement.

In NF1, teachers felt that they were given space to make decisions on matters that were deemed important to them and they were willing to use this

space. The teachers had the space to seed ideas, bounce these ideas with colleagues, and form groups to develop and implement ideas after getting clearance from the principal to go ahead. At NF1, it was evident that the space given to teachers to make decisions had fuelled their interest in learning.

Interestingly, even in NF1, lesson plans had to be approved by the principal. Although the principal perceived her role as one of a goalkeeper, making sure that the ideas were workable before the teachers sought the views of their colleagues, the teachers thought of this arrangement as an opportunity to draw on the principal's wisdom so that the ideas could be developed more fully before they approached their colleagues to discuss with them.

In the case of NF2, the principal lamented the reluctance of her teachers to make decisions on curriculum matters. A check on the relationship between the staff and principal showed warm trusting relationships between them. During the period that I was collecting data on-site, I witnessed the staff popping their heads into the principal's office rather frequently, suggesting that the staff were quite at ease with the principal. Teachers also talked about their appreciation for the principal's guidance and were able to give concrete examples of how the principal had supported them, thus ruling out the possibility that the lack of trust was hindering their participation in decision making.

At centre F2, teachers were aware of their lack of experience and preferred joint decision-making rather than have individual space to make professional decisions. They were happy with an arrangement where lesson plans were designed collectively by all teachers of the level, and where the principal worked closely with them to give them guidance.

At Kindergarten F6, the situation was a very different one. The principal had delegated the role of leading the curriculum to the "Senior Teacher" who knew no better than the teachers on what adjustments to make to the curriculum. In this situation, although there was ample space for the

teachers to make curriculum decisions, they had neither collective teacher efficacy nor confidence to use the space.

7.5 Formalised work processes

Based on the survey responses, it was evident that some planning processes, human resource functions (SQ1), and modes/strategies for professional development of teachers (SQ10, SQ14) were held at regular intervals, and were part of the work schedule of the kindergartens.

The routines of each kindergarten in the multi-case study were easily identifiable in the kindergartens' calendar of events. There were daily, weekly, monthly and termly routines at kindergartens. Daily routines were mainly associated with the running of classes, for example, temperature taking of the children upon arrival, attendance taking, class schedules, and meal times. Weekly and monthly routines were those associated with staff supervision, for example, submission of lesson plans, submission of reflections. There were also termly events and these were related to the review of work, for example, review of the children's learning with parents, review of the curriculum.

The Funded settings (F1, F2, F3, F5, F6), which were from the same chain, had some common work processes and supporting resources such as those provided below:

- a) all teachers to carry out their individual learning needs analysis
- b) regular teacher reflections on standard templates and submission of these reflections to the principal
- c) staff performance appraisal system with at least two class supervision sessions
- d) principals to visit classes regularly
- e) the entire staff coming together to plan the curriculum every quarter
- f) at least two curriculum packages from which lesson plans could be adopted or adapted

- g) daily instructional schedules for the children, and a system of relief teachers when the class teacher was away
- h) portfolios of the children to be sent home at least once every semester
- i) a communication system between the teachers and parents, where teachers and parents wrote their questions and responses for each other in the Communication Booklet which was carried back and forth by the child daily
- j) at least 1 parent-teacher meeting every semester

Principals reported that some work processes, for example, the need to carry out individual learning needs analysis, were added in when SPARK was launched.

It was not difficult to identify the formalised work processes among the centres even though the centres differed in how well they had carried them out and if additional processes had been put in place. Some variations across the centres on staff learning, programme review, communication with parents and innovation have been given in Table 7.3.

Table 7.3 Variations in formalised work processes associated with the instructional programme in the Funded chain

Centres	Staff Learning	Class Schedule	Programme Review and Innovation	Communication with parents on children's learning
F1	<p>The principal did not carry out the class observation for performance appraisal. Instead, she walked through the classes daily to look at the work of the children, paying particular attention to their responses so that she could effectively guide the staff to plan the lessons for the following day.</p>	<p>The kindergarten adopted a class schedule that had longer time blocks than had been recommended by the operator in order to allow participation of the children in discussions.</p>	<p>The centre ran a Reggio inspired programme. The principal met the teachers for about 15 minutes every morning to dialogue with them on lessons of the previous day and to provide guidance on the lesson plans for the day. If the Principal had noticed that the children were missing on important aspects of the project, she would discuss with the teachers during these sessions on how to follow-up with the children. The centre decided that the whole language approach to language acquisition was not sufficient for some children and had introduced some elements of direct teaching to supplement their existing approach. There was also evidence of efforts to improve art in the curriculum. In general, the centre had established a practice of constant review and step-wise improvements all year round.</p>	<p>Walls of classrooms were transparent from about 4 feet from the ground, so parents could see their children all through the day from outside the kindergarten. The transparent walls conveyed a similarly transparent interaction approach with parents. Annotated portfolios of the children's work were sent home every 10 weeks. Parent-teacher meetings were also held every term.</p>
F2	<p>The principal co-planned and co-taught lessons with teachers to guide them as well as to role model the desired practices. Reflection sessions were taken seriously and facilitated by the principal on a weekly basis. The principal also used strategies like Lesson Study to provide structure for their reflections.</p>	<p>The kindergarten had allocated more time for the Mother Tongue Language Programme as the children did not have exposure to Mother Tongue Language at home. The kindergarten also adopted a schedule that had longer time blocks to accommodate the project approach.</p>	<p>The kindergarten ran a project-based programme. Programme review took place on a weekly basis together with personal reflections. A more thorough review took place during the quarterly term breaks. There was translation of the lessons learnt in the area of pedagogy through the weekly reflection cum planning sessions for each level, for example, a checklist on the development and growth of the children was developed to ensure that no area in the holistic development of the children had been omitted.</p>	<p>Parents received a note from the class teacher every Friday, detailing the concepts, vocabulary, activities that she had attempted in the week. The children's annotated portfolios were sent home every quarter, and parent-teacher meetings were held every quarter.</p>
F3	<p>The principal walked in and out of classrooms several times a day to monitor the learning of the children. She would also co-teach, set-up learning spaces with the teachers and take over classes whenever</p>	<p>The centre adopted a slightly different schedule compared to a typical centre of the chain. A separate time block was assigned to learning corners so that the children had some</p>	<p>Programme review took place once every quarter as stipulated by the operator. When the centre received feedback that many of the children from the centre had to be given learning support in primary one, the principal decided to review the literacy programmes at her centre. Reading programmes including one involving the</p>	<p>Parents appeared satisfied with the routine communication such as touching base with teachers when they sent and picked up their children to and from the centre respectively. Annotated portfolios of the children were</p>

Centres	Staff Learning	Class Schedule	Programme Review and Innovation	Communication with parents on children's learning
	necessary. The principal also conducted formal class observation sessions twice a year as set out in the guidelines by the operator.	time on a daily basis to explore learning at the learning corners.	National Library Board was adopted to strengthen the centre's literacy programme.	sent home twice a year. Parents also seemed happy with the progress made by their children.
F5	There was no evidence that the principal had observed classroom teaching. The principal said that individual learning plans were drawn up for the teachers, however, 1 of the 4 teachers interviewed could not recall any of the courses she had attended, and another teacher said that she had not been given the opportunity to attend courses and she was "very dry" on ideas.	The schedule accommodated local deployment issues, and before- and after-school enrichment programmes, which were an important part of the kindergarten's curriculum.	There was no evidence that the principal had reviewed teaching and learning matters with the teachers on a regular basis other than the quarterly curriculum planning session that she had organised. The teachers spoke about efforts which they had each made to improve teaching and learning. The Enrichment Programmes offered at the centre appeared to be the key focus of the principal's efforts to innovate.	Annotated portfolios of the children were sent home every semester and parent-teacher meetings were also held every semester.
F6	There was no evidence that the principal had observed class teaching. In fact, the principal was totally detached from the classroom work having delegated the role of leading the curriculum to the senior teacher. Although the principal gathered everybody for lunch on a daily basis, these sessions served as social and administrative gatherings rather than professional gatherings as professional matters were not discussed.	There was a schedule that teachers followed on a daily basis but children absentee rate was noticeably high.	The kindergarten carried out programme review on a quarterly basis as stipulated by the operator. There was little evidence of improvements having been made arising from these review sessions.	The children at this centre came from families of low income. There was a noticeable number of children who were cared for by grandparents or other relatives. Based on accounts from the teachers and the principal, there was a relatively high percentage of financial assistance cases and unsuccessful fee deduction cases. Communication with parents was difficult as they were often "absent" even in the daily life of the children. Parents who had agreed to be interviewed by the researcher did not pick up calls when contacted.

Both NF1 and NF2 had formalised work processes to support the instructional area including most of the processes that the Funded chain headquarters had required of their centres. Like the principals of the Emerging Centres with High Averages (F1 and F2) in the Funded chain, principals of NF1 and NF2 paid attention to the learning of the teachers, and were personally involved in the teaching and learning of the children.

7.6 Professional culture

In SQ8, an open-ended question, respondents were asked to write briefly on two strategies they had adopted to build a culture to support learning among staff. They were also asked to indicate how these efforts had been useful. (Refer to [Appendix 16](#)). There were 125 entries on building structures for professional growth and development, including 34 on setting up coaching and mentoring, and smaller numbers on setting up buddy systems, platforms for lesson study, formal class observation and drop-ins, and role modelling by the leader. Two examples of such responses from SQ 8 have been given below.

Case number 5

Strategy: System of peer sharing and learning.

How strategy has been useful: This has a multiplier effect. Pedagogy has improved.

Case number 37

Strategy: E-mailing short articles every fortnight, sharing print materials for sharing and team discussion.

How strategy has been useful: Bite-size doses make on-going learning effective. Teachers seemed to have found this helpful and they appeared to have translated what they have read into practice.

However, even in these examples, although the participants have implied that they had set up systems, they have neither indicated that structures have been set up nor have they expressed precisely how these efforts had supported a learning culture.

There were some participants who alluded to the social nature of learning, for example. For SQ8 there were 179 mentions on sharing, 53 of these entries were on peer sharing and class observation. Separately, there were 21 entries on the staff going on learning journeys together and reflecting on these journeys as a group afterwards (Refer to [Appendix 16](#)).

There were also examples of responses for SQ8 which have suggested the value of building of a community. Some examples of these comments have been provided below.

Case number 9

Strategy: Contact time every day to reflect and share experience/practices amongst teachers.

How strategy has been useful: Teachers help each other solve problems.

Case number 195

Strategy: Create professional learning communities.

How strategy has been useful: This helped to put in place good practices.

An evaluative element was found in a number of responses for SQ15 (Refer to [Appendix 16](#)), where participants were asked what were the three most important actions they had taken to improve teaching and learning at their kindergartens. Three examples are given below:

Case number 47

“Implement individual staff development plan. Begins with assessment by principal and teacher’s self-assessment of needs. Identify areas to work on and courses available”.

Case number 23

“Video recording of classroom teaching for every teacher. Children and teachers will be aware that the lessons are recorded. All teachers and principal will get together and view the recorded lessons. After viewing, the teacher whose teaching has been recorded will analyse her teaching style and identify the short falls and provide critical comments about her lesson and the other teachers will provide their feedback after her”.

Case number 126

“On teaching observation - teachers get feedback from principal (written and verbal) on their strengths and weaknesses as well as follow-up suggestions. Teachers get assurance from principal on areas they have done well. This enhances their confidence, and sets goals for them to work on”.

Generally, the idea of having to sustain a culture for learning did not surface in the responses.

From the multi-case study, there were indications that teachers of Emerging Centres with High Averages and Emerging Centres were keen to improve their skills. Teachers of NF1, F1, F2 and F3 demonstrated enthusiasm when they spoke about improving their skills, whether the learning was site-based or outside of the kindergarten. Professional learning was also seen as fun, fulfilling and needful even though it took up personal time. Teachers of NF2 articulated the desire to improve their skills, although the same degree of enthusiasm was not detected. On the other hand, the culture for professional learning was not evident in Below Emerging Centres, F5 and F6. Two F5 teachers said they had not been given opportunities to attend courses, and one of the two actually said that she was getting “very dry” on ideas as she had not been given the opportunity to attend courses. Teachers at F6 were able to speak about the courses that they had attended but these were ad hoc and not aligned with their professional learning needs.

The learning of the children was also a clear focus in the Emerging Centres with High Averages and the Emerging Centre. At all these centres, principals and teachers talked about improving professional skills so that they could help the children learn better. At centre F5, on the other hand, the principal supported the professional work of the teachers through providing the administrative support rather than by being directly involved in professional work of teaching. At F6, the principal appeared to have detached herself totally from the professional work of the centre, after having delegated the role of leading the curriculum to the senior teacher, and stated that she was in need of guidance herself.

Table 7.4 provides a summary of the findings gathered on centre culture and environment. The findings seem to suggest that where trust between the teachers and principal existed and where there was an effort by the principal to involve the teachers in planning, there appeared to be teamwork and staff connectedness.

Table 7.4 Summary of evidence on presence of school-wide professional community

Centre	Enablers					Presence of evidence of teachers actually making an effort to learn
	Shared goals for student learning	Trust, teamwork and meaningful collaborations	Collective teacher efficacy	Teachers have influence over their work	Formalisation of work processes for instruction	
NF1	Yes	Yes	Yes	Yes	Yes	Yes
NF2	Yes	Yes	Yes (dependence on principal)	Yes	Yes	Yes
F1	Yes	Yes	Yes	Yes	Yes	Yes
F2	Yes	Yes	Yes (dependence on principal)	Yes	Yes	Yes
F3	Yes	Yes	Yes	Yes	Yes	Yes
F5	Some	Some	No	Yes	Some	Some
F6	Little	No	No	Free for all	Some	No

7.7 Discussion of findings

7.7.1 Characteristics common to centres that have established a centre-wide professional community were found in Emerging Centres with High Averages and Emerging Centres

From the multi-case study, it became evident that principals who were active in guiding their teachers in lesson planning and teaching also promoted shared goals for student learning and collective responsibility, meaningful collaboration among staff, formalisation of work processes and opportunities for teachers to exert influence over their work. All principals of the Emerging Centres with High Averages held at least a degree. This finding corroborates the survey finding where principals with degrees were 1.88 times more likely to guide teachers in their work for more than ten hours a week than principals without a degree.

Another finding based on the survey was that principals with more than ten years of teaching experience rated coaching and mentoring of teachers as a more important strategy than those with less than five years of teaching experience. However, as no data was collected on the teaching experience of the principals in the multi-case study, triangulation was not possible.

Observations made of the kindergartens in the multi-case study suggested that the four features that characterise centres with a kindergarten-wide professional community, that is shared goals for student learning and collective responsibility to reach them, meaningful collaboration among faculty members, formalisation of work processes and opportunities for teachers to exert influence over their work (please refer to Table 7.4), were seen in Emerging Centres with High Averages and Emerging Centres. Indeed, teachers of NF1, F1, F2 and F3 demonstrated enthusiasm when they spoke about improving their skills, whether the learning was site-based or outside of the kindergarten. Professional learning was also seen as fun, fulfilling and needful even though it took up personal time. On the other hand, the culture for professional learning was not evident in Below Emerging Centres, F5 and F6.

The learning of the children was also the focus in the Emerging Centres with High Averages and the Emerging Centre. At all these centres, principals and teachers talked about improving professional skills so that they could help the children learn better. A culture for learning as described by Fullan (2010) where professionals are learning from each other and being collectively committed to improvement was present.

This was not the case for the Below Emerging Centres. At centre F5, the principal supported the professional work of the teachers through providing the administrative support rather than by being directly involved in professional work of teaching. At F6, the principal appeared to have detached herself totally from the professional work of the centre, after having delegated the role of leading the curriculum to the senior teacher, and stated that she was in need of guidance herself.

7.7.2 Shared action goals existed between principals and staff of Emergent Centres with High Averages

From the survey responses, it was evident that teachers were involved in lesson planning and planning of quite a number of activities at their kindergartens. In SQ1 of the survey, the participants reported that seasonal tasks they carried out at their kindergartens, in decreasing frequency, were

- planning and reviewing the curriculum, learning activities, events (189 entries)
- planning and reviewing the class schedule (100 entries)
- planning and reviewing of action plan (72 entries)
- strategic planning (42 entries)

Except for strategic planning, the rest of the review activities were associated with the daily actions at the kindergartens. Very few (4 out of 523 coded seasonal tasks) were related to the reviewing of the centres' mission and vision.

Through the multi-case study, it became evident that the broader tenets of leadership such as the mission and vision were often discussed separately from strategic plans, and strategic plans were discussed independently of the curriculum. One of the reasons surfaced was the availability of time to begin with a discussion of the mission and vision, and then follow through with the strategic plans and curriculum. Secondly, the mission and vision were often decided by the operators, and in the case of chain operations, these were decided by the chain headquarters. Thirdly, the mission and vision were tenets that were conceptual and broad. In the words of the teachers, 'there was nothing to disagree with'. Fourthly, teachers were perceived as being interested in the concrete daily operations such as lesson planning, planning of class schedules, allocation of children to classes, planning of the year end concert, and planning the calendar of events of the Centre. Fifthly, the mission and vision of the organization, and strategic plans were new "structures" in the early childhood sector. Many operators and leaders were introduced to these broad tenets of leadership through SPARK. As

proclaimed by principal of NF1, the entire preschool sector was just 'rolling along', contented to provide a programme and a safe environment for the children. Quality was not pursued actively until SPARK was introduced. All these reasons combined would probably explain a large part of the practice of separately looking at the mission, vision, strategic plans, and the plans of action.

The multi-case study surfaced examples of how principals of Emerging Centres with High Averages had drawn up programmes with their staff to address the evolving needs of their kindergartens, with good buy-in by teachers. However, while engaging the staff at the action level may be the most practical and even meaningful way to get them to understand the mission, vision, philosophy and values, it is important that the leaders make a deliberate effort to link actions to the mission, vision, philosophy, values, and strategic plan as actions pursued independent of these broader tenets may change meaning or purpose over time.

7.7.3 Meaningful collaborations among staff required the principals' constant effort to broker them

Based on the responses to SQ8, it appeared that the questionnaire respondents were not aware that by creating opportunities for staff collaboration they could encourage a culture of learning, as none had indicated collaborations as a means of building a culture for learning.

However, evidence from the multi-case study suggests that staff collaborations took place although these required the principals' constant effort to broker them. This is not surprising considering that the teachers were not empowered to make decisions (discussed further in [Section 7.7.3](#)). Almost all decisions were made by principals. Thankfully, there were some exceptions to this observation of the principal having to broker the collaborations constantly, suggesting that some ingredients necessary to get staff to initiate collaborations have been put in place in some kindergartens and are still missing in the majority.

The exceptions were at Emerging Centres with High Averages such as NF1 and F2, where examples of staff initiated collaborations were seen. At both kindergartens, staff collaboration fostered by the principals had created shared experiences and learning. At NF1, where the teachers generally had more years of teaching experience, and where these successful experiences were endorsed by an external authority through awards, the teachers were motivated to initiate more collaborations.

The account of the principal of NF1 on their journey was instructive. According to her, the attainment of the Innovation Awards was a turning point in the teamwork amongst teachers. Her hypothesis was that having worked through challenges together, the teachers had shared experiences and had greater faith in one another. These shared experiences, and newly acquired faith in one another together with affirmation from an authoritative agency, gave the teachers a confidence boost. Thus, the teachers went on to initiate more collaborative projects, and they have been winning awards year after year since then. Her hypothesis echoed that of Senge's Core Theory of Success (Senge, 1990) where trust took centre stage. With success in securing the Innovation Awards, trust amongst staff was strengthened, and the quality of conversations improved. When the quality of conversations improved, the quality of planning and implementation improved, leading to success in securing subsequent awards. In short, a successful episode led to the strengthening of confidence and trust in others and engendered further success.

7.7.4 Teachers were often given opportunities to exert influence over their work but they were not often entrusted to make decisions

Among the seasonal tasks listed by principals in SQ1, all teachers were involved in planning and reviewing 72% of the tasks. These seasonal tasks were mainly related to teaching and learning and the general direction of the kindergarten (refer to [Table 7.2](#)). In responding to another question (SQ15) on actions to improve teaching and learning, principals have provided a range of reasons for involving teachers and these included

- allowing for multiple perspectives to be shared to achieve better planning and problem solving,
- allowing teachers to lend support for and learn from one another, and
- making teachers happy.

Through the multi-case study it became evident that while teachers were involved in planning, they were not often involved in decision-making. Decisions involving the lesson planning for the class, right down to revisions in lesson plans, were still approved by the principal. In fact, except for F6 where the principal was overwhelmed by administrative work and had delegated the oversight of the curriculum to the senior teacher, all the other six principals personally approved amendments to lesson plans even though there were teachers coordinating the work of each level. Thus, while the teachers had opportunities to influence decisions at work, and in two centres they were also allowed to initiate ideas, they were not entrusted to make decisions.

When the question was posed to one interviewee from the Funded chain headquarters on why the teachers were not entrusted to make class level decisions, the response given was that one possible consideration for this arrangement could be the generally low qualification of teachers. Although none of the teachers interviewed had expressed unhappiness over this arrangement, the opportunity for teachers to fully own the curriculum and to grow professionally from making curricular decisions was not tapped on.

A related point is about leadership preparation. As teaching and learning is the core business in an educational institution, the preparation of a kindergarten leader should include opportunities to lead the curriculum under guidance, and the first step should be, to begin with professional decisions related to their own classes. This arrangement for lesson plan approval to be given by the principal would not be helpful towards preparing would-be principals for their leadership roles.

Research has also shown that schools that provided teachers with more autonomy had lower levels of attrition and migration (Guarino et al., 2006).

Given the concerns over attrition in the sector, giving teachers more opportunities to make decision may be an important consideration for reducing attrition.

7.7.5 The dynamics between the teachers and parents played a part in the willingness of teachers to exert influence over their work

The study of NF2 surfaced possibly another interesting phenomenon. Teachers in this kindergarten appeared reluctant to take on the space given to them by the principal to exert influence over their work. The reason for this was apparently outspoken parents. The teachers felt intimidated by the parents and therefore preferred to leave decisions to the principal. Thus, apart from the encouragement needed from leaders, staff need to be willing to exert influence over work as well. The willingness of staff to influence their work was mediated by the dynamics between the teachers and parents. Although not wanting to make decisions was self imposed by teachers, the experience at their level is likely to still be the lack of autonomy. As put forth in the Self-Determination Theory by Deci and Ryan (2008), people need to have experiences of autonomy, competence and relatedness for their well-being. In the absence of feelings of competence and autonomy, staff morale may be affected, and retention may become a problem.

7.7.6 Formalised work processes provided structures to support an environment for learning

By scheduling and formalising the meetings for the learning of teachers, principals of NF1, F1 and F2 ensured that there was protected time for their teachers to learn. That having protected time for teachers to have professional conversations was important was a point made by Ellstrom (2001).

By formalising important work processes that kindergartens in the chain had to follow, the Funded chain headquarters set minimum infrastructure for teaching and learning and conveyed the expectation that learning should take a central place in the kindergartens. Formalising work processes also

ensured that consistency across kindergartens was achieved (Alder and Borys, 1996). Thus, even though the principal's leadership for learning at F6 could not be felt, the daily operations went on in an orderly manner.

The variations across kindergartens within the chain could be seen as efforts to customise the processes to cater to local programme needs. The variations to these processes suggests that latitude for local decisions was given, hence safeguarding against rigidities that are sometimes associated with formalised work processes (March 1991).

CHAPTER 8 Fostering coherence in purpose, plans and actions

8.1 Introduction

This chapter provides information on the findings for Research Question 3 (RQ3), “In what ways do principals foster coherence in purpose, plans and actions ?” The chapter is organised in seven sections as follows,

Section 8.1 (this section) provides information on how this chapter is organized.

Sections 8.2 – 8.4 provide the data on efforts in organizational integration with a section for each of the following: Alignment in planning, focus on teaching and learning and building team expertise, and engagement of parents.

Section 8.5 provides information on systems thinking.

Section 8.6 provides information on staff and pupil outcomes that interviewees of the multi-case study had attributed to the principals.

Section 8.7 provides a discussion of the findings for RQ3.

The findings for RQ3 come from both the survey and the multi-case study. The table below provides a summary of the data source and approaches to data analysis.

Table 8.1 Mapping of research questions with data type and analysis (RQ3)

Research Questions	Data Types (QUANT=Quantitative QUAL=Qualitative)	Data Analysis
<p>In what ways do principals foster coherence in purpose, plans and actions?</p> <p><u>Organisational Integration:</u> Alignment in planning - between</p> <ul style="list-style-type: none"> • programme approach and needs of children • programme needs, changing external environment and professional development of staff • enacted and espoused programme <p>(Section 8.2)</p>	Case Studies – Interview of principals, teachers, parents – QUAL. Observation of classes and studying of documents made available – QUAL.	QUAL - Topic coding via meaning condensation
<p><u>Organisational Integration:</u> Focus on teaching and learning and building team expertise (Section 8.3)</p>	Survey: Q3 – QUANT SQ1-QUAL	QUANT- Descriptive statistics, principal axis factoring QUAL - Topic coding
<p><u>Organisational Integration:</u> engagement of parents as supporters (Section 8.4)</p>	Survey: SQ3 –QUANT, SQ17- QUANT SQ16 –QUANT Case Studies – Interview of principal and parents -QUAL	QUANT-descriptive statistics QUAL - Topic coding via meaning condensation
<p><u>Systems Thinking</u> (Section 8.5)</p>	Case Studies – Interview of principals, teachers, parents (QUAL)	QUAL - Topic coding via meaning condensation
<p><u>Organisational Integration Staff and pupil outcomes that were attributed to the principals</u> (Section 8.6)</p>	Case Studies – Interview of principals, teachers, parents (QUAL)	QUAL - Topic coding via meaning condensation

8.2 Alignment in planning

8.2.1 Programme approach and needs of the children

Principals efforts to align programme with needs of the children is evident in Emerging Centres with High Averages.

At Funded Centre F2, because of the changed profile of the neighbourhood that the centre was serving, from low to middle income, when the Centre moved into a new site, the principal made the decision to adopt a project-

based curriculum. The principal had to release the majority of teachers and engage new teachers who were willing to adopt the project-based approach. She also had to make adjustments to the way she led the staff in order to ensure that the programme delivered was aligned with the stated philosophy of the project-base curriculum. Another adjustment she made was to increase the exposure time for mother-tongue language when she realised that the children had very little exposure time to their mother tongue language at home (Refer to [Appendix 17](#)).

Funded Centre F1 was set up in a new housing estate with a high percentage of middle income families. The management board of the centre realised that the better educated middle income parents would prefer an education approach that is more holistic. The management board had the aspiration to set up a good centre and they had heard that the Reggio Approach held the highest standards for early childhood education and so they decided to adopt the Reggio Approach. The principal and key staff were provided training for the Reggio Approach and were mentored by experts on Reggio Emilia Approach for several years. Although the programme at the Centre has been modified to meet local needs, the Centre still followed many structures and protocols of the Reggio Approach that have been found useful for the management of the programme, child-teacher interaction and professional development of teachers (Refer to [Appendix 18](#)).

NF1 had been receiving an increasing number of new migrant children. Recognising the importance of helping the children integrate with the local population, the kindergarten made arrangements with partner kindergartens in the neighbourhood to have joint events. NF1 also paid attention to developing strong programmes for parents (Refer to [Appendix 17](#)).

On the other hand, in the Below Emerging Centres, there was no such alignment. In F6 on the other hand, teachers did not feel empowered to modify lesson plans prepared by the chain headquarters. The mindset was one where all children were to follow a standard curriculum of learning. In fact, a parent who had requested for some customising of the numeracy

programme for his daughter was deemed 'difficult' by the teachers (Refer to [Appendix 17](#)).

8.2.2 Programme needs, changing external environment and professional development of teachers

There was also evidence that professional development of teachers had taken reference from the needs of the children. In SQ15, where respondents were asked to indicate the three most important actions that they had taken to improve teaching and learning in the three years preceding the study, 40.4% of the responses were related to professional growth of teachers. The majority of participants (n = 211 or 92%) had given a response related to professional development of teachers.

There was evidence that in Emerging Centres with High Averages and Emerging Centres, efforts were made to coordinate staff development with the expertise needed for the delivery of children's programmes. Much of the staff professional development was dynamically tied to the changing needs of the children's programme. At NF1, teachers attended drama courses to support the efforts to introduce dramatization into the children's programmes. Teachers of F1 attended art courses with the hope of improving the art elements in its programmes, while teachers of F3 attended reading courses so that they could improve the delivery of the reading programmes. At F2, where a project-based approach was adopted, the principal had adopted on-site strategies for professional development, using generic design protocols that she was familiar with to guide teachers in the design of the lessons.

Responses from survey participants suggested that principals were broadly aware of developments in the macro environment. Evidence of this came from the responses on areas of focus for professional development of teachers where the principals had indicated SPARK and the learning areas included in the SPARK instrument as focus areas.

In the multi-case study, the principals interviewed confirmed that they had chosen SPARK and the learning areas as teachers in response to the

expectations set out in SPARK. The teachers needed to be familiar with the standards stated in the SPARK instrument, and be better equipped to address the different learning areas in the curriculum.

8.2.3 Enacted and espoused programme

There was evidence that centres did put in some effort in planning and coordination. Planning activities were a common feature in the responses given by participants to SQ1 where they were asked to indicate tasks that they had performed on a seasonal basis (SQ1). Out of 1122 responses, more than 580 tasks were associated with planning. The majority of these planning tasks were related to the execution of lessons, for example planning of teaching resources, planning for events and class allocations. Please refer to [Appendix 16](#) for the analysis of SQ1. Reviewing and planning of the programme at a macro level was mentioned by 39% of participants (89 participants).

There is also a possibility that a few respondents had viewed curriculum planning in a very narrow sense, and that some programmes centred around the completion of worksheets. Hence, although 39% (89 participants) have indicated that they reviewed and planned the curriculum, the planning may have been done in a very limited manner.

On the frequency of the review of the curriculum or programme of learning, 24 participants suggested that curriculum review and planning was carried out once every term. A few participants appeared to have adopted a planning and reviewing cycle of more than a term.

Evidence from strategies for professional development suggests that principals of NF1, NF2, F1, F2, F3 do monitor the learning in the classrooms by approving the lesson plans and entering classrooms daily to support and observe teachers. There was also evidence from NF1, NF2 and F2 that the daily class visits made by principals was a strategy that these principals had adopted to monitor the achievement of the intended goals of the lesson. Thus, there is evidence that principals of Emerging Centres with High

Averages and Emerging Centres monitored teaching. There was also evidence that there were planning sessions for the learning programme, though it was unclear how well the planning was carried out and if the enacted lessons were aligned with the plans.

8.3 Focus on teaching and learning and building team expertise

8.3.1 Time spent on activities associated with teaching and learning

Responses to SQ3 provided information on the amount of time that the participants spent on various tasks that they performed regularly (routine tasks). The variance/covariance in the responses to these items was studied to identify the underlying structures or constructs of the responses to the list of 16 items in SQ3. This was done using Principal Factor Analysis, a form of Exploratory Factor Analysis.

An oblique (Promax) rotation was used as the hypothesis was that the factors relating to principals' routine activities would likely be correlated. If the factors were indeed correlated, it would yield a more accurate and realistic representation of the relationship between factors.

With a sample size of 229, factor loadings needed to be at least .40 for items to be accepted (Hair et al., 2005). A minimum factor loading of at least .40 on the relevant factor and also a cross loading of not more than .30 on all other factors (Stevens, 1996) were further criteria applied for items to be retained. No item had a minimum factor loading of less than .40, and cross loading of more than .30 suggesting that all 16 items shared significant common variance.

The rules applied for deciding on the number of factors to retain were: (a) factors which had a Kaiser Eigenvalue > 1 ; (b) a scree plot showing the factors clearly; (c) conceptual clarity, ease of interpreting, and simple structure (Thurstone, 1947).

Table 8.2a, and Table 8.2b show the factor loadings and the components of the three factors respectively.

Table 8.2a *Factor loadings, means and standard deviations for "Time spent on principals' routine activities" Items*

Item	F1	F2	F3	Mean	Standard Deviation
3.03 Monitor teaching (e.g. through informal drop-ins, approving lesson plans)	.902	-.008	-.096	3.90	2.24
3.01 Observe classes and coach teachers on pedagogy	.837	-.223	-.016	3.54	2.58
3.04 Communicate with staff on teaching and learning	.764	.073	.007	3.74	2.45
3.05 Monitor children's development (e.g. through checking attendance, children's portfolio, interaction with children)	.570	.050	.133	4.05	2.89
3.02 Counsel staff and mediate staff issues	.513	-.017	.027	2.89	2.19
3.06 Make arrangements for learning of children with special educational needs	.259	.219	.195	1.73	2.22
3.12 Communicate with parents	.177	.850	-.186	4.25	3.01
3.13 Communicate with members of public	-.087	.841	-.025	2.67	2.61
3.15 Execute tasks associated with financial control, management of budget and accounts	-.240	.696	.027	5.91	5.08
3.14 Communicate with Ministry of Education and/or operations headquarters	.044	.593	.011	2.50	2.45
3.16 Attend to other daily routines (e.g. deployment of relief teachers, checking on safety and hygiene)	.029	.531	.173	4.44	2.89
3.11 Attend to health and emergency issues	.088	.380	.288	2.93	2.32
3.08 Procure and develop teaching resources	-.006	-.176	.973	3.13	2.92
3.07 Plan and arrange field trips	-.094	.148	.677	2.96	2.27
3.10 Prepare staff, children and their parents for change and innovation	.076	.031	.669	3.35	3.05
3.09 Keep abreast with developments in sector	.274	.129	.338	3.38	2.43
<p>Note. <i>Boldface factor loadings have values .40 or more and mark items that load primarily on that factor. There are no cross-loadings with values .30 and higher. Factor 1 = Principals' Core Activities; Factor 2 = Principals' Administrative Activities; Factor 3 = Principals' Support Activities.</i></p>					

Table 8.2b Factors derived from Exploratory Factor Analysis

Factor 1 Principals' Core Teaching and Learning Activities
3.03 Monitor teaching (e.g. through informal drop-ins, approving lesson plans) 3.01 Observe classes and coach teachers on pedagogy 3.04 Communicate with staff on teaching and learning 3.05 Monitor children's development (e.g. through checking attendance, children's portfolio, interaction with children) 3.02 Counsel staff and mediate staff issues
Factor 2 Principals' Administrative Activities
3.12 Communicate with parents 3.13 Communicate with members of public 3.15 Execute tasks associated with financial control, management of budget and accounts 3.14 Communicate with Ministry of Education and/or operations headquarters 3.16 Attend to other daily routines (e.g. deployment of relief teachers, checking on safety and hygiene)
Factor 3 Principals' Administrative Activities in support of Teaching and Learning
3.08 Procure and develop teaching resources 3.07 Plan and arrange field trips 3.10 Prepare staff, children and their parents for change and innovation

A more detailed account of the analysis can be found at [Appendix 12](#).

The underlying structures or factors for the three clusters can be explained as follows:

Factor 1, Principals' Core Teaching and Learning Activities, is a five-item factor that essentially reflects the core activities related to teaching and learning that a kindergarten principal is expected to perform.

Factor 2, Principals' Administrative Activities, is a five-item factor associated with the general managerial and administrative activities that a principal engages in to ensure the smooth running of kindergarten. This factor includes communication with parents and the public, and finance matters.

Factor 3, Principals' Administrative Activities in support of Teaching and Learning, is a three-item factor associated with the administrative activities that the principals perform in association with teaching and learning. These include procuring teaching resources and planning field trips.

All three factors also showed large correlations (correlation coefficient ranged from .553 to .597; $p < .01$) with each other.

The amount of time that participants spend on these three factors was analysed, and the descriptive statistics have been provided below (Table 8.3). The average number of hours that participants spend on Core Teaching and Learning Activities (Core), Principals' Administrative Activities (Admin), Principals' Administrative Activities in support of Teaching and Learning (Support) were 18.06 (n=228, SD 9.54), 19.68 (n=228, SD=12.25) and 9.45 (n=225, SD=6.68) respectively.

Table 8.3 *Descriptive statistics for hours spent on activities*

Variable	Total	Mean	Standard Deviation
Core	228	18.06	9.54
Admin	228	19.68	12.25
Support	225	9.45	6.68

It appears that the principals spend about 60% of their time on Core Teaching and Learning and Support Activities.

The average amount of time that principals of Non-Funded and Funded kindergartens spend on the three factors derived from Exploratory Factor Analysis were compared. The inferential statistics have been tabulated below (Table 8.4)

Table 8.4 Descriptive statistics and t-tests by kindergarten type for hours spent on activities

Kindergarten Type	Non-Funded			Funded			t	df
Variable	Total (n)	Mean \bar{x}	Standard Deviation (s)	Total (n)	Mean \bar{x}	Standard Deviation (s)		
Core	59	20.15	9.80	169	17.33	9.37	1.966*	226
Admin	59	18.86	11.86	169	19.97	12.40	-0.601	226
Support	57	11.01	7.03	168	8.92	6.49	2.059*	223

Note. *= $p < .05$.

T-tests revealed that principals from Non-Funded kindergartens spend significantly more time on Core and Support activities than principals from Funded kindergartens, $t(226) = 1.966$, $p < .05$.

8.3.2 Building team expertise

The nurturing of professional expertise has been discussed in Chapter 6. Team Building has been discussed in Chapter 7. Suffice to point out here that the leadership tasks of the principal in relation to building the expertise of staff, including monitoring teaching, observing classes and coaching teachers on pedagogy, communicating with staff on teaching and learning, and counselling staff formed the major part of the Core factor. This factor takes up roughly 40% of the time of the principals.

8.4 Engagement of parents to support teaching and learning

8.4.1 Amount of time on communication with parents

In SQ5, where participants were asked the average percentage of time they spend working directly with parents, participants reported that they spend 7.95% of their time (or about 4.2 hours per week) ($n = 228$, $s = 3.46$) communicating with parents. This figure corroborated well with their responses to SQ3 where they had indicated that on the average they spend

4.25 hours per week (n = 228, s = 3.01 hours) working with parents. Although the figures derived from the responses were not exactly the same, the triangulation showed good corroboration.

8.4.2 Strategies adopted to engage parents

On strategies for engagement of parents, the most common strategies were Orientation (94%), Newsletter (80%) and Daily communication (72%).

Table 8.5 Frequency comparisons and results of Chi-square analyses by kindergarten type for communication activities with parents

Item	Non-funded (n = 60)		Funded (n = 169)		Total (n = 229)		χ^2 , df=1	Odds Ratio
	Yes	No	Yes	No	Yes	No		
16.1Orientation	58 (97)	2 (3)	158 (93)	11 (7)	216 (94)	13 (6)	0.834	
16.2DailyCom	38 (63)	22 (37)	128 (76)	41 (24)	166 (72)	63 (28)	3.418	
16.3WeeklCom	29 (48)	31 (52)	41 (24)	128 (76)	70 (31)	159 (69)	12.09**	2.92
16.4ParentMtg	29 (48)	31 (52)	57 (34)	112 (66)	86 (38)	143 (62)	4.028	
16.5Parentfdbk	44 (73)	16 (27)	111 (66)	58 (34)	155 (68)	74 (32)	1.186	
16.6ParentEdn	38 (63)	22 (37)	80 (47)	89 (53)	118 (52)	111 (48)	4.536*	1.92
16.7HealthDiet	15 (25)	45 (75)	28 (17)	141 (83)	43 (19)	186 (81)	2.064	
16.8Newsletter	45 (75)	15 (25)	138 (82)	31 (18)	183 (80)	46 (20)	1.222	
16.9Website	21 (35)	39 (65)	31 (18)	138 (82)	52 (23)	177 (77)	7**	2.4
16.10OpenHse	26 (43)	34 (57)	62 (37)	107 (63)	88 (38)	141 (62)	0.827	

Note. * = p < .05, ** = p < .01. Percentages are shown in parentheses below frequencies

Comparing the principals from the Funded and Non-Funded kindergartens, principals from Non-Funded kindergartens were 2.92 times as likely as principals from Funded kindergartens to have weekly two-way

communication with parents through telephone/email (Refer to [Table 8.5](#)). They were also 1.92 times as likely to have talks for parents to be effective in supporting their children's development, and 2.4 times as likely to use a regularly updated website with educational information to communicate with parents compared to their counterparts from Funded kindergartens.

The multi-case study provided some examples on how the centres worked with parents. At NF1, several parent volunteers were seen at the kindergarten assisting in various tasks. The principal attributed the willingness of these parents to volunteer partly to their membership of the religious mission to which the kindergarten belonged. Parenting programmes were held on Saturdays and these were particularly important for the induction of new migrant parents to the local system. These parenting programmes, run concurrently with enrichment programmes for the children, were well attended. Parents were also involved in reading with their children at home as part of the kindergarten's extension of its reading programme to the home.

The parents of NF2 were also members of the congregation to which the kindergarten belonged. The kindergarten involved parents by getting them to read with their children and help with the rehearsal of concert items. NF2 also organised parenting programmes for parents.

Parents of F2 received a note from the class teacher every week on the concepts taught, and the words introduced to the children. Parents were also involved as speakers on specific topics related to parenting. However, the real involvement of parents in the learning of the children was largely through the take home activities designed by teachers and sent to parents every fortnight.

All Funded kindergartens also had a communication system between the teachers and parents through the Communication Booklet (mentioned in Chapter 7).

The patterns of communication with parents were also analysed by principals' qualifications. The data for this analysis is at [Table 8.6](#).

Table 8.6 *Frequency comparisons and results of Chi-square analyses by qualification for communication activities with parents*

Item	Degree (n = 109)		No degree (n = 120)		Total (n = 229)		χ^2 , df=1	Odds Ratio
	Yes	No	Yes	No	Yes	No		
16.1 Orientation	103 (94)	6 (6)	113 (94)	7 (6)	216 (94)	13 (6)	0.012	
16.2 DailyCom	79 (72)	30 (28)	87 (73)	33 (28)	166 (72)	63 (28)	0	
16.3 Weekly Com	39 (36)	70 (64)	31 (26)	89 (74)	70 (31)	159 (69)	2.662	
16.4 Parent Mtg	36 (33)	73 (67)	50 (42)	70 (58)	86 (38)	143 (62)	1.818	
16.5 Parent fdbk	81 (74)	28 (26)	74 (62)	46 (38)	155 (68)	74 (32)	4.176*	1.8
16.6 Parent Edn	54 (50)	55 (50)	64 (53)	56 (47)	118 (52)	111 (48)	0.329	
16.7 Health Diet	26 (24)	83 (76)	17 (14)	103 (86)	43 (19)	186 (81)	3.514	
16.8 Newsletter	87 (80)	22 (20)	96 (80)	24 (20)	183 (80)	46 (20)	0.001	
16.9 Website	27 (25)	82 (75)	25 (21)	95 (79)	52 (23)	177 (77)	0.505	
16.10 OpenHse	44 (40)	65 (60)	44 (37)	76 (63)	88 (38)	141 (62)	0.331	

Note. *= p < .05. Percentages are shown in parentheses below frequencies.

Principals who had a degree were 1.8 times as likely to have at least two dialogue sessions with parents a year to gather feedback on the curriculum compared to principals without a degree.

The participants' years of experience as principal made no significant difference on the strategies they deployed to communicate with Parents. The statistics for this analysis is at [Appendix 14, Table A14.1](#).

8.4.3 The state of parent involvement

For SQ17, participants in the survey were instructed to choose 1 or 2 options that describe the state of involvement of a good portion of parents. The most commonly ticked item was one on parents giving feedback (64%) followed by parents being helpers (62%). 25% of participants ticked the item on parents as collaborators, 20% ticked the item on parents as cheerleaders, and 29% ticked the item on parents as specialist support. 29% indicated that a good portion of their parents were not involved. (Please refer to [Appendix 14, Table A14.2](#)).

Parents from Non-Funded kindergartens were 3.27 times, 2.92 times, and 2.83 times as likely as parents from Funded kindergartens to respectively i) be partners and collaborators, ii) be volunteers, and iii) give feedback on programs. However, grandparents and domestic helpers were 2.09 more likely to be the main contact point for Funded kindergartens than Non-Funded ones. (Refer to [Appendix 14, Table A14.2](#))

8.5 Systems thinking

Close examination of the codes did not reveal any that could be attributed to systems thinking, indicating that systems thinking had not been consciously used.

However, a number of principals displayed elements of longer term and more macro level thinking. Some examples are as follows:

- the principal of F1 spoke about having to introduce phonetics and teach literacy in a more structured manner as feedback from parents of children who had progressed to primary schools suggested that some children needed a more structured approach to language acquisition.
- the principal of F2 had considered the many variables that would affect the quality of programmes at her centre (inexperienced teachers, need for a more flexible programme to cater to diverse learning needs

of the children, sustainability of a less structured learning programme for the children) when she introduced the weekly teacher reflection and planning.

- the principal of NF1 capitalised on their success in winning innovation awards to spur her teachers to attain even more awards, but realised that although these efforts had engendered dynamism, encouraged staff professional development and created more diverse learning opportunities for the children, it was time to consolidate their efforts and deepen their skills in some areas before embarking on another wave of innovation.

While there may have been evidence that longer term and wider implications were considered in decisions, the lack of conscious application of systems thinking could mean that such thinking was not applied consistently.

At centres F5 and F6, shared goals had yet to be fostered, the alignment between the children’s programme and staff development was not always present, and there was no evidence of systems thinking being used.

Table 8.7 provides a summary of the key findings for this section.

Table 8.7 Programme coherence – shared goals for children’s learning, alignment of staff development with children’s programme, evidence of systems thinking

Centre	Shared goals for children’s learning	Alignment of staff development with children’s programmes	Systems Thinking
NF1	Yes	Yes	Not at a conscious level
NF2	Yes	Yes	Not at a conscious level
F1	Yes	Yes	Not at a conscious level
F2	Yes	Yes	Not at a conscious level
F3	Yes	Yes	Not at a conscious level
F5	Some aspects	A few aspects	No evidence
F6	Little (only HQ level)	No evidence	No evidence

8.6 Discussion of findings

8.6.1 Principals who focus on core teaching and learning activities also spend time on administrative activities

All three factors from the Principal Factor Analysis showed a large correlation coefficient with each other, suggesting that principals who focus on core teaching and learning activities also spend time on administrative activities.

8.6.2 Coherence in purpose, plans and actions was seen at some kindergartens

The findings from the survey provided information on planning at a very broad level. Survey findings suggested principals spend about 40% of their time on Core Teaching and Learning. The rest of the principals' time went into Administration and General Management Functions and Support Activities. Survey responses also provided information on the broad alignment of professional development of teachers with new developments in the macro environment. More specific evidence on efforts to foster coherence in purpose, plans and actions came from the multi-case study.

Alignment of programme approach with the needs of the children

There was evidence that in Emerging Centres with High Averages, different programme and teaching approaches were adopted to align with the needs of the children. On the other hand, in the Below Emerging Centres, there was no such alignment.

Alignment of staff development with programme needs

As mentioned earlier, 1.3 actions taken by participants to improve teaching and learning in the three years preceding the survey were associated with building teacher competence. This suggests that principals were aware of the link between teacher competence and the enactment of teaching. Several principals and teachers interviewed in the multi-case study in NF1, NF2, F1, and F3 spoke about teachers attending professional development

courses in order to build expertise needed for the delivery of their programmes.

The multi-case study also provided evidence to confirm evidence from the survey which suggested that principals had taken into account the developments in the macro environment when they sent teachers to professional development courses associated with SPARK.

Summarising, there was evidence suggesting that in Emerging Centres with High Averages and Emerging Centres, efforts were made to coordinate staff development with the expertise needed for the delivery of the Centres' programmes. There was also evidence to suggest that staff professional development was dynamically tied to the changing needs of the larger environment.

While there was evidence that the principals were aware of the following independently, there was little evidence to show that they saw these three decision points as linked - the need to adjust the curriculum to meet the children's learning needs, the need to adjust professional development plans of teachers to meet curricular needs, the need to ensure that the espoused and enacted curricula are aligned. This is despite having one standard pegged at the Performing Level¹⁶ in the area of Strategic Leadership in the SPARK instrument stating that "*The vision, mission and core values or philosophy and core values are translated into specific goals and reflected in a strategic plan*".

Collaborations among teachers is one way of ensuring that there is coherence and centrality of purpose in change efforts (Harris, 2011). With more people putting their efforts into the same piece of work, the likelihood of coherence would be higher. In the case of the kindergartens in Singapore, the need for the principals to constantly broker collaboration among teachers suggests that the collaborations were top-down, and the potential gains on coherence from the collaborations among teachers was not drawn upon.

¹⁶ The Performing Level is above the Emerging Level in the SPARK instrument.

Overall, there was little evidence to suggest that the idea of alignment of purpose, plans and actions was pursued deliberately or systematically. While there was some evidence that longer term and wider implications were considered in decisions, the lack of deliberate efforts to think systemically and to look after coherence in purpose, plans and actions suggest that alignments if existed are likely to be coincidental.

8.6.3 Having clear philosophy and mission were important in fostering coherence

An insight on coherence, which will need further validation, coming from observing F1 is that coherent programme arrangements, staff development practices, work processes, physical set-up depended on a clear philosophy and mission. The programme at F1, which was a Reggio¹⁷ inspired one, had its foundations in a clear philosophy and a set of well researched practices. As mentioned, the principal and two senior teachers of F1 were trained by a mentor with deep knowledge of the Reggio model. The kindergarten had adopted some of the integrated work processes and staff professional development strategies from Reggio. Even though the work processes at the kindergarten today may not be a replica of the authentic Reggio model in order to accommodate the local context, having work processes and solutions that are based on a clear philosophy which is also consistently applied allowed a high degree of coherence in the practices. The pertinent point here is that a clear philosophy and mission that is applied consistently to daily operations, is likely to be helpful towards achieving coherence in purpose, plans and actions.

8.6.4 Patterns of communication with parents were moderated by the qualifications of the principals

Principals who had a degree were 1.8 times as likely to have at least two dialogue sessions with parents a year to gather feedback on the curriculum

¹⁷ Reggio – Referring to Reggio Emilia

as principals without a degree. Given that the percentage of principals with degrees in Non-Funded kindergartens is almost double that in the Funded kindergartens (38 principals out of 60 or 63% of NF principals were degree holders whereas 63 out of 167 or 37% of principals in Funded kindergartens were degree holders), may explain in part the different emphasis in strategies. Two explanations for this phenomenon are that principals with degrees were more confident in interacting with parents and principals with degrees were more effective communicators. The other variable that may explain the variations in the patterns of engagement of parents may be the profile of the parents. The participants' years of experience as principal made no significant difference to the strategies they deployed to communicate with Parents.

8.6.5 Non-Funded and Funded kindergartens had different patterns of communication with parents

Principals spend about 4.2 hours communicating with parents on a weekly basis. However, Non-Funded kindergarten principals were 1.92 times as likely to have talks for parents on how to be effective in supporting their children's development and 2.4 times as likely to use a regularly updated website with educational information to communicate with parents compared to their counterparts from Funded kindergartens. This may be explained in part by the qualifications of principals. Principals who held degrees were found to be 1.8 times as likely to have two dialogue sessions with parents annually. As the percentage of principals with degrees was also higher in Non-Funded kindergartens, the higher frequency of contact with parents in Non-Funded kindergartens was not unexpected though a causal relationship is not suggested.

Parents from Non-Funded kindergartens were 3.27 times, 2.92 times, and 2.83 times as likely as parents from Funded kindergartens to respectively i) be partners and collaborators, ii) be volunteers, and iii) give feedback on programs. However, grandparents and domestic helpers were 2.09 more likely to be the main contact point for Funded kindergartens than Non-

Funded ones (Refer to [Appendix 14, Table A14.2](#)). From the data on how parents were engaged with the kindergartens, it appears that the profile of parents in the Funded and NF kindergartens were different.

CHAPTER 9 Contextual features affecting principal's efforts to build the capacity for learning

9.1 Introduction

This chapter provides information on the findings for Research Question 4 (RQ4), “What contextual features affect principal's efforts to build the capacity of learning of their kindergarten?” Contextual features include those that are associated with the children's, teachers', kindergarten's background as well as factors in the macro environment. The principals' profile has also been included in this chapter for associations between leadership features and the profile of principals to be highlighted. The chapter is organised in seven sections as follows,

Section 9.1 (this section) provides information on how this chapter is organized.

Sections 9.2 highlights associations between leadership features and the profile of principals.

Sections 9.3 to 9.5 provide the contextual features associated with the children's, teachers' and kindergartens' background respectively.

Section 9.6 provides information on contextual features related to the macro environment.

Section 9.7 provides a summary of the findings for RQ4.

The findings for RQ4 come from both the survey and the multi-case study. The table below (Table 9.1) provides a summary of the data source and approaches to data analysis.

Table 9.1 Mapping of research questions with data type and analysis (RQ4)

Research Questions	Data Types (QUANT=Quantitative QUAL=Qualitative)	Data Analysis
Contextual features that affect the building of capacity for learning		
Background of principal (Section 9.2) Principals' mindset on teachers' learning	Survey: SQ7-QUAL and QUANT, SQ9-QUAL Case Studies – Interviews of principals, teachers - QUAL	QUANT-descriptive statistics QUAL - Topic coding via meaning condensation
Signaling of the importance of teachers' and pupils' learning	Survey: SQ19 and SQ20 – QUANT Survey: SQ1-QUAL Case Studies – Interviews of principals, teachers - QUAL	QUANT - descriptive statistics QUAL - Topic coding via meaning condensation
iii Time spent guiding teachers in their work and planning for teachers' professional development	Survey: SQ6-QUANT	QUANT-descriptive statistics, principal axis factoring
Background of the children, teachers, kindergarten (Sections 9.3, 9.4, 9.5)	Survey: P1-13-QUANT Case studies – Interviews of principals, teachers and parents - QUAL	QUANT – descriptive Statistics QUAL - Topic coding via meaning condensation
Interaction of children, staff and kindergarten type with leadership practices (Sections 9.3, 9.4, 9.5)	Survey: SQ3, 4, 10, 11, 14, 16, 17 - QUANT	QUANT- Inferential Statistics
Macro environment (Section 9.6)	Case studies - Interviews of principals, teachers and parents - QUAL	QUAL - Topic coding via meaning condensation

9.2 The principals' background

9.2.1 Principals' years of experience as teacher

Budget for professional development of teachers

Participants were asked to place ticks against structures that have been put in place to support teachers in their professional development for SQ14. Their responses for “budget for professional development of teachers” (Item 14.03), showed a significant difference based on their years of experience as teachers. Principals with more than ten years of teaching experience were found to be significantly less likely to tick this item than principals with less than five years of teaching experience (χ^2 (2, N = 194) = 8.935, $p = .011$,

odds ratio (OR) = 2.97) and principals with five to ten years of teaching experience (OR = 3.38). Please refer to Appendix 15, Table A15.1 for statistics of this analysis.

Coaching and mentoring

In SQ10, participants were asked to indicate on a Likert scale how important each strategy for professional development was at their kindergarten. A Kruskal-Wallis test indicated that there was a significant difference in ratings towards Item 10.15 on “coaching/mentoring” according to years of teaching experience, $H(2) = 7.684, p < .05$. Subsequent Mann-Whitney U tests indicated that principals with more than ten years of teaching experience rated Item 10.15 (Coaching/Mentoring) as a significantly more important strategy for teacher professional development at their kindergarten than principals with less than five years of teaching experience ($U = 1731.5, p < .05$) and principals with five to ten years of experience ($U = 1405, p < .05$). Please refer to Appendix 15, Table A15.2 for the statistics on this analysis.

Principals’ years of experience in current role did not show significant differences in the setting up of a budget or in coaching and mentoring.

9.2.2 Principals’ years of experience in role

Views on urgency and importance of various leadership tasks associated teaching and learning

In SQ7, participants were asked to place various tasks into four quadrants defined by two variables - urgency and importance. Analysis was done based on the participants’ years of experience as principal. The statistics for analysis of item 7.01 on customising activities for children with the teachers has been provided at Table 9.2 below.

Table 9.2 Frequency comparisons and Chi-square analysis by years as principal for item on customising student activity (SQ7.01)

Years as principal	Urgent but not important	Not urgent and not important	Urgent and important	Not urgent but important	χ^2 , $df=6$
Less than 5 years	6 (6)	3 (3)	41 (44)	45 (47)	25.374***
5 to 10 years	0 (0)	7 (11)	31 (47)	28 (42)	
10 years or more	0 (0)	0 (0)	42 (71)	17 (29)	
Total	6 (3)	10 (4)	118 (52)	95 (41)	

Note. ***= $p < .001$. Percentages are shown below frequencies in parentheses.

Principals with 11 years or more experience in this role were significantly more likely to rate Item 7.01 (customising activities for students with teachers) as “Urgent and Important” compared to principals with less than five years of experience, $\chi^2(6, N = 220) = 25.374$, $p = .000$, odds ratio = 3.254. Principals with less than 5 years of experience were also about twice as likely (odds ratio 2.224) to rate this item as “Not urgent but important” compared to principals with more than 11 years of experience.

The participants’ years of experience as principal made no significant difference on responses to other items in SQ7, that is, “going through the portfolios of students”, “visiting the home of a student who has been absent for a week”, “reflecting on a lesson with teachers”, and “responding to the Ministry of Education’s request for data on student enrolment”.

Communication with parents

In SQ16, participants were asked to tick the activities/channels used to communicate with parents. The participants’ years of experience as principal made no significant difference to communication with parents. The statistics for this analysis is at Appendix 15, Table A15.3.

9.2.3 Principals' qualification

Professional learning of teachers

In SQ6.01, participants were asked to indicate the number of hours they spent “guiding teachers in their work”. [Table 9.3](#) provides the data for the analysis by qualification of the principals.

Table 9.3 *Frequency comparisons and Chi-square analyses by qualification for time principals spend guiding teachers*

Item	Degree (n = 108)			No Degree (n = 120)			χ^2 , df=2
	5 hours or less	Between 5 to 10 hours	More than 10 hours	5 hours or less	Between 5 to 10 hours	More than 10 hours	
6.01 HrsGuideTrs	56 (52)	25 (23)	27 (25)	59 (49)	43 (36)	18 (15)	6.028*

Note. * = p < .05. Percentages are shown below frequencies in parentheses.

Principals with a degree were 1.889 times more likely to guide teachers in their work for more than 10 hours a week than principals without a degree.

However, they did not differ significantly in their rating on the importance of different teacher professional development strategies (SQ10) compared to their colleagues with no degrees. Please refer to [Appendix 15, Table A15.4](#).

Some principals received their training from private training agencies while others had their certification at government-run institutions. In SQ14, participants were asked to indicate the support structures they had put in place to support the teachers in their professional development. Comparisons of the responses of principals trained in government institutions were made with responses of those trained in non-government institutions. [Appendix 15, Table A15.4a](#) shows the statistics from the analysis. Those who were trained in government institutions were 2.97 times more likely to have a system of relief teachers looking after the classes while teachers were attending training courses, as compared to principals trained in non-government institutions.

Communication with parents

Principals with degrees were 1.8 times as likely to have at least two dialogues session with parents a year. This has been discussed in Chapter 8.

9.2.4 Principals' prior work experience

70% of principals had experience working outside of the early childhood sector. There were no significant differences in the questionnaire responses of principals with and without outside work experiences.

However, in the multi-case study, every principal with prior work experience had brought expertise acquired from her previous jobs into her role as a kindergarten leader.

The principal of NF1 held a human resource position earlier in her career. Her earlier exposure to human resources work equipped her with people management skills and knowledge of how to manage her staff effectively.

The principal of NF2 had prior experience working as an executive in multinational companies which have branded themselves as efficient and innovative enterprises. She brought to her current role as principal skills in process analysis. Through these earlier experiences, she had also come to realise that it was not the physical set-up or resources available that was most important to the motivation of the workers but the human relationships and the supervisors' genuine interest in the welfare of her supervisees coupled with good work processes which made the difference. She commented on her previous experience as follows,

NF2-Principal: "I mean the stationery, the refreshments are very nice stuff ... it matters to a certain extent, but I don't really have nice bosses that ... don't really talk to me so I just do my work ..."

The principal of F2 had drawn on a range of skills acquired in her career and personal life - that of a programmer, precision tool designer, infant care teacher, a mother - to play her role as an instructional leader. Her knowledge of information technology and her experience as a mother helped her

connect with the very young teachers at her centre. She also drew on her knowledge on design protocols to guide the teachers in systematically developing lesson plans for the project based curriculum. Interestingly, when asked what experiences in her past employments were useful to her role as principal, she cited her involvement in extra-curricular activities such as being in the National Cadet Corps (a uniformed youth organisation) during her student days as having shaped her leadership skills and equipped her with the discipline needed to keep up with a punishing pace. However, she did acknowledge that beyond specific experiences, it was her vast experience, including that of living overseas which helped her cope with the complexity of a project-based curriculum.

Principal of F3 brought with her the experience of an accounts clerk. Although 40% of the children attending her centre were receiving financial assistance, she appeared to have coped with the administrative work associated with financial assistance well. She also spoke about having been at the receiving end of different leadership styles of bosses, and these had influenced her to adopt a supportive stance towards her teachers.

Principal of F5 was diffident in her own ability to lead the instructional programme. She acknowledged that she lacked confidence to lead, and explained that her lack of confidence came partly from the lack of support from the previous oversight committee. While the cluster principal for her kindergarten had been mentoring her and had given her support to play the role of a professional leader, she was still learning to put in place processes and structures to improve the kindergarten. Unlike the other leaders from NF1, NF2, F2 and F3, her experience was limited to the early childhood sector.

9.3 The children's background

This section highlights findings on the children's background which may have affected how principals lead their kindergartens.

9.3.1 SES background of children

As mentioned earlier, based on the findings from the survey, parents from Non-Funded kindergartens were found to be 3.27 times, 2.92 times, and 2.83 times more likely than parents from Funded kindergartens to respectively i) be partners and collaborators, ii) be volunteers, and iii) give feedback on programs. However, grandparents and domestic helpers were 2.09 more likely to be the main contact point for Funded kindergartens than Non-Funded ones. The statistics related to this can be found at [Appendix 14, Table A14.2](#).

The multi-case study surfaced different needs of the children arising from their SES background and these needs required leadership responses. Centre F6 had a relatively high number of financial assistance and unsuccessful fee deduction cases. Helping the children secure financial assistance and regularly reminding fee defaulters to pay fees posed additional administrative load on the principal of F6 and this may explain in part her lack of leadership influence on her teachers.

The home background of children and parents' aspirations was a key consideration of principal of kindergarten F2 when she embarked on a curriculum change. She decided on a change as the structured curriculum then, using a more didactic approach, would not have been acceptable to the majority of parents at her kindergarten as many were well travelled young professionals with a view that their children should have an enjoyable childhood, and that early childhood education needs to be fun. This has been discussed in [Section 8.2.1](#).

Parents' high expectations at kindergarten NF2 appeared to be the reason behind the teachers' reluctance to exert more influence over their work. This explanation was deemed plausible by the principal who agreed that the

forcefulness of the parents in giving feedback to the kindergarten may have impacted the willingness of teachers to have more influence over the day-to-day decisions in the classroom.

9.3.2 Managing diversity within centres

Centre F5 had given much attention to strengthening their enrichment programmes as a means of catering for the diverse needs of the children. Under this arrangement, the children who were more advanced in their learning could attend enrichment lessons designed to go beyond the core programme.

Centres F1 and F2 had adopted a different approach to attend to the diversity in learning among children. They had adopted the Reggio and project-based approach respectively to cater to the diverse needs of the children.

9.4 The teachers' background

9.4.1 Proportion of degree level teachers

An analysis was carried to investigate if the percentage of graduate teachers had influenced the distribution of time spent by the participants on Core Teaching and Learning Activities (Core), Administrative Activities (Admin) and Administrative Support Activities for Teaching and Learning (Support) Activities in SQ3. 167 out of 227 (73.6%) participants had 0-10% teachers with degrees, 59 out of 227 (26.0%) participants had more than 10% teachers with degrees. Participants with 0-10% teachers with degrees spend 17.77 hours ($s = 8.95$) on Core activities while the principals with a higher percentage of teachers with degree spend 19 hours ($s = 11.20$). The ANOVA suggested that the difference was not significant ($F = 1.342$, $p = .0248$). Analysis of Admin and Support activities also showed no significant difference between the 2 groups of principals.

9.4.2 Where the teachers were trained

The principal of F1 observed that Diploma holders trained at the polytechnics preferred to teach more structured programmes, and did not like to teach programmes which were more fluid, ambiguous and child-centred like the Reggio inspired programme. This had apparently limited the kindergarten's options in the selection of teachers.

F1-Principal: "Maybe they come in with a plan, and they cannot adjust [or] try to be more flexible, [they are] not flexible enough. I think for them ... it's easier to carry out a plan in a way..... [they are not] thinking for the children, that kind of mentality."

By this, Principal F1 had suggested that the teachers were not sufficiently prepared to cope with a diverse range of situations. Principal of NF1 observed that many polytechnic graduates held the view that they were knowledgeable and did not have the humility to learn, whereas those with lower qualifications and from less prestigious institutions were more aware that they needed to continue to learn and were therefore easier to mentor and coach.

9.4.3 Entrenchment in one approach of teaching

The principal of F2 had to release an entire team of experienced teachers when she realised that she needed to adopt a project-based approach for the children's learning. This has been mentioned in earlier sections. The case write-up for F2 is at [Appendix 17](#).

Kindergarten F2 provided a perspective that illustrated the point that while prior experience was helpful in the planning of programmes, experience not accompanied by a positive attitude may become a stumbling block to coping with new situations. Learning from this, she became acutely aware of the importance of continuously exposing her teachers to different teaching experiences.

9.5 The organisation's background

9.5.1 Building of professional expertise

As reported previously in Section 5.4.2, principals from Non-Funded kindergartens were significantly more likely to have not taken part in a professional development activity specific to their leadership role over the last three years as compared to principals from Funded kindergartens, odds ratio = 4.926. However, these results should be interpreted with caution because of the small cell sizes. Another point to note is that while principals from Funded kindergartens were significantly more likely to have taken part in a professional development activity than their Non-Funded counterparts, the percentage of principals who had participated in a professional activity was already rather high at 90% for the Non-Funded kindergartens.

As noted in Section 5.4.2, principals from Funded kindergartens were also involved in a significantly greater number of categories of training and professional development activities over the last three years compared with principals from non-Funded kindergartens.

Other differences between the Funded and Non-Funded kindergartens in the principals' and teachers' professional development that have been highlighted previously in Sections 5.4.2, 6.2.2 and 6.2.3 were as follows:

- principals from Funded kindergartens were 2.82 times as likely to have a policy commitment to providing at least 30 hours of training for each teacher annually,
- principals from Funded kindergartens were 3.39 times as likely to have a training needs analysis as principals from Non-Funded kindergartens,
- principals from Funded kindergartens rated peer observation (Item 10.03) and weekly teacher self-reflection (Item 10.6) as significantly more important strategies for professional development than principals from Non-Funded kindergartens, and
- Funded kindergartens had a system of mentoring for principals.

9.5.2 Engagement of parents

Non-Funded kindergartens were 2.92 times as likely to have weekly two-way communication with parents as Funded kindergartens. They were also 1.92 times as likely to have talks for parents, and 2.4 times as likely to use a regularly updated website to communicate with parents as Funded kindergartens. This has been reported in [Section 8.4.2](#).

With regard to communication with parents (SQ16), some differences associated with the size of the enrolment were also found. Principals from kindergartens with 1 to 99 children were significantly less likely to have orientation for parents and children than principals from kindergartens with 100 to 199 children, $\chi^2(2, N = 216) = 10.218, p = .006$, odds ratio (OR) = 6.52, or principals from kindergartens with 200 children and above (OR = 4.60). However, these results must be interpreted with caution because of the small cell sizes. The statistics for this analysis can be found in [Appendix 15, Table A15.5](#).

9.5.3 Formalisation of work processes

The impact of the policies at the chain headquarters for the Funded chain was felt at the centre level. As mentioned in the previous section, the formalisation of work processes resulted in routines which conveyed the expectation by the chain of the importance of learning at each kindergarten. At the same time, these routines ensured that teaching and learning went on smoothly even though there were some variations even in the execution of these routines.

9.5.4 Common curriculum in the Funded chain

The Funded chain had written a common curriculum for use by its centres. Going by the variations seen of the curriculum, it appears that this curriculum was intended as a resource. Examples where the common curriculum was likely to have been used as a resource were kindergartens F1 and F2 which

had adopted their own curriculum using different approaches, the Reggio-inspired approach in the former and project-base approach in the latter.

9.6 The macro environment

9.6.1 Awards

Principal of NF1 shared how MOE’s Teaching and Learning Resources Grant, the Innovation Awards and SPARK had played a part in the kindergarten’s journey to improve their capacity for learning. As a non-profit kindergarten, they were running on a shoe string budget and the Teaching and Learning Resources Grant enabled them to acquire a few much needed teaching resources. The Innovation Awards came with funding which had made possible the attendance of training courses by some teachers.

NF1-P: “... because distinction is \$5000 and \$5000 is a lot of money, because with that money I can afford to buy iPads, two per classroom ... when you get awards you also get the vouchers ... for training that allows you for so many hours of training free and then you’re also allocated funds and some of the funds are also given to training.”

Thus, awards played a part in motivating some centres to improve, and they were instrumental in helping these centres develop their capacity for learning.

9.6.2 SPARK

Principals also responded to another initiative, SPARK, by sending their teachers for SPARK training (mentioned in Section 6.2.1).

Principal of NF1 related how her kindergarten was “cruising along” until SPARK was developed. Even though MOE had provided tools for kindergartens’ self-evaluation in the past, and evaluation of programmes was not new, it was the challenge of getting officially “certified” by MOE as having met certain standards that provided the impetus for kindergarten NF1 to strive towards meeting the standards spelt out in it. Reflecting on how the

instrument had been used, Principal of NF1 said that the SPARK instrument provided her with “what’s next” in pursuing improvements.

Just as with NF1, principals of NF2, and F3 also said that SPARK signalled the importance of standards and it provided guidance on how to improve the kindergartens. Principals of NF2, F3, F5 also spoke about how SPARK certification boosted the confidence of their staff and motivated them to strive for greater heights.

In addition, principals of F3 and F5 also spoke about how they had used SPARK to persuade their respective management boards to allow them to have a budget for professional development of teachers.

9.7 Discussion of findings

9.7.1 Principals’ experience and qualifications, and leadership

Support for teachers’ learning

Principals with more than ten years of experience rated Coaching/Mentoring as a significantly more important strategy for teacher professional development at their kindergarten than principals with less than 5 years of experience and principals with five to ten years of experience. At the same time, Principals with more than ten years of teaching experience were found to be significantly less likely to tick the item, “budget for professional development of teachers” than principals with less than five years of teaching experience and principals with five to ten years of teaching experience.

One possible explanation is that principals with 11 years or more experience had the benefit of rich teaching experience and were therefore very comfortable coaching/mentoring teachers. Perhaps with the ability to coach and mentor their teachers, they were less dependent on external courses to help teachers improve pedagogical skills. This possible link may be worthy of

further study as coaching and mentoring is an important part of a leaders' work.

Why is having the ability to coach and mentor important for a principal. As discussed earlier, the key purpose of leadership is to bring about quality through change. If change in the kindergartens is contingent on the acquisition of new mindsets and competences by teachers so that they can change classroom practices (Mourshed et al., 2010), then it is imperative that principals are able to coach and mentor teacher, or in the absence of the principal playing this role, a member in the staff is able to do so. However, as with the kindergartens in Singapore, where the pupil enrolment is between 100-199 children, this role of mentoring and coaching teachers to negotiate changes would most likely have to be played by the principal.

Research on professional development strategies suggest those strategies which are helpful towards improving teaching share several features including sustained, intensive learning supported by modelling, coaching and problem solving around specific problems of practice (Darling-Hammond, 1998). The principal is also well positioned to play this role as she is the key interface between the macro environment and the kindergarten, and would thus be able to help the teachers merge the "big picture" of the macro environment with the "small picture" of the internal environment, an important aspect of coaching and mentoring (Fullan and Knight, 2011) .

It is unclear why principals with more experience (as principals) were more likely to rate "customising activities for students with teachers" as "Urgent and Important" as compared to principals with less than five years of experience. There is a possibility that they have learnt through experience that it is important to deal with learning needs of children urgently or they might have a larger problem to handle later on. It is also possible that they understand that teachers view their interaction with students and their ability to facilitate learning of the children as important matters. There is also a possibility that whether they see the task of "customising activities for students with teachers" as urgent and important depends on their skills and

comfort around the role of coaching and mentoring teachers and handholding teachers on how to customise activities for students.

Principals with a degree were 1.889 times more likely to guide teachers in their work for more than ten hours a week than principals without a degree. It is not clear if a single value, hard work, had driven the principals to acquire higher qualifications and also to spend more time guiding teachers, or if confidence associated with higher qualifications had facilitated and motivated them to guide teachers.

However, the principals qualifications did not seem to have made a difference to their rating of the importance of different teacher professional development strategies compared to their colleagues with no degrees.

In United Kingdom, centres which gained a graduate leader with Early Years Professional Status (EYPS)¹⁸ to support and mentor others as well as to model skills and good practice made significant improvements in quality for preschool children aged 30 months to five years, as compared to centres which did not (Mathers et al., 2011). Improvements were related most strongly to direct work with children in language and literacy, reasoning/thinking skills and scientific understanding, interaction with children, support for communication, provision of a developmentally appropriate schedule, and providing for individual needs and diversity (ibid.). Although in this study on kindergarten leaders in Singapore, the children's learning outcomes was not studied, Mathers et al.'s (2011) finding seem to suggest that qualifications of principals makes a difference to the quality of learning of the children.

Principals trained in government institutions were 2.97 times more likely to have a system of relief teachers looking after the classes while teachers were attending training courses, as compared to principals trained in non-government institutions. It is unclear why this is so. It is possible that the leadership preparation courses offered by institutions advocated different

¹⁸ EYPS – Graduate leader with accredited professional competence

support structures for teacher professional development and the government operated institutions advocated having a relief teacher system to support professional development of teachers.

Going by the pattern derived from a very small number of kindergartens in the multi-case study, it appeared that the majority of principals in kindergartens with higher SPARK scores (with the exception of principal of F1 where a well researched programme had been adopted) had prior work experience while those in kindergartens with lower SPARK scores did not have prior work experience. It is conceivable that prior work experience provided exposure that was useful for leadership in the ECEC sector. Given the history of the ECEC sector (described in Chapter 2) and poor employment conditions associated with the sector, good candidates could rarely be attracted to the sector and thus there were few role models for those who went into the sector, whereas the mid-career entrants were not burdened by this history and had entered the ECEC sector with expertise and an aspiration to make things better. However, the point to note is that the survey findings did not corroborate with the multi-case study findings. Thus no generalisations can be drawn on the principal's prior work experience.

Communication with parents

Principals who had a degree were 1.8 times as likely to have at least two dialogue sessions with parents a year to gather feedback on the curriculum as principals without a degree. One explanation for this phenomenon is the confidence levels of principals with degrees. As there is a higher proportion of principals with degrees in Non-Funded kindergartens (discussed in Chapter 8), it is not surprising that Non-Funded kindergartens were 2.92 times as likely to have weekly two-way communication with parents as Funded kindergartens.

The other driving force behind the more frequent interaction with parents could be that parents of Non-Funded kindergartens had paid a lot more fees

and had higher expectations of kindergartens in terms of communicating with them.

Information on the involvement of parents in the education of the children suggested that the backgrounds of the parents in the Funded and Non-Funded centres were different. This is within expectation as funding provided to the Funded chain was based on the premise that they serve the lower income families.

9.7.2 The different profile of parents and curricular demands

The different expectations of parents from different educational and socio-economic backgrounds meant that the kindergartens had to design programmes to meet these diverse expectations. For example, F1 and F2 had adopted a Reggio-inspired and project based approach respectively to meet the curricular needs of the children. However, these approaches required teachers to respond to the evolving conversations of the children and the willingness of the teachers to accommodate some ambiguity in their lessons. In the case of F2, the teachers on their own could not cope with these demands, creating a situation where the principal had to create weekly platforms to guide the teachers.

At kindergarten F5, the diversity created the need for optional enrichment classes outside of the regular classes. This led to outsourcing of the enrichment classes when the teachers could not cope with the demands of running the enrichment.

The larger number of financial assistance cases in some centres translated into an administrative burden for principal of kindergarten F6, where the principal appeared to have been totally absorbed by this 'administrative burden' and had no time for teaching and learning.

The parents' interaction with teachers may give rise to dynamics that affect the willingness of teachers to make class level decisions. A case in point is the situation in NF2 where teachers were reluctant to be involved in decision making even when these decisions had to do with the curriculum.

9.7.3 The impact of teachers' backgrounds on leadership practices

The amount of time that the principals had apportioned for different leadership tasks did not appear to have been influenced by the qualifications of teachers. An analysis carried out to compare the distribution of time by two groups of principals, principals with a high percentage of graduate teachers and principals with a low percentage of graduate teachers, showed no significant difference in the way they distribute time on Core Teaching and Learning Activities (Core), Administrative Activities (Admin) and Administrative Support Activities for Teaching and Learning (Support) Activities in SQ3. As this study focused on the principals, minimal data was collected on teachers.

9.7.4 Kindergarten type (funding) and leadership practices

Based on the findings of this study, it appears that several differences between the Funded and Non-Funded kindergartens are associated with funding. The following are some differences arising from funding provided:

- Principals of Funded kindergartens had mentors to guide them in their leadership practice, whereas the principals of Non-Funded kindergartens did not have the same provision;
- Principals from Funded kindergartens had access to a wider variety of professional development opportunities in greater frequency compared to their counterparts in the Non-Funded kindergartens;
- Principals from Funded kindergartens were 2.82 times more likely to have a policy of providing at least 30 hours of training for each teacher annually compared to their Non-Funded counterparts;
- Principals of Funded kindergartens were 3.39 times more likely to have training needs analysis for their staff compared to their Non-Funded counterparts.

The purpose for highlighting these differences between the Funded and Non-Funded kindergartens is not to indicate that the Funded kindergartens are better off than the Non-Funded kindergartens. Rather, the purpose is to

highlight the capacity building possibilities with funding support. In fact, compared to the learning opportunities made available to teachers in primary and secondary schools (a hundred hours a year), the 30-hour benchmark set for the Funded kindergarten is just 30% of that set for the primary and secondary school teachers. Notwithstanding that the target set for the Funded kindergartens is still low, it is a first step in providing a minimum number of hours of professional learning for teachers. The current lack of regulatory requirement for a certain minimum number of hours of professional learning for teachers will not help towards raising professional knowledge and skills of teachers, and this may contribute further to teacher attrition.

9.7.5 SPARK and leadership practices

The principals' response to the awards and SPARK are examples of the integration of external changes into internal processes. These are examples of principals exercising leadership through keeping a watch over the 'boundaries' of their kindergartens (Ball, 1987, in Bacharach and Mundell, 1993).

Based on the findings, it appeared that the awards played a part in motivating some centres to improve, and they were instrumental in helping these centres develop their capacity for learning.

The setting up of SPARK certification signalled the importance of quality. While the instrument gave guidance on the standards to work towards, the endorsement by MOE of the standards achieved by the kindergartens through the accreditation process provided motivation for some centres to work towards it.

Principal of NF1 related how her kindergarten was "cruising along" until SPARK was developed. Even though MOE had provided tools for the kindergarten's self-evaluation in the past, and evaluation of programmes was not new, it was the challenge of getting officially "certified" by MOE as having met certain standards that provided the impetus for kindergarten NF1 to

strive towards meeting the standards spelt out in it. Reflecting on how the instrument had been used, Principal of NF1 said that the SPARK instrument provided her with “what’s next” in pursuing improvements.

Based on accounts from Funded and Non-Funded kindergartens, SPARK certification provided the impetus for them to put in place some structures to support teachers’ learning, for example, individual learning plans for staff members, staff dialogue on curriculum at least once every semester, and class observation (although class observation was also part of performance management).

However, the standards set for the first level of certification alone are still not sufficient to bring kindergartens to the level of sustained development. For example, the requirements for SPARK certification include structures for individual learning but not collective and organisational learning. Kindergarten F5 may be a case illustrative of this situation where individual professional learning was provided but not group learning. Research studies have found that while individual learning is important, group and organisational learning are important as collaborating and learning with colleagues is an important aspect of adult learning (Darling-Hammond, 1998). Relatedness or being connected with other fellow beings is a human need stated in the Self Determination Theory (Deci and Ryan, 1989). To secure the building of the capacity for learning, the quality assurance certification would need to be pegged to higher level standards.

9.7.6 Size of kindergartens and leadership practices

The responses were analysed based on the size of kindergartens. A significant difference associated with the size of the kindergarten was seen in the practice of organizing orientation for parents and children. Principals from kindergartens with one to 99 children were significantly less likely to have orientation for parents and children than principals from kindergartens with 100 to 199 children. A kindergarten with less than 100 children is likely to have a very small annual intake and therefore may not provide the critical mass of children and parents for a formal orientation.

CHAPTER 10 Bringing it all together

10.1 Introduction

The purpose of this chapter is to bring together the recurring threads from the findings to address the overarching purpose of this study of how kindergarten principals in Singapore seek to build capacity for learning. The recurring threads that I would like to focus on in this chapter are macro level drivers such as SPARK, infrastructures, funding and sector specific professional issues such as philosophy, mindsets and culture, experience and qualification of teachers and principals which help or hinder efforts in building capacity for learning. These recurring threads will be discussed in the following sections of this chapter:

- Section 10.2: Macro level structures impacting capacity building
- Section 10.3: Funding and infrastructures for professional learning
- Section 10.4: Philosophies, mindsets and culture associated with learning
- Section 10.5: Principals' backgrounds and leadership development

The discussion draw on findings of different research questions and suggests relationships that could be studied further for a better understanding of the dynamics affecting leadership for learning.

Some strategies to address the gaps in building the capacity for learning will be discussed in Section 10.6.

10.2 Macro level structures influencing capacity building at centres

10.2.1 SPARK played a part in building the capacity for learning in some centres

SPARK provided a management framework for principals while SPARK certification raised awareness of quality

As discussed in [Section 9.7.5](#), the setting up of SPARK by the Ministry of Education (MOE) signalled the importance of quality. In the multi-case study principals said that SPARK had raised their awareness of the need for quality. A few principals also said that they were using the SPARK instrument as a management guide for their own practice, and an authoritative reference to persuade their management boards for funding on aspects of management included in the SPARK instrument.

MOE made explicit her intentions to publish the list of SPARK certified centres. The purpose was to provide parents with information so that they can make informed decisions in the selection of kindergartens. As mentioned above, while some principals saw the value of the SPARK instrument on their improvement efforts, some were also mindful of the potential impact of public listing on their recruitment of pupils, resulting in high take up of professional development courses associated with SPARK. This was evidenced by the responses to the focus areas for teachers' professional development.

In the education landscape in Singapore, there is a system of quality assurance in primary and secondary schools named School Excellence Model (SEM). But unlike the implementation of SEM which was preceded by a system of inspection through which leaders were made aware of standards, here in SPARK, although there was already a set of management standards spelled out in the instrument for self appraisal, many kindergartens did not take those standards seriously, resulting in SPARK being seen as the first system spelling out standards for quality. Thus, it was not the standards or the management framework that was instrumental in raising awareness of quality but the certification associated with it.

10.2.2 At a broad level, there was some correspondence between the underlying constructs of the SPARK instrument and the conceptual framework of this study

Findings on leadership practices of principals from the three groups of kindergartens, Emerging Centres with High Averages, Emerging Centres and Below Emerging Centres, showed a gradation in the degree of involvement of teachers and the rigour in follow through of processes by the principals. Emerging Centres with High Averages had most involved teachers and the most rigorous follow-through by principals while the Below Emerging had the least involved teachers and least rigorous processes. Table 10.1 shows the comparison between the Emerging Centres with High Averages and the Below Emerging Centres.

Table 10.1 Differences in leadership between Emerging Centres with High Averages and Below Emerging Centres

	Emerging Centres with High Averages	Below Emerging Centres
Building teachers' knowledge, skills, dispositions	Learning Needs Analysis of teachers involved one or more conversations between teachers and supervisor or mentor. Courses attended were also aligned with areas identified through Learning Needs Analysis.	Learning Needs Analysis was done solely by teachers with no conversation with supervisor or mentor. Courses attended were identified in an ad hoc manner.
	Daily staff reflections were read by supervisors and used in the revision of curriculum.	Reflections were either cursorily done or not read by supervisor. They were also not used subsequently in curriculum reviews.
	Lessons learnt from not so successful experiences were used in shaping the improvements at the centre.	There was no or little evidence that changes were conceived systematically and that these changes had taken into consideration past experience.
	There were structures for teachers' group learning (daily, fortnightly, monthly)	Structures for group learning were few and far apart, and the principal did not play an active role.
	Principals participated actively in contributing to the children's learning by visiting classes on a daily basis and providing feedback to teachers on a regular basis. They also played an active role in demonstrating lessons, co-teaching with teachers and setting up the learning spaces.	Principals were not active in the classroom space although they were supporting the classroom work by attending to administrative matters associated with teaching and learning.

	Emerging Centres with High Averages	Below Emerging Centres
Nurturing a kindergarten-wide professional community	Principals had a clear personal mission and vision for the learning of the children and these were aligned with those of the organisation. Teachers' and parents' understanding of the mission and vision are aligned with those of the principal.	Principals did not have a clear idea of what they were striving for with respect to the learning of the children.
	Learning of the children was a clear focus at the centres. The learning of the children took centre stage. At F2 even replaced almost the entire staff so that the kindergarten could deliver a project-based curriculum.	Learning of the children was not a clear focus. At F6, a parent who requested for some customisation of the programme for her child who seemed to be more advanced was labelled "difficult".
	A feeling of trust, teamwork and connectedness was palpable among staff and parents. There was some degree of transparency on information among staff and between staff and parents.	At F5, two teachers alluded to not having been given opportunities for learning like colleagues at the Centre. At F6, the staff were clearly not working together.
	Teachers were enthusiastic about improving their skills so that the children could learn better.	Teachers were afraid to show their inadequacies.
	Teachers were generally willing to exert influence over the space given to them although this willingness appeared to be moderated by their dynamics with parents and their own confidence level.	Teachers were not willing to exert influence over the space given to them to make decisions.
	Time for learning of staff and pupils were clearly carved out and protected. Schedules have been set up for reviewing and planning of the curriculum. Communication channels with parents have been routinised so that there are regular conduits for communication with parents, and teachers need not be taken away from class to attend to issues raised by parents.	Requirements set out by the chain headquarters for staff development and the learning of the children were carried out in form but not always in spirit.
Coherence in purpose, plans and actions	There were efforts to align staff development with the learning of the children at NF1, NF2, F1, F2 and F3.	Staff development was not given priority, and where teachers were given opportunities for professional development, these were not always aligned with the learning of the children.
	<p>There was some evidence of organisational learning, longer term planning and macro-level factors were considered in planning. At</p> <ul style="list-style-type: none"> • NF1 – efforts to create opportunities for interaction with children of other ethnic backgrounds outside of the kindergartens (macro) • NF2 - efforts to build assessment for/of children's learning leveraging on past experience (organisational learning) • F1 – efforts to map literacy learning of children based on feedback from parents (Organisational learning) • F2 – efforts to build mother tongue language learning (longer term) • F3 – efforts to work on transition from preschool to primary school and working with agencies in the community (macro) 	There was little evidence that planning was actively pursued.

The fact that better centres based on the SPARK instrument were also those that were found to have more features for capacity building based on the conceptual framework of this study suggests broad correspondence between the SPARK standards and the conceptual framework adapted from Youngs and King's (2002). Thus, the SPARK instrument could be studied further as a tool for supporting efforts to build capacity for learning.

Meeting emerging standards on the SPARK instrument is probably not sufficient to position the kindergarten onto a self sustaining path of development

Meeting the emerging standards on the SPARK instrument may be sufficient to set a kindergarten off on a path of improvement but may not be sufficient to sustain these improvements. For example, the standard on curriculum planning is as follows: *“Centre has a programme plan across all levels for the whole year”*. The standard has not specified if the teachers should be involved in planning and developing the curriculum.

The standard at the Emerging level for professional development has included individual learning. There is no requirement for group learning or professional dialogues amongst staff. Based on the work of Borko (2010), Darling-Hammond (1998), Fullan (2005), Lieberman and Mace (2008), Spillane and Loius (2002), Youngs and King (2002), the involvement of teachers in discussing the curriculum together is an important imperative for building teachers' knowledge, skills and dispositions and a centre-wide professional community.

Having opportunities to work and learn together are fundamental building blocks for trust among people (Schein, 2009; Spillane and Loius, 2002), and they are necessary for building collective teacher efficacy (Goddard et al., 2000) which has been shown to be a predictor of student achievement.

In short, meeting emerging standards on the SPARK instrument is probably not sufficient for capacity building or to get the kindergarten onto a self-sustaining path of development.

As mentioned in the previous section, the SPARK instrument can be studied further and standards calibrated for use in building the capacity for learning. An alternative approach would be to leave the standards in the instrument untouched so that the internal logic of the instrument can be retained but change the criteria for certification. For example, certification can be pegged at 2 for some items and 4 for items where the standard pegged is not sufficient for sustained growth and development.

However, as Ng (2008) reminds us, having studied SEM implementation, that quality assurance is “both a saviour and the devil”. Quality assurance helps to drive standards at the macro level, however, the act of measurement often induces behaviours that are not natural. Perhaps SPARK should not be relied on solely for capacity building, and other strategies that can counter the unintended ground response should be considered in combination with SPARK.

10.2.3 Limited guidance on centre infrastructures for staff professional learning in MOE guidance document and SPARK

As mentioned earlier, the lack of some important infrastructures hindered professional learning. In some centres where classes for the morning and afternoon sessions run back to back, there was little time for staff to tune in to their classes, leave aside gather to have professional conversations. Given such a schedule it was difficult for teachers to find time to come together for group learning.

Another infrastructure that was associated with the learning of teachers was having a relief teacher system. The absence of a proper relief teacher system and a pool of easily available relief teachers also made the release of teachers for courses difficult.

The guidelines issued to would-be kindergarten operators on the registration of new kindergartens (MOE Singapore, 2009) by the regulatory body, MOE Singapore, provided information on broad requirements of the curriculum but had neither requirements on how the staff is to be supported in professional

development nor how they should work together to enact the curriculum. There were no guidelines, broad or specific, on the professional learning of teachers. In addition, these guidelines were also not part of the regulatory requirements.

The SPARK instrument (Please refer to [Appendix 5](#)) was examined for standards set for professional learning of teachers and requirements on the regular gathering of teachers. In the instrument, there were standards for induction of teachers, mentorship, professional development and deployment of teachers. The standards for all four areas have not suggested the need for group learning. The standard for staff deployment at the mastering level, the highest level, has included the need for provision of planned and unplanned absence of teachers but has not stated the need to release teachers for professional learning. The standards for these areas have been provided in [Table 10.2](#).

Table 10.2 SPARK standards on induction, mentorship, staff deployment and professional development

	Emerging Level	Performing Level	Mastering Level
3.1 Induction and deployment			
Induction	There is basic induction for teachers who are new to the centre	Centre has a formal induction programme	The formal induction programme is reviewed annually
Mentorship	Every new teacher is guided by a more experienced teacher(s) in the centre	Centre has a mentoring programme to facilitate the professional development of new teachers	The mentoring programme is reviewed annually
Staff deployment	Job scope and responsibilities are clearly defined and communicated to teachers	Centre deploys teachers, taking into consideration children's needs and teachers' strengths, skills and experience	The deployment makes provision for planned and unplanned absence of teachers
3.2 Professional development and performance appraisal			
Professional development	Centre involves staff in developing their yearly individual professional development map through identifying their strengths and weaknesses	Staff attend training according to their individual professional development maps	Centre uses a total professional development map to improve the competencies of staff

The standards set for curriculum leadership were also examined, and they have been summarized in [Table 10.3](#).

Table 10.3 Standards for curriculum leadership in the SPARK instrument

At Emerging Level	Centre leaders regularly evaluate teaching and learning practices with teachers
At Performing Level	Centre leaders involve teachers in planning teaching and learning practices.
As Mastering Level	Centre leaders nurture a culture of professional learning ¹¹ and collaboration among teachers.

While the standard for curriculum leadership and several standards at the Performing level required involvement and feedback of teachers, there was no item that required teachers to come together physically or virtually to have group conversations.

It has often been said that structures shape behaviours (Senge, 1990). Research has shown that the setting of minimum standards can ensure conditions for better child development (OECD, 2012). In the absence of regulatory requirements and quality assurance standards on the infrastructure needed for teachers to learn, only the well-informed principals working in tandem with well-intentioned operators would have these infrastructures put in place. Considering the level of expertise in planning amongst leaders, evidenced by the findings on how they build the teachers' knowledge and skills, nurture a professional community and foster coherence in purpose, plans and actions, it would be helpful at this point in the development of the sector to have some explicitly stated requirements on infrastructures for teachers' professional development.

10.2.4 Expectation of coherence in purpose, plans and actions was not conveyed in the SPARK tool

There was evidence that at Emerging Centres with High Averages, the programme approach were aligned to the needs of the children and the staff

development of staff were aligned to programme needs while Below Emerging Centres did not.

An examination of the SPARK instrument surfaced no mention of coherence nor the need to plan according to the needs of children. The need to plan for professional development and resources taking into account programme needs was probably also not a notion pursued in the instrument as there was no trace of it in the instrument.

One explanation is that coherence has not been part of the narrative of leadership and management of centres given its recent emergence in the pursuit of quality and capacity building at centres.

The lack of explicit mention of coherence in the SPARK instrument may be indicative of jagged development of different systems in the sector. In short, the macro systems in support of the sector may not be developing in tandem with one another, thus, the standards set in the SPARK instrument had to be reflective of the state of development of the support systems. In such a situation it was better not to highlight the concept of coherence although it was embedded in the instrument. By proposing this possibility, I am also suggesting that macro level systems could be linked to the standards set in the instrument, and that the instrument may have been designed to address the needs of a specific system.

To illustrate the point on how the systems supporting the sector may impact standards set in an accreditation instrument, take for example a hypothetical situation where pre-service teacher preparation is not comprehensive. In this situation, one would expect continuous professional development to mitigate gaps in teacher preparation. An instrument would be demonstrative of an expectation of coherence when it requires centres to tailor continuous professional development needs based on teacher preparation. However, if the manpower situation was tight, the standard set for continuous professional development may have been moderated to one that requires less professional development, thus weakening the signal on the need for coherence.

On the issue of the purpose of the instrument, an important question that comes to mind is whether an accreditation instrument should be designed to serve local needs, or should it be designed to reflect international good practice, or should it be reflective of international good practice and customised to meet local needs. This is a philosophical issue that can be taken up in a focused study on SPARK. In any case, no information was specifically gathered on the design of the SPARK instrument, as this was not the focus of the study.

Given that coherence, not fragmentation, ensures that all people and systems in an organisation move towards the same direction, coherence would be important in the alignment of efforts to support the achievement of intended outcomes.

Fullan et al. (2016) wrote that the condition that undergirds coherence is shared depth of understanding about the purpose and nature of the work (Fullan et al., 2016). Fullan et al. (2016) advocated that the key pillars in the work of promoting coherence are: focusing on the direction, cultivating a collaborative culture, deepening learning and securing accountability. The authors also cautioned against viewing coherence simply as structure, alignment and strategy. Notwithstanding the last point cautioning the use of structures, it is probably still useful to ensure that the concept of coherence is embedded in the SPARK instrument while bearing in mind that the promotion of coherence can be achieved through promoting shared depth of understanding about the purpose and nature of early childhood education, and cultivating collaborative cultures which have been included in the conceptual framework of this study.

10.2.5 The policies of the headquarters had impact on daily operations

Routines that have been put in place in the Funded kindergartens helped to facilitate the daily operations of the centres.

By specifying routines that kindergartens in the chain had to follow, the Funded chain headquarters set what they deemed as the minimum

infrastructure for teaching and learning. Thus, at Centre F6, even though the principal's leadership could not be felt, the daily operations went on in an orderly manner. This concurs with Adler and Bory's (1996) finding that formalization of work processes supported consistency and quality assurance.

The other policy emanating from the Funded chain headquarters that had an impact on the learning at the centres was the mentoring scheme put in place for the principals. The funds provided by MOE enabled the Funded chain to have mentors for the principals. In the interviews, the principals had alluded to the point that their mentors brought with them vast experience and knowledge of best practices from MOE schools. There was a hint that who the mentors were made a difference but as this was not studied explicitly, this could not be confirmed based on the evidence gathered. This matter could be the subject of further study.

To further support the capacity building of the kindergartens, the Funded chain headquarters could consider refining its current routines to move the kindergartens forward. For instance, the Funded chain could consider including as policy/routine some of the following: regular professional dialogue, a system of relief for teachers who are away attending courses. The Funded chain may also want to ensure that there is sufficient administrative support for principals so that more of the principals' time can be freed up for staff and children's learning.

10.3 Funding and infrastructures for professional learning

10.3.1 Funding enabled the setting up of some infrastructures and a greater variety of learning opportunities for teachers and principals

The funding arrangement for the Funded kindergarten chain was another macro level structure that played a part in the capacity building.

The survey findings showed that principals from Funded kindergartens were involved in a significantly greater number of categories of training and professional activities than principals from Non-Funded kindergartens. Going by the accounts of the principals in the multi-case study, another important structure made possible by funding was the setting up of system-wide mentoring which had contributed much to the leadership development of the principals in the Funded chain. These have been discussed in [Section 5.4.2](#)

On the learning of principals, although principals of Non-Funded kindergartens were better qualified professionally than their counterparts in Funded kindergartens, with many more having degrees, continuous professional development is nonetheless an important part of change management (Fullan, 2010), and thus need to be provided for.

Comparing the professional development of teachers across the Funded and Non-Funded sectors, it appears that teachers in Funded kindergartens also had more opportunities compared to their colleagues in Non-Funded kindergartens as many more Funded kindergartens had the policy of providing at least 30 hours of training for each teacher. As discussed in [Section 6.6.1](#), the lower frequency of learning needs analysis in Non-Funded kindergartens could also be linked to not having sufficient funding.

If the differences in learning opportunities between Funded and Non-Funded centres teachers and principals persist, the cumulative effect may be substantial. The difference in opportunities offered to teachers for continuous professional learning may also fuel cross movement of teachers across the Funded and Non-Funded sub-sectors and contribute towards discontinuities in the sector.

Having to meet targets set by the funding body provided impetus for the Funded kindergartens to seek improvements. As a condition for funding, the Funded kindergarten chain were to:

- Raise the quality of the kindergartens and have a certain percentage of kindergartens succeed in SPARK certification, and

- Provide opportunities for professional development of staff and meet a target number of hours of professional development for an agreed upon percentage of staff (Refer to [Appendix 19](#)).

As some standards of professional practice including those on curriculum leadership and professional development of teachers have been included in the SPARK tool (Refer to [Appendix 5](#)), the funded chain made an effort to meet these targets. Thus, it was not surprising that the Funded kindergartens were also more likely than the Non-Funded kindergartens to have met standards on curriculum leadership and professional development of teachers. A few examples of these standards have been provided below.

Table 10.4 Responses to several SPARK standards by Funded and Non-Funded kindergartens

Code	Emerging Standard	Research Finding
2.1C	Centre leaders carry out annual action planning	The planning of curriculum has been routinised in the Funded kindergartens (all belonging to the same chain).
3.1B	Every new teacher is guided by a more experienced teacher in the centre	Funded kindergartens rated peer observation as significantly more important than the Non-Funded kindergartens
3.2A	Centre involves staff in developing yearly individual professional development map through identifying their strengths and weaknesses	Funded kindergartens were 3.39 times as likely to have a training needs analysis for teachers

However, although the targets set for the Funded centres may have served to incentivize the Funded chain to work towards meeting minimum standards through routinizing some processes, there was also evidence that these standards were met in form and not always in spirit. For example, although the Funded chain required the principals to meet the staff during the term break to review the curriculum of the previous term and to plan the curriculum for the new term, there appears to be some confusion over what should actually happen during these sessions.

10.4 Philosophies, mindsets and culture associated with learning

10.4.1 Management board members were barriers to staff professional learning

In the multi-case study, principals of both F3 and F5 mentioned how some management board members had affected the deployment of resources at their centres.

Principal of F3 spoke about previous unsuccessful attempts to secure a budget for professional learning of teachers. This example illustrates the mindset that teachers need no further training once they have acquired their basic qualifications, a mindset that is not appropriate in the current evolving global environment and especially for the professionals involved in the education sector. The explicit requirement in SPARK for centres to provide for teachers' professional development played a part in overcoming this barrier.

Principal of F5 spoke about the lack of support from management board members who had little understanding of what was needed in leading a kindergarten and as a result of the lack of support from them, she lost confidence as a leader.

These two examples may not be sporadic, and may even be the tip of the iceberg. As management board members have a substantive role in the deployment of resources at their centres, it is important that they too are adequately prepared for their roles. Thus, this area deserves targeted study, and if necessary, some regulatory measures requiring management board members to be adequately trained can be put in place.

10.4.2 A culture of performativity that exist in some kindergartens may not favour the learning of staff

A culture of performativity is said to exist in an environment where comparisons are frequently made, displays are common, and where rewards and sanctions are frequently used as means of motivation (Ball, 2003).

Evidence of a culture of performativity was found in some kindergartens and these have been provided in Chapter 6. In this section, the question of why performativity had taken shape will be discussed. Before going into a discussion of the possible reasons for this culture of performativity, the evidence on performativity is first summarised as follows:

- Bonuses are used to encourage and affirm good performance. Being in a position to decide on bonuses of teachers accentuates the power difference that already exist between principals and teachers;
- Three out of four top ranked strategies for professional development were individual learning strategies involving an asymmetrical relationship where someone of authority was in a helping relationship with the teacher and there was very little group learning;
- Reflection templates were filled out by teachers and filed as this was a required routine. Little effort was put into the reflections by the teachers, and few principals read the reflections or followed-up on the points in the reflections. The focus is on getting the job done and not necessarily to address the intent and purpose of the job;
- Headquarters directed changes including daily routines that have been incorporated into the work schedules in the Funded chain.

The factors that might have contributed to a culture of performativity in the Funded chain can be interpreted from the interview of Funded chain headquarter staff. The Funded headquarter staff explained that the chain was trying to improve standards but as centres had limited capacity to initiate change, the headquarters had decided to direct some changes at the kindergartens using a top-down approach. The headquarter staff was of the view that overtime the principals and teachers would be able to understand the underlying intent of the processes, develop insights to customise the processes to meet local needs. Her explanation rests on the belief that learning will somehow take place when people acquire experience.

Going by Kolb's (1973) Experiential Learning Model to inform us of the learning process starting with concrete experience, it appears that some conditions for concrete experiences to result in learning were not present in

the Funded kindergartens. In Kolb's (1973) learning model, the learner involves herself fully, openly, and without bias in the new experience. She must be able to reflect on and observe these experiences from different perspectives. Next she needs to be able to integrate these reflections into a theory of practice and apply this theory as she makes decisions while teaching. However, the findings of this study suggest that the conditions for translation of experience to learning may not be present in some kindergartens. As mentioned in the previous section, there are gaps in reflection and group learning which are important for concrete practical experiences to be made meaningful and be internalised.

The constant assessment of performance found in some kindergartens may even have detrimental effects on the learning of the teachers. Just as the children need a safe and nurturing environment to learn in, teachers too need a safe and non-judgmental environment to develop in. Research has shown that teachers learn effectively in a trusting, non-hierarchical environment (Carnell, 2001 in Bubb and Earley, 2007). Constant assessment of performance if not balanced with an equally strong emphasis on development and learning, and if not supported by strong relationships and a nurturing environment may result in teachers losing motivation and confidence. Professional learning needs to be given an important place in kindergartens.

Thus, until infrastructures in support of learning are more comprehensive, and until the establishment of infrastructures and other efforts bear fruit in nurturing a learning environment, top-down efforts and rewards and incentives may just help provide short-term gains in capacity.

As top-down initiatives and the interaction between teacher learning, performance management were not the specific foci of this study, insufficient evidence was collected for conclusions to be made. A follow-up study could be designed to study this further.

10.4.3 Teachers were not entrusted to decisions even though these were related to lesson plans

Through the multi-case study it became evident that while teachers were involved in planning, they were not often involved in decision-making. Decisions involving lesson plans for the class, and even revisions to lesson plans, had to be approved by the principals.

As discussed earlier, by not giving teachers the opportunity to make class based decisions such as those involved in lesson planning, the kindergartens are compromising the professional learning of teachers and not helping in the leadership preparation of would-be principals. There is growing evidence suggesting that involvement of individuals at all levels and in all domains of an organisation is important for negotiation of change (Spillane et al., 2001). There is also recognition that involvement of staff in decision making allows perspectives at different levels to be gathered and considered in decision making (York-Barr, 2004), resulting in greater ownership and commitment to organisational goals (ibid.). Teacher knowledge is also enhanced (ibid.), and when aggregated at the system level, this means building leadership and creating a pipeline of future leaders.

One reason floated by the Funded headquarter staff as a possible explanation for the phenomenon of principals consulting their staff but not allowing them to make decisions was the generally low qualification of teachers and high expectations of parents. The situation in NF2, although not a Funded kindergarten, is also illustrative of this situation. The interaction of two factors, low teacher qualification and high parental expectation, created a situation that appeared to have left the principals with little choice but to monitor the teachers closely and make all decisions at the Centre so that they can be sure that parents' expectations are met.

Another reason could be that some principals embrace the culture of performativity, that principals themselves were more concerned about outcomes than process.

However, the principal of F2 showed us that while the young teachers in her kindergarten were monitored closely, they were also involved in making collective decisions regarding lesson plans through the lesson study approach. The teachers were also interacting face-to-face with parents daily and giving accounts to parents on the concepts and vocabulary introduced to the children every week. The teachers felt empowered in this environment although they confessed that they had to work very hard.

Although the contexts across kindergartens differ, power differences between teachers and parents exist and can have an impact on classroom level teaching and learning decisions. However, principal of F2 showed us that young, inexperienced teachers when carefully supported can be empowered to make decisions collectively.

That the principal of F2 had emphasized professional learning of teachers need to be underscored. In addition, she had integrated guidance and with monitoring of the children's learning, and accountability to parents effectively. In so doing, principal of F2 had fulfilled two principles that Alexandrou and Swaffield (2012) had outlined for development of teacher leadership. The first principle was to focus on learning, with the learning of the children as the ultimate goal but also making explicit the need for teacher professional learning and development. The second principle was creating conditions favourable to learning, giving attention to social and cultural conditions. The latter was achieved through the weekly level meetings facilitated by the principal herself.

10.5 Principals' backgrounds and leadership development

10.5.1 Qualifications and duration as a teacher played a part in explaining the differences in leadership

Principals with more than ten years of classroom experience in the role of a teacher rated "Coaching/Mentoring" as a significantly more important

strategy for teacher professional development at their kindergarten than principals with less experience. One possible explanation is that Principals with 11 or more years of experience had the benefit of rich teaching experience and were therefore more comfortable coaching/mentoring teachers.

One of the findings of this study was that principals who had a degree were more likely than principals without a degree to guide teachers in their work for more than ten hours a week. Principals who had a degree were also more likely to have dialogue sessions with parents. It appears that qualifications did contribute to some variations in leadership for learning.

There was a significant difference in the percentage of ECCE degree holders for Non-Funded kindergarten participants (63%) and Funded kindergarten participants (37%). There was also a significant difference in the years of teaching experience between the principals of the Funded and Non-Funded kindergartens with about 45% of the Non-Funded principals and 30% of the Funded principals having more than ten years of experience in the role of a teacher.

Prior working experience appeared to also have played a part in leadership practices. As illustrated by the principals in the multi-case study, the principals applied skills acquired through previous work experiences in their role.

The findings suggested that qualifications and experience probably played a part in principals' leadership practices. This is in keeping with Bourdieu's (Lingard and Christie, 2003) believe that how individuals respond to a given situation depends on 'habitus', the product of individual history, the collective history of family, class, and gender, and that it predisposes the individual to respond in particular ways to different stimuli.

The findings on principals' qualification and experience are also in line with Sylva et al.'s, (2003) study on effective provisions of preschool education in the United Kingdom where qualifications and experience of the leader was found to make a difference to the quality of children's experiences. As

differences in the backgrounds of the principals appear to explain some differences in leadership practices, it is a topic that deserves closer study.

10.5.2 Leadership training that was out of sync with opportunities for field practice and the absence of sufficient numbers of good leadership role models were issues

Although all principals had acquired the Diploma in Early Childhood Care and Education (Leadership) or DECCE(L), at least three principals in the multi-case study conveyed that they were not well equipped to play their roles. Principal of F5 mentioned that her understanding of leadership took a quantum leap when she was mentored by a cluster principal. That mentoring of leaders was important for leadership development concurred with findings on education systems known to be effective in principal preparation and on-going professional development. Researchers who have studied these systems concluded that mentoring was an important feature of these systems (Darling-Hammond et al., 2010). The shortage of good leadership role models in the ECE sector in Singapore may be the reason for feelings of inadequacy expressed by the principals. As the ECE sector in Singapore was limited in its ability to attract good leaders and provide support for their leadership development, there were few principals who could be held up as role models and consequently principals did not have imageries of good leadership.

The absence of leadership opportunities for potential leaders given the flat organisation structure and the lack of empowerment for teachers to make class level decisions probably did not help leadership preparation and development as well. One characteristic of exemplary leadership development programmes is well-designed and supervised internships that allow candidates to engage in leadership responsibilities for substantial periods of time under the tutelage of veterans or experts (Darling-Hammond et al., 2007 in Schleicher, 2012). The lack of opportunities for potential principal candidates to have leadership responsibilities as they progress in their career and the lack of guidance during the initial stages that potential

leaders are given responsibilities are thus areas that would require further study.

The question that had arisen on leadership preparation was whether the DECCE(L) training was adequate. The fact that training was part-time may not have been an ideal arrangement as the participants would have had to attend to both work and learning concurrently. That leadership preparation took place long before a teacher was ready to play the role of principal could have affected their appreciation of leadership theories as the teachers would not have practical experience to support their learning of theory. As the nexus between theory and practice is critical for leadership preparation, the poor timing of leadership training could have contributed to the lack of impact of leadership training. Research on leadership preparation has shown that internship, where principal trainees get a chance to integrate theory and practice, seem to be central to the most powerful leadership preparation designs (Darling-Hammond et al., 2010).

10.6 Summary of findings

Overall, findings from this study suggests that most principals appear to be managing daily operations executing routines rather than leading innovation or change at their kindergartens. The key findings discussed in chapters 5, 6, 7, 8 and 9 are summarised as follows:

- More than 90% of principals participated in professional development activities in the three years prior to the study, with principals from Funded settings participating in significantly more training activities and in activities from more categories compared to principals from Non-Funded settings. Principals from Funded settings also had the benefit of a mentoring scheme which had contributed to the principals' leadership development.
- The most common area for development of teachers was SPARK. There was evidence to suggest that staff professional development was

dynamically tied to the changing needs of the larger environment. Principals viewed observing teaching, convening post observation discussion with teachers and having termly dialogues on curriculum as most important professional learning strategies for teachers. Generally, individual learning opportunities were ranked higher than group learning opportunities. Some infrastructures, for example, a policy commitment to providing at least 30 hours of training for each teacher, protected time for regular professional conversations, a system of relief teachers and funding for professional development of teachers were not always present. In fact, 60% of centres did not have a policy for a minimum of 30 hours of professional development of for teachers. Organisational learning was seen where the principal played an active role in teaching and learning.

- The broader tenets of leadership such as the philosophy, values, mission and vision were sometimes not linked to strategic plans, and strategic plans were sometimes discussed separately from the curriculum. Shared action goals, rather than a shared vision provided the basis for collective action at some centres.

- A centre-wide learning culture was found in some centres. Although the idea of sustaining a culture for learning did not surface in responses to the survey and interview sessions, there appears to be trust between the teachers and principal wherever there was an effort by the principal to involve the teachers in planning. Generally, there were meaningful collaborations among staff but these collaborations depended on the principals' constant brokering. The need for the principals' constant brokering may be related to their unwillingness to allow teachers to make decisions as well as teachers' reluctance to partake in decision making. Teachers' influence over their own work appeared to be achieved through providing of views when consulted, and the actual enactment of lessons. Formalisation of work processes by the Funded chain headquarters appeared to have supported learning at the centres. However, these work processes need to be discussed and reviewed regularly for them to serve the centres well.

- The idea of alignment of purpose, plans and actions was not pursued systematically. Where there was a clear philosophy and mission, as in the case of a Centre that had adopted a well researched programme and tested management practices, there were more evidences of coherence of purpose, plans and actions. The absence of a deliberate and systematic approach to achieving coherence may be associated with the lack of attention to the broader tenets of leadership (philosophy, values, vision, mission) in regulatory or quality assurance documents.
- Principals spend about 40% of their time on core teaching and learning activities, 40% of their time on administrative activities and 20% of their time on administrative work associated with teaching and learning. Principals from Non-Funded kindergartens spend significantly more time on Core and Support activities than principals from Funded kindergartens. Funded kindergartens were less likely to have parenting talks and weekly two-way communication with parents as compared to their counter parts in the Non-Funded kindergartens.
- Principals', children's, teachers' and kindergartens' backgrounds all played a part in explaining the differences in leadership practices. Perhaps the points that are noteworthy are the following:
 - o Principals with more than ten years of classroom teaching experience rated coaching and mentoring as a significantly more important strategy for teacher professional development compared to those with less than ten years of teaching experience.
 - o Principals with a degree were 1.889 times more likely to guide teachers in their work for more than ten hours a week than principals without a degree.
 - o Principals with a degree were 1.8 times as likely to have at least two dialogue sessions with parents a year.
 - o Funded kindergartens, by virtue of the funding provided, were able to have a policy committing to providing at least 30 hours

of training for teachers annually. Principals of Funded kindergartens were also 3.39 times as likely as their counterparts in Non-Funded kindergartens to carry out training needs analysis for their teachers.

- Funded kindergartens had a mentoring scheme for principals which was found helpful by principals.
- Non-Funded kindergarten principals were 2.92 times as likely as their Funded kindergarten counterparts in having weekly two way communication with parents compared to their Funded counterparts. They also appear to have more talks for parents, and use the website to communicate with parents.
- Teachers with less teaching experience may have difficulty with pedagogies that require more spontaneous responses from them.
- Parents with higher qualifications appear to favour a learning approach that provides more opportunities for the children to explore the learning environment.
- More Funded kindergartens have a group of children whose main care-givers are grandparents or domestic helpers.
- Principals appeared to be responsive to changes in the macro environment, for example, the introduction of the accreditation system, SPARK.

These findings are associated with the four recurring threads discussed in this chapter namely:

- Macro level structures influencing capacity building at centres;
- Funding and infrastructures for professional learning;
- Philosophies, mindsets and cultures associated with learning; and
- Principal's backgrounds and leadership development.

Macro level structures such as SPARK played a part in building the capacity for learning in some centres. SPARK provided a management framework for

principals while SPARK certification raised awareness of quality. At a broad level, there was some correspondence between the underlying constructs of the SPARK instrument and the conceptual framework of this study. However, meeting emerging standards on the SPARK instrument is probably not sufficient to position the kindergarten onto a self sustaining path of development. The SPARK instrument provided limited guidance on centre infrastructure for staff professional learning and no explicit guidance on coherence in purpose, plans and actions.

Funding provided to the Funded kindergartens enabled the setting up of some infrastructures and a greater variety of learning opportunities for teachers and principals.

Mindsets of management board members were barriers to professional learning in some instances. A culture of performativity was found in some centres.

The principals' qualifications and duration as a teacher played a part in explaining the differences in leadership practices. Leadership training that was out of sync with opportunities to practice did not allow learning of theory and practice to be more integrated. This issue has been addressed with the termination of this leadership preparation approach and the introduction of a new leadership training approach.

10.7 Making the next lap in leadership for learning

10.7.1 Multi-pronged approach to build capacity for learning

In this section, a multi-pronged approach, tapping in on current affinities and strengths of the sector, involving strategies targeting at both the centre level and the macro environment level have been proposed to build the capacity for learning. The proposed strategies take into account recent developments in the early childhood scene in Singapore including the setting up of the Early Childhood Development Agency (ECDA) as the single agency to monitor and

regulate both kindergartens and CCCs, and efforts made by ECDA to promote professional development of teachers. Figure 10.1 provides a visual representation of this approach. The proposed strategies address kindergarten level gaps identified in this study based on the conceptual framework adapted from Youngs and King (2002) as well as inadequacies in the macro environment related to kindergarten level gaps.

The inner circle represents the kindergarten while the outer circle represents the macro-environment. Within the kindergarten, the three corners of the triangle point to a three-pronged approach to address the gaps in capacity building at the kindergarten level. Within the macro-environment, there is also a triangle to represent the three-pronged approach needed at the macro level to provide the support for capacity building at the kindergarten level.

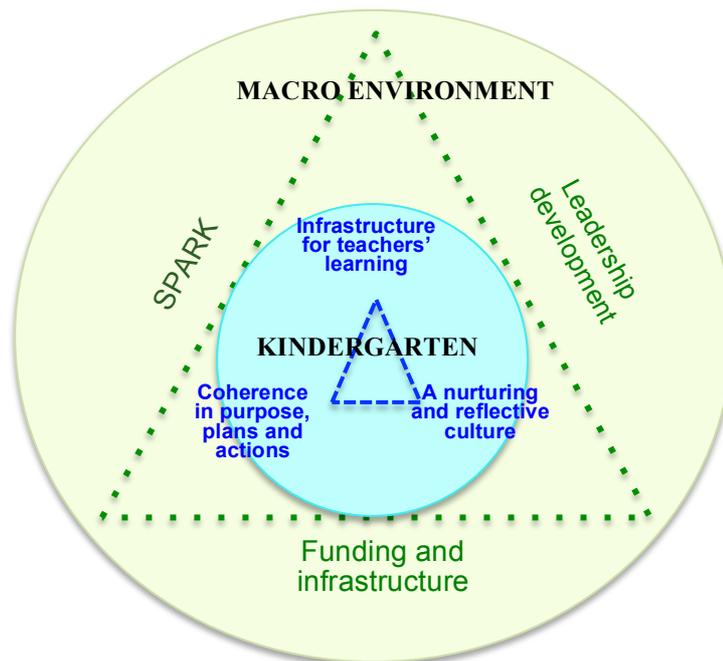


Figure 10.1 - Multi-pronged approach to address gaps in building capacity for learning

Kindergarten level strategies

At the kindergarten level, a three-pronged approach described below is proposed. The three prongs are:

- Building infrastructures for professional learning of teachers. These infrastructures include but may not be limited to developing a policy for a certain number of hours of professional development for teachers, scheduling regular meetings for group learning, building a pool of relief teachers and ensuring that there is a budget to cover the cost of hiring the relief teachers to fill classes when teachers are away attending courses.
- Ensuring coherence in purposes, plans and actions. Coherence allows efforts and resources to be channelled to achieve the intended purpose and prevents the dissipation of energy in areas that do not serve the purpose and is a necessary condition for optimizing the use of resources and growth. Beyond understanding the need for coherence and what it means, there is need for strategies to be put in place for this change to be made. Strategies to ensure coherence include firstly, the insertion of standards on coherence in the SPARK tool, which will be discussed in the next section, secondly, having clearly defined mission and purpose, and a philosophy congruent with the mission and purpose, thirdly, having sufficient time for the discussion of mission and purpose. Fourthly, there is need for these work plans to be enacted, and fifthly, for enactment to be refined through reflective practice.
- Developing reflective practice and a nurturing environment. Just as children require a safe environment to learn in, adults too require a safe and nurturing environment to develop in. An environment that is overly judgmental or one that focuses on measurement of performance may have detrimental effects on the learning of the staff and the culture of the entire centre. There is a need to balance advocacy with inquiry and for the process and outcomes to be viewed holistically. This is no different from the learning and development of

the children. To encourage the teachers to learn, centres need to go beyond reflection done cursorily and recorded haphazardly on a template that gets filed away never to be read again, to an environment that values reflective practice.

This three-pronged approach for the kindergartens involves three strategies, each addressing a gap in the corresponding dimensions in the conceptual framework. Should all the strategies be adopted concurrently or should they be adopted in stages? These strategies can be applied individually or together depending on availability of resources. However, these strategies are proposed for addressing the current gaps, thus they need to be implemented together with the strategies that are already in existence.

Macro-level strategies

Some macro-level drivers are necessary to support the efforts at the kindergarten level. The 3 macro-level strategies proposed as levers for capacity building of the sector have been provided below:

- Funding and infrastructure for professional development. The findings suggest that the lack of funds had limited the professional development options for Non-Funded kindergartens. Providing funding to these kindergartens for the professional development of teachers is one option but this option depends on the support of board members. Thus, a better option may be for ECDA to continue to organise CPD courses with teachers and principals giving their inputs actively so that the courses can cater to the needs of both teachers and principals. Another set of infrastructures to consider is the setting up of a mentoring system and communities of practice for principals. The former would allow principals to tap on expertise outside of their centres to support them while the latter allow principals to tap on peers with similar interests. These could be facilitated centrally by a professional body such as AECES¹⁹ and be subsidized through membership.

¹⁹ AECES stands for the Association of Early Childhood Educators, Singapore

Another infrastructure to consider is for ECDA to require each centre to set up a relief teacher system so that teachers can be released for professional development courses. This could be established through regulatory measures or SPARK. Yet another infrastructure to consider setting up is a system to equip management board members with some knowledge on management of early childhood education.

- SPARK. As mentioned previously, there was broad correspondence between the SPARK instrument and the conceptual framework for capacity building of centres adopted by Youngs and King (2002). In addition, the kindergartens appeared to have accepted SPARK and had sent teachers for courses associated with SPARK. Given the kindergartens' willingness to embrace SPARK, there may be room for the SPARK system to be further capitalised on for capacity building. As mentioned in previous sections, the SPARK tool could be fine-tuned especially for standards associated with infrastructures for professional development of teachers, and coherence of purposes, plans and actions to support capacity building.

- System of leadership development. The system of leadership development, which involves teachers who are yet to be in leadership positions to attend the leadership course, does not allow the learning of theory and practice in an integrated manner. ECDA has recently discontinued the leadership course mentioned above and has developed a new course for leadership development offered to those who are on the brink of taking on the principals' role. This model of just in time training where trainees can learn theory, and have the opportunities to integrate theory with practice is likely to be more helpful for leadership preparation. In addition, as mentioned earlier, there is need for incumbent principals to actively look into grooming their teachers for leadership roles, and this can begin with entrusting teachers with good potential to classroom level decisions and then moving them progressively to decisions of wider impact. These are in line with the growing literature on the value of teacher leadership.

As with the kindergarten level proposals, these macro-level strategies have been proposed to fill gaps. By themselves these strategies are not sufficient to support capacity building. The assumption made when proposing these strategies are that the current arrangements for regulation, accreditation, professional development and funding continue, and the other factors that contribute positively towards capacity building, such as the compact between kindergartens and their teachers remain. The assertion made here is that the kindergarten level strategies and the macro-level strategies together with all the other arrangements in the landscape would provide the support needed to build the capacity for learning.

CHAPTER 11 Conclusion

11.1 Introduction

In this final chapter, the conceptual framework adopted and research design will be revisited, limitations of the study will be highlighted, findings will be summarized, contributions of the study to knowledge building will be discussed, and questions for further investigation will be suggested.

11.2 Revisiting the purpose, conceptual framework and research design

The research aim was **“To understand how kindergarten principals in Singapore seek to build the capacity for learning”**. Capacity for learning referred to here is the ability to provide for the learning of the children. A kindergarten that is building its capacity for learning would put in place practices to better its ability to provide for the learning of the children.

An important theoretical link between what the principals do and the learning of the children is in the professional development of teachers. This theoretical link is based on a growing body of knowledge connecting the learning of the teachers and the learning of the children. Evidence of this link has come from the empirical work of several groups of researchers including Elmore (2000), Knapp et al. (2003), Robinson et al. (2008), Sammons et al. (2005), Silins et al. (2002), Youngs and King’s (2002) in the school sector, and Siraj and Manni (2007) in the early childhood sector.

Apart from the professional development of teachers, researchers like Leithwood et al. (2008), Robinson et al. (2008), Siraj and Manni (2007), Youngs and King (2002) have pointed out that leadership practices that

nurture a culture that is supportive of learning and leadership practices that manage the children's programme of learning are also important.

Youngs and King's (2002) framework was adopted as it included all three areas or dimensions found to be important in providing for the learning of the children: professional development of the teachers, nurturing an environment supportive of learning, managing the children's programme of learning. In addition, Youngs and King's (2002) model also took into account the leaders' skills, the school environment and the interaction between the different dimensions. This model was presented visually in [Figure 3.1](#).

In adopting this model, a decision was made to leave out "technical resources", which included funding, as the components of "technical resources" were not amongst the important leadership practices highlighted in the work by other researchers. Another consideration was that technical resources (of which funding is part) were often not within the control of the principal.

Based on the conceptual framework adapted from Youngs and King (2002), four research questions were framed. The first three focused on each of the following: professional development of the teachers, nurturing an environment supportive of learning, managing the children's programme of learning. The fourth was a "catch all" question drafted to include points which may not have been included in the conceptual framework.

The conceptual framework adopted

It was not the intent of this study to validate the framework, thus no attempt was made to validate the conceptual framework. However, some findings did suggest the need to review the conceptual framework that had been adopted. For example, although no data was specifically collected for 'building technical resources', the findings pointed to the lack of funding as a limiting factor in providing for the professional learning of the teachers at some kindergartens. Funding was necessary in order to formalize structures and activities, and where funding was lacking or in short supply, infrastructures could not be formalized and arrangements had to remain ad

hoc. Thus, on hindsight the dimension on 'building technical resources' should have been included as part of the conceptual framework of this study, and data should have been collected for a more complete understanding of the issues associated with funding. However, adding another dimension to the study would inadvertently add to the complexity of the study and may overstretch the resources and time available to a doctoral project.

Another point about the conceptual framework is related to the macro environment. While the conceptual framework provided a useful lens to study capacity building within kindergartens, it did not cover the interactions between the kindergartens and the macro environment. As the findings suggest, the kindergartens operate within a larger environment and principals' leadership responses are sometimes influenced by changes in the larger environment. Responses of some principals is likely to influence their peers and possibly policies in the larger environment although this was not investigated in the study. That responses in the macro environment and the units with the environment, such as kindergartens, interact is consistent with Systems Thinking (Senge, 1990). A conceptual framework that has incorporated the macro environment might have provided a different lens to interpreting the data on leadership within the kindergartens. This could have been significant especially as there have been aggressive changes in the macro environment in the last eight to ten years.

Figure 11.1 suggests how the macro environment might be integrated with Youngs and King's (2002) framework.

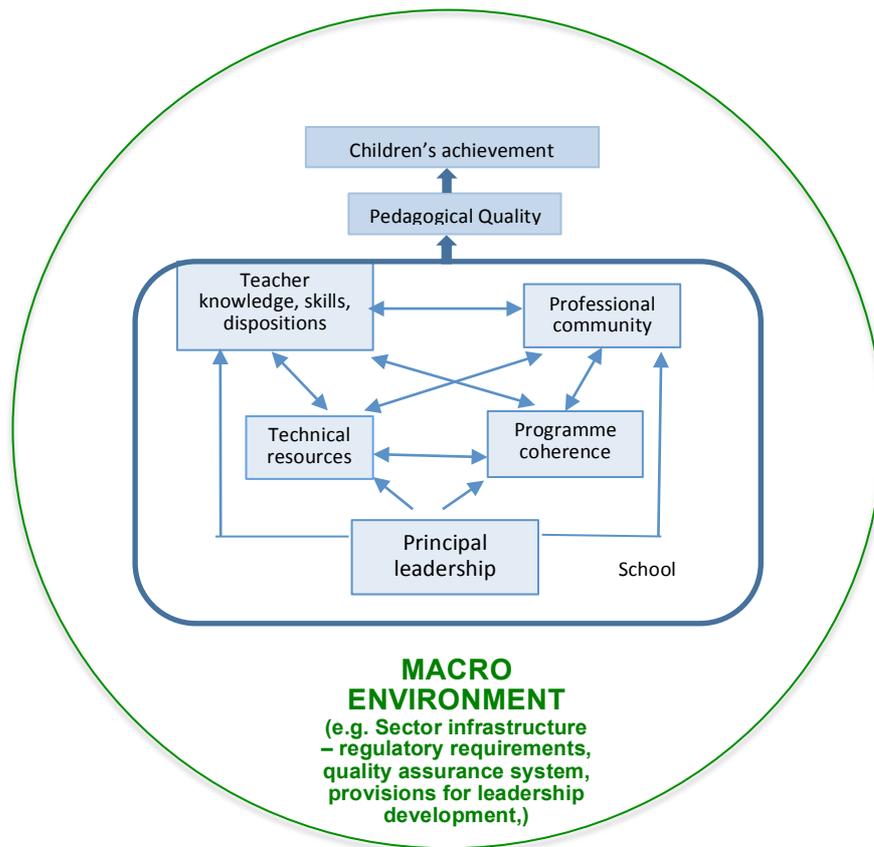


Figure 11.1 - The macro environment integrated into Youngs and King's (2002) theoretical framework

The findings from the survey and multi-case study showed that interactions of the different dimensions as represented in the conceptual framework took place. Some examples of these interactions have been listed below.

- *Between “Principal leadership” and “Teacher knowledge, skills, dispositions”*: Principals with more years of teaching experience rated coaching/mentoring of teachers as a significantly more important strategy for teacher development; Principals with degrees were associated with spending more than ten hours a week guiding teachers.
- *Between “Teacher knowledge, skills, dispositions” and “Professional community”*: The principals’ perception of the lack of skills of teachers deterred them from allowing teachers to decide on changes to the lesson plans. This encourages a pattern of communication with the

principal at the centre and does not facilitate peer communication and peer group decision making.

- *Between “Programme coherence” and “Principal Leadership”*: A well-researched programme such as that in a Reggio or Montessori programme with a clear philosophy and purpose guiding the design of the learning programme coupled with a set of well thought through processes for programme delivery and teacher professional development is inherently coherent. When a principal implements such a programme and adheres to the implementation principles of the programme, the coherence of the programme is taken care of.
- *Between “Technical resources” and “Teacher knowledge, skills and dispositions”*: The lack of or short supply of funding limited the setting up of infrastructures to support the learning of the teachers.

Research design

A mixed methods approach was adopted. A manual survey was designed to obtain information on prevalent leadership practices while a multi-case study was planned to examine the context within which different leadership practices were enacted, to provide information on what actually happens and thus give granularity to the findings, and to surface points that might not have been part of the conceptual framework. The survey and the multi-case study together provided the breadth and depth in scope to answer the research questions comprehensively. The survey and multi-case study were treated as two equal concurrent parts although in actual practice, research activities had to be spread out temporally as the researcher was working alone most of the time.

Reflecting on the research methodology, adopting a mixed methods convergent model and giving equal weight to the findings from the two parts of the study had allowed this study to take advantage of both the inductive and deductive lenses. The two parts of the study, were seen as complementary, and the findings from the two parts were taken together to provide a description of the landscape. They were not two sequential parts where the earlier part would define the scope of the later part.

Substantively, the use of a convergent model has allowed information not included in the conceptual framework to surface. This is an important methodological consideration in an exploratory study.

The scope and design of the study

The empirical data has provided a broad picture on how the principals exercised leadership for learning as well as what they have done to build the capacity for learning. Nevertheless, there were several imperfections. What might be the limitations associated with the scope and design of the study? How might the research methodology for this study be strengthened? Some limitations associated with the scope and design of the study have been listed below.

- Data collected on how the teachers and parents experienced the leadership was limited to the multi-case study and within the multi-case study to interviews of three teachers and three parents. With more time and resources, a teacher survey and / or a parent survey could have been designed and administered to a representative sample of teachers or parents, or administered to the teachers and / parents of the multi-case study to strengthen the data on the teachers' and parents' perspectives of the leadership provided by the principals.
- In the case studies, the details provided of individuals and centres were selective in order to protect the identity of the participants. This limits the richness of the case studies and the inferences that a reader can draw on the applicability of the findings to other settings.
- SPARK scores reflect processes and not outcomes. SPARK scores were used as a proxy for quality learning in the multi-case study because establishing the learning outcomes of children across seven centres would have been a labour intensive endeavour and would have increased the complexity of this study. Given more time and resources, data on learning outcomes could have been collected and used as an indication of quality.
- Another limitation was the response rate of the Non-Funded kindergartens. With 60 principals from Non-Funded kindergartens

responding to the survey, the small number of data in each cell limited the range of analyses.

11.3 Contributions of study

This study has provided information to the Singapore audience for the planning of support measures for the development of the ECEC sector. A summary of the findings has been provided in [Section 10.6](#).

These findings could be useful background knowledge in the design of policies on funding, professional development of principals and teachers, and building of systems and structures to support capacity building.

A multi-pronged approach with kindergarten level and macro level strategies has been suggested to address key gaps based on the findings. Among the macro level strategies are providing funding and building infrastructures for professional development of teachers, building a system for leadership development, and leveraging on SPARK. As the underlying construct of SPARK maps broadly over the conceptual framework for capacity building, and as SPARK has been found to have influenced leadership practices, SPARK is a potentially important means for building capacity for learning in the Singapore system. This finding may be of value to policy makers and regulators. At the kindergarten level, the strategies suggested were building Centre level infrastructures for teachers' professional learning, developing reflective practice among teachers and ensuring coherence in purposes, plans and actions.

For training providers, this study has highlighted that the principals' leadership development could be aided by mentors. This together with the suggestion that closer integration of theory and practice was necessary in leadership development and the need to provide site-based leadership development opportunities as teachers progress through their career could be points of consideration in planning leadership training.

For operators of kindergartens, this study has brought to attention the possibility of derailment in capacity building with management board

members who do not have an understanding of education. The finding on board members may not be incidental and should be looked at more closely.

For the principals, this study has provided information on what their peers do to build professional knowledge and expertise of teachers, as well as how they nurture a kindergarten-wide professional community.

For the academic audience in Singapore and beyond, this case study is the first on kindergarten leadership in Singapore at the systems level. It is hoped that this study has contributed towards knowledge building on leadership for learning in the ECEC sector in Singapore and the Far East. Given that several school systems in the Far East including Singapore have been top ranked in the OECD Global Ranking of Education Systems, there may be interest in how the feeder systems contribute towards the success in the school system. This study could provide one perspective of leadership for learning in a feeder system in the Far East.

Just as Singapore has been giving attention to the development of ECEC sector in the last ten to fifteen years, so have countries in East Asia. This study on leadership for learning on kindergartens in Singapore may provide a set of findings that are more culturally specific, for example, the possibility of performativity, and this might alert policy makers and academicians to this same possibility as they develop leadership for learning in their own systems.

Leveraging on the theoretical framework adopted by Youngs and King in their 2002 study, this study has found that building capacity at the kindergarten level is subjected to conditions at the macro level. Hence, a theoretical contribution that this study has made is in adding the macro dimension to Youngs and King's (2002) framework for capacity building.

A validated tool in the form of a questionnaire was developed to survey the leadership landscape. This tool can be adopted and adapted and refined for future use.

Finally, it is hoped that future research students of ECEC leadership may benefit from the information on the considerations behind the research methodology and limitations of this study.

This study has also inspired more questions for future research. This will be discussed in the next section.

11.4 Further questions

Arising from the findings of this study, further questions have surfaced. The list of questions below, which is by no means comprehensive, provides some possible questions for further study.

- *How leaders of effective kindergartens differ from leaders in less effective kindergartens in leadership?* The most effective centres in the multi-case study were Emerging Centres with High Averages with average SPARK scores of between 3.5 and 3.8 out of a scale of 6. The least effective centre was a Below Emerging Centre with an average score of 1.3. The kindergartens involved did not provide a sample that represented the full scale of scores on the SPARK tool, possibly because there are very few kindergartens that have reached the standards defined by the higher scores. With time, proper sampling of centres, and a research agenda to study specifically differences in leadership practices between principals in the more and less effective kindergartens, a study can be designed to answer this question.
- *How do principals of child care centres (CCCs) provide leadership for learning and build capacity for learning?* CCCs and kindergartens in Singapore were set up for different purposes although over time they have developed as agencies with overlapping roles. Whilst teachers and principals have been cross deployed between the CCCs and kindergartens, there are still marked differences in their culture. A parallel study should be carried out to investigate how CCC principals build capacity for learning, modifying the approach adopted in this study.

- *How does prior work experience contribute to leadership preparation? When should leadership preparation take place and what kinds of on-going support should be given to leaders?* At least two strands of investigation can be pursued for leadership development.
 - The findings suggested that teaching experience and academic qualifications explained some of the differences in leadership. The findings also suggested that prior work experience was brought into the work of the leader. It would be useful to understand why these matter and in what situations these matter.
 - The findings suggested the need to examine the timing of leadership preparation and the support for on-going leadership development.
- *In what ways does the performance management system affect the learning of staff?* It appeared from the study that a “culture of performativity” existed at some kindergartens, and this was associated with the performance management system within these kindergartens. It would be useful to study the interaction of the performance management system with teachers’ learning and to establish if a performance management system would be necessary in a situation where teachers are motivated to continue with their own professional learning.
- *What are some levers in the macro environment that support capacity building at the kindergartens?* The focus of this study was on how principals provided leadership at their centres. Findings on the macro environment had arisen as the context within which the principals operated. In short, the macro environment was not systematically studied. It would be useful to study the levers in the macro environment that could support capacity building at the centres.
- *How should SPARK be refined to strengthen its support for capacity building?* One feature in the macro environment that had impacted capacity building was the accreditation system, SPARK. Centres that had good scores for SPARK also had evidence of having many

features of institutions that were building capacity for learning based on the conceptual framework of this study, affirming the value of SPARK. It would also be useful to explore how SPARK could be refined further to support building the capacity for learning.

- *In the Singapore context, what influences the dynamics between parents and teachers?* The dynamics between the parents and teachers at centre NF2 may be just the “tip of an ice-berg”. There may be gaps in the training of teachers, such as not having been adequately prepared to interact with parents, or gaps at the centre such as not having structures to manage the power difference between parents and teachers or even gaps in the macro environment such as not having a clear narrative to demarcate the roles of teachers and parents. As parents are important partners, understanding the dynamics could help in building stronger collaborations between parents and teachers.

11.5 Final remarks

The research questions that this study had set out to answer have their answers in the research findings, albeit the limitations discussed in Section 11.2. Nevertheless, the purpose of this study has been met.

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Appendix 1 – Ethics approval

Institute of Education, University of London

Ethics Approval for Doctoral Student Research Projects: Data Sheet

Please read the notes before completing the form

Project title	A baseline study on how kindergarten principals in Singapore provide leadership for learning		
Student name	Chee Wah SUM		
Supervisor	Professor Iram Siraj-Blatchford		
Advisory Committee members	Dr Sue Rogers Dr Liz Brooker		
Department	Early Years and Primary Education	Faculty	Children and Learning
Intended start date of data collection	15 July 2012		
Funder	Not Applicable		
Professional Ethics code used	British Educational Research Association		

Has this project been considered by another (external) Research Ethics Committee?

If your research is based in another institution then you may be required to submit your research to that institution's ethics review process. If your research involves patients or staff recruited through the NHS then you will need to apply for ethics approval through an NHS Local Research Ethics Committee. In either of these cases, you don't need ethics approval from the Institute of Education. If you have gained ethics approval elsewhere, please detail it here:

No

Research participants

Does the research involve human participants?

Yes, as a primary source of data (e.g. through interviews)

Yes, as a secondary source of data (e.g. using existing data sets)

No *Please explain* _____

If the research involves human participants, who are they? (tick all that apply)

<input type="checkbox"/> Early years/pre-school	<input checked="" type="checkbox"/> <i>Adults please describe them below</i> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;">Kindergarten principals and deputy principals, and stakeholders of kindergartens including teachers, parents, managers, committee members and officials from professional associations and the Ministry of Education.</div>
<input type="checkbox"/> School-aged children	
<input type="checkbox"/> Young people aged 17-18	
<input type="checkbox"/> Unknown	

Research methods to be used (tick all that apply – this information will be recorded on a database of the types of work being presented to Ethics Committees)

Interviews

Systematic review

Focus groups

Experimental research or intervention

Questionnaire

Literature review

Action research

Use of personal records

Observation

Other: Photographs and video clips provided by participants will be used as triggers for individual and group interviews

Institute of Education, University of London

Ethics Approval for Doctoral Student Research Projects:

Planned Research and Ethical Considerations

1. Summary of planned research (please indicate the purpose of the research, its aims, main research questions, and research design. It's expected that this will take approx. 200–300 words, though you may write more if you feel it is necessary)

Aim of Research, Rationale and Research Questions

This is a baseline study on how kindergarten principals in Singapore provide leadership for learning. The study will focus on capacity for learning or learning capacity of the kindergartens. This refers to how kindergarten principals in Singapore create conditions for continuous professional learning among teachers and how they work with their teachers to provide for the learning of the children. As there has been no such previous study, the findings from this study will be a useful source of information for MOE policy makers as they make system-wide decisions to raise the quality of learning for children. It will also be useful information for decisions regarding preparation of potential principals for leadership roles and on-going professional development of incumbent principals.

The key research question is as follows:

How do kindergarten principals in Singapore provide leadership to build the capacity for learning among teachers, and what is the impact of such leadership.

Empirical studies have shown that creating a safe and supportive environment is necessary for on-going learning of teachers. There is also evidence that the personal interest of principals in learning and their involvement in improving pedagogy are important factors in building the capacity for learning. The sub questions are thus as follows: *How do principals*

Sub-question 1: *nurture a safe and supportive environment for continuous professional learning of teachers?*

Sub-question 2: lead in learning?

Sub-question 3: lead change in pedagogy and practice?

Sub-question 4: draw on external resources to build the capacity of their kindergartens?

Research Design

The study will adopt mixed methods and will be conducted in 2 phases.

A questionnaire on leadership thinking and practice related to the 4 sub-questions will be developed and administered to kindergarten principals. Relevant biodata, for example, age range to which they belong, educational and professional training background, years of experience as principal, years of experience as teacher in kindergarten, type of kindergarten (whether government subsidized, mission-based, ethnic-based or private) will also be included in the questionnaire.

The questionnaire will be developed with input from kindergarten professionals in Singapore through 2-3 focus group sessions involving a total of 15-20 principals, teachers, MOE professionals and representatives from professional associations. The questionnaire will be field-tested with 10-15 kindergarten principals. All other kindergarten principals (about 470 in number) will be invited to participate in the survey. The data will be analysed using multilevel analysis to obtain a general profile. The data will also be examined together with extant data available from MOE, for example, composite data from the MOE accreditation of kindergartens.

The second stage will involve a more in-depth study of a few kindergartens. The kindergartens will be selected according to the clustering of the survey data. As it is likely that the data will be clustered according to the 4 kindergarten types, it is envisaged that 8 kindergartens will be selected for the in-depth study, 2 for each kindergarten type representing a stronger and a weaker setting in terms of building the capacity for learning in that kindergarten type. A stronger setting will be one where the principal has done much to nurture a safe and supportive environment for learning and lead the staff in learning while a weaker setting will be one where the principal has done little for this area. A comparison of the stronger or weaker settings across types will surface type-specific differences and issues, while a comparison of the stronger and weaker kindergartens within the type will take care

of type specific issues and give hints on what might work best to build capacity for learning for that given type.

In each in-depth study setting, data will be obtained through one-to-one interviews of the principal, deputy principal and a sample of teachers using semi-structured interviews. The principal will also be observed at work, and interacting with their staff for a period of 2 days. The principal and staff will also be asked to identify documents, photographs, video clips and other artefacts that might reflect the learning culture of their respective settings. At each setting, group interviews will be convened with 4-6 adult stakeholders, like parents and the kindergarten operator, to obtain their perspective on how learning capacity has been nurtured at the kindergarten.

One or two group interviews and/or focus group sessions, using semi-structured interview technique, will also be conducted for MOE officials working with the kindergartens and personnel from professional associations like the Association of Early Childhood Educators Association, Singapore, to understand the macro environmental factors and contextual issues that might have supported or thwarted efforts to build learning capacity.

Reporting and Disseminating of Findings

An information sheet summarizing the aggregated findings of the survey will be prepared and disseminated to participants. A summary of key findings specific to each kindergarten involved in the in-depth study will be given to the principals (with identity of all other participants in that kindergarten protected).

Aggregated findings of the study (with identity of the all participants and settings protected) will be made available to MOE, Singapore.

2. Specific ethical issues

(Outline the main ethical issues which may arise in the course of this research, and how they will be addressed. It's expected that this will require approx. 200–300 words, though you may write more if you feel it is necessary. You will find information in the notes about answering this question)

This study will be carried out in a respectful and sensitive manner. The aims, objectives and processes will be given to all participants in advance. Participation will be voluntary for both the survey and the in-depth study. Confidentiality and anonymity guidelines as stated by the British Educational Research Association in its Ethical Guidelines for Educational Research (2011) will be closely adhered to.

Questionnaire Development. For the participants involved in the survey questionnaire development process, information on the purpose of the survey and details of their participation will be included in the initial invitation. Before the start of each focus group session, the aims and purpose of the survey will be provided again and the roles of the participants will be clarified. Assurance that the information they provide will be used strictly for the purpose of the questionnaire development and that their input will also be made anonymous will be given.

Survey. For the survey, the participants will be invited to be part of the survey and thereafter attend a professional talk. The session will be advertised as a survey cum talk on leadership, with the talk positioned as a token of appreciation for the survey participants. The purpose of the survey will be included in the advertisement for the survey cum talk. An information note including the aims and objectives of the survey will be sent to the participants together with details of the talk. Information that will be made available to the participants in advance will include the following:

That their individual responses will be read by me and my supervisor only, and MOE will only be given aggregated data of my findings;

Pseudo names will be used for quotations and any information that might cause individuals to be identified will be presented in a way that would protect the identity of the participant or not be included in the report;

Participation in the survey cum talk is optional.

In-depth study. For the qualitative study, the purpose of the study, the duration of the visits, the involvement of the staff, and treatment of data will be made known to the principals at a face-to-face meeting. The principals will be told that

The researcher will be interviewing the principal, deputy principal, and observing her at work with her staff, students and parents for a period of 2 days;

Arrangements for all planned interviews will be made through the principal. Participation of the staff and parents in interviews should be optional;

The principal will be asked to highlight to the researcher issues and questions that are sensitive to address to the staff, parents and stakeholders. The principal will also be consulted by the researcher on all questions perceived by the researcher as being sensitive before putting these questions to the staff and other stakeholders. When addressing sensitive questions to the teachers and stakeholders, the researcher will let the teachers and stakeholders know that they don't have to answer the question if they do not feel comfortable to do so.

The name of the setting and names of individuals will not be used in the report, and features of the setting that might allow its identification will not be cited in the report;

The identity of the setting will be protected from all including MOE and only the researcher, her assistant (who is not employed by MOE), and her supervisor will know the identity;

Key findings specific to their setting will be provided to them in the form of a data sheet;

Communication regarding findings of the study to the kindergarten operators, parents and teachers will be made through them. They will decide on how and what to communicate to these stakeholders;

Information given to MOE will be in an aggregated form. Any information about individual settings will be made anonymous;

For the interview sessions, transcripts will be sent to respective participants for checking;

A Research Assistant will be trained and deployed to assist the researcher;

They have the right not to participate in the study and their consent is being sought.

Given the nature of the study, once the principals have given consent, they will also be advised to inform their staff and to take a reading of the level of staff support for their participation.

The principals involved in the in-depth study will also be told that the researcher will run a one-day centre-based workshop for the principal and staff on a leadership related topic of their choice after the research has been completed.

All participants and settings will be told that they can withdraw from participation in any part of the study at any point.

Apart from transparency, confidentiality and anonymity issues, another important issue for the researcher to address is the relationship between the researcher and the kindergartens principals. The researcher, a senior MOE officer on study leave, was overseeing MOE policy decisions on kindergartens in the past and may still be involved in this area of work in the future (unknown at this point). The researcher is known to most principals and may respond to request for participation by avoiding participation or they may feel pressured to agree to participate. If they do participate, they may respond in ways that are different than to a researcher unknown to them. To overcome this difficulty, information authentication will need to be built into the process. A research assistant will be trained and deployed to collect some of the qualitative data. Triangulation of the data collected by the research assistant and the researcher will help authenticate the data collected.

The critical information that will be included in the advertisement for the survey is at [Attachment 1](#) while the information sheet on the study for survey participants is at

Attachment 2.

3. Attachments

Please attach the following items to this form:

- Approval letter from external Research Ethics Committee, if applicable
- Information sheets and other materials to be used to inform potential participants about the research.

-

4. Declaration

I confirm that to the best of my knowledge this is a full description of the ethics issues that may arise in the course of this project

Signed		Date	19/05/2012
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Department Use

Date decision was made: 21/05/2012

Approved and reported to FREC:

Signature of Supervisor:



I Siraj-Blatchford

Signature of Advisory Committee member:



Sue Rogers...

Note for reviewers:

If you feel that a project raises particularly challenging ethics issues, or that a more detailed review would be appropriate, you may refer the application to the Research

Ethics Coordinator so that it can be submitted to the Faculty Research Ethics Committee (FREC) for consideration. FREC Chairs, FREC representatives in your department, and the research ethics coordinator can all advise you informally, either (a) to support your review process, or (b) to help you decide whether an application should be referred to the FREC.

Ethics Approval for a Doctoral Student Research Project

Notes on completing the form

At the Institute of Education, all research projects are subject to ethics review before the project starts. This includes student projects. Reviews for research student projects are conducted by the student's supervisor and a member of the student's advisory committee. If there are particularly difficult issues involved in an application it may be referred on to the Faculty Research Ethics Committee (FREC). Once the advisory panel member has approved the review, the student should be notified that they have received ethics approval and of any recommendations or changes that have come out of the review. The signed form should be forwarded to the Faculty Postgraduate Research Administrator to be logged.

It is the student's responsibility to ensure the form is completed and submitted in time for it to be considered and approved prior to the start of data collection.

The Data Sheet

The information on the first page helps the Institute's administrators make sure that the application is considered by the right members of staff. If the application is referred to your FREC, then the basic information table will help the Research Ethics Coordinator to ensure the proposal reaches the right FREC, and it will help FREC members in recording decisions about the proposal.

Please state which ethical guidelines will govern the project. This is normally BERA, BPS or BSA. Links to all these current codes are available from http://ioewebserver.ioe.ac.uk/ioe/cms/get.asp?cid=13449and13449_0=13479, and you do not have to be a member of the society in question in order to follow its

ethics code. A project may be multidisciplinary: you must decide which code will apply for this project and record that on the form. In most cases students follow the same ethical code as their supervisor(s).

External Research Ethics Committees

If the proposal has gone through another rigorous ethics review process, it does not need to be reviewed again within the Institute. This is most likely to occur when it goes through the NHS system, or another university's system. Please provide information about that process for our records. If this is the case you do not need to answer the other questions, but please sign the declaration.

Participants in research

Participants in research include people being asked to complete questionnaires, participate in interviews and focus groups; people being observed; people whose personal data may be used (including for secondary analysis); and participants in action research. In some projects you will meet the people directly, but not in others. Most research projects at the Institute are likely to have human participants, but not all. For example, if a literature review is a project in its own right (rather than part of a bigger project), there may be no human participants. If you think your project does not involve human participants, please explain your answer.

Please provide information about the age of children participating in the research. Tick all the boxes which apply, and provide more detailed information under question 5. If your research includes adult participants, please describe them briefly (e.g. teachers, parents, adult learners, patients) and provide more information under question 5. In some projects (e.g. observational studies) you may not know yet who the participants will be. Please tick the 'unknown' box and explain why this is.

Research method

This question is included to help FRECs collect data on the types of work being presented to them and will be used to record decisions on a central database.

Ethics Approval for Student Research Projects: Planned Research and Ethical considerations

Question 1: Summary of research

Please provide information about the aims of the research, the background to it and the study design (including data collection and analysis methods) to assist advisory committee or FREC members in understanding the project. You may wish to attach the answer to this question as a separate document. If so, please indicate in the box that you have done this, and ensure that the attachment is clearly labelled.

Question 2: Specific ethical issues

Please consider the issues that may arise in this research and how you will manage them. A checklist of issues to consider is included below. You may wish to attach your answer to this question as a separate document. If so, please indicate in the box that you have done this, and ensure that the attachment is clearly labelled.

This list is not exhaustive, nor will every issue apply to every project. It is intended to help you think about things which may happen, and to help FREC members to review your proposal.

- Provide further information about who you intend to collect data from and how. If any participants are children/young people under 18 or adults classed as vulnerable²⁰ and researchers will have access to them without another adult present, have researchers all been subject to a Criminal Records Bureau check?
- Who will benefit from this research? How will participants benefit, now or in the future? Who else might benefit, now or in the future?
- What are the risks to research participants? Are there risks to anyone else? Are there risks for the researchers?
- How will you inform participants about the research? How will you gain their informed consent to participate? How will you document their consent? Will you need to obtain consent from participants on more than one occasion, or only at the outset of the project? Note that you are required to attach copies of information leaflets etc. which you intend to use – if you do not intend to use information leaflets, please explain why
- If you do not intend to gain informed consent, please explain why
- Will you offer participants financial incentives (e.g. shopping vouchers, entry in a prize draw) to take part in the research? How much will you offer? How will you ensure that the incentive does not influence their responses? for
- Will you offer participants to meet participants' expenses (e.g. travel costs,

²⁰ Adults with a learning or physical disability, a physical or mental illness, or a reduction in physical or mental capacity, and living in a care home or home for people with learning difficulties or receiving care in their own home, or receiving hospital or social care services. (This is the definition from the Police Act 1997 which created the Criminal Records Bureau: it is specific to the role of the CRB.)

child care costs) to take part in the research? Will you offer them any form of payment (e.g. shopping vouchers, entry in a prize draw)? How much will you offer? How will you ensure that the payment does not influence decision to take part and their responses to your questions?

- Will you be collecting 'sensitive' data under the definition of the Data Protection Act 1998 (that is, data about participants' racial/ethnic origin; political opinions, religious (or similar) beliefs, trade union membership, physical/mental health; sexual life; offences; criminal proceedings, outcomes and sentences)? What steps have you taken to ensure that only sensitive data which is essential to the research is collected? How will you anonymise the data? How will you ensure the safety and security of the data?
- What level of anonymity or confidentiality will you promise the participants? How will you guarantee this?
- Who will you inform about the findings of the research, and how? Will you tell participants about the results?
- If the work involves data collection outside the UK, are there any special issues arising because of the country/ies where the work takes place? Issues might include different values and traditions which affect approaches to gaining informed consent, and making arrangements for speakers of other languages.

You may find useful information on thinking through the ethical issues in your research at the Ethics Guidebook website: www.ethicsguidebook.ac.uk.

Question 3: Please attach the requested information to your application. Information on informed consent and information sheets can be found, here: <http://www.ioe.ac.uk/about/policiesProcedures/42254.html>

Critical information that will be included in the advertisement for the survey and workshop

On the survey

- First study on leadership in kindergartens
- You are invited to participate in this survey as members of the fraternity
- The purpose of this survey is to understand how kindergarten principals in Singapore create conditions for continuous professional learning among teachers, and how they work with their teachers to provide for the learning of their children.
- The findings of the study will be a useful source of information when decisions are made at a system level on preparation of potential principals and on-going professional development of incumbent principals.

On the workshop

- A workshop on leadership will follow immediately after the survey. The workshop is organized specially to thank the participants of the survey. The synopsis and other details of the workshop are given below.
- Synopsis and details of the workshop – strategic leadership

On Registration

- Please register your names with (name) at (email address).
- Participation in the survey and workshop is optional. You can withdraw from the survey and workshop at any point should you decide to do so.

A BASELINE STUDY ON HOW KINDERGARTEN PRINCIPALS IN SINGAPORE PROVIDE LEADERSHIP FOR LEARNING

Information Sheet on the Study for Survey Participants

1. Purpose. This study will focus on how kindergarten principals in Singapore create conditions for continuous professional learning among teachers and how they work with their teachers to provide for the learning of the children. As there has been no such previous study, the findings from this study will be a useful source of information for MOE policy makers as they make system-wide decisions to raise the quality of learning for children. It will also be useful information for decisions regarding preparation of potential principals for leadership roles and on-going professional development of incumbent principals.
2. Key Research Question. The key research question is as follows: *How do kindergarten principals in Singapore provide leadership to build the capacity for learning among teachers, and what is the impact of such leadership.*
3. Survey. A questionnaire has been developed to find out how principals *nurture a safe and supportive environment for continuous professional learning of teachers, lead in learning, lead pedagogy and practice, and draw on external resources to build the learning capacity of their kindergartens.* Relevant biodata, for example, age range to which they belong, educational and professional training background, years of experience as principal, years of experience as teacher in kindergarten, type of kindergarten will also be included in the questionnaire. It is estimated that the survey will take between 30 minutes and 45 minutes to complete.
4. Dissemination of Findings. An information sheet summarizing the aggregated findings of the survey will be prepared and disseminated to participants. The identity of all participants will be protected in the report.
5. Participation. Your participation in this survey is important as a member of the kindergarten fraternity as a larger number of participants will help to provide a more accurate picture of the current status. However, should you be uncomfortable to participate in the survey, your decision will be respected. You can withdraw your participation from the survey and workshop at any point.
6. Confidentiality and Anonymity. The identity of all participants will not be disclosed. Where quotations are used, pseudo names rather than real names will be used. Any other information that may disclose the identity of the participant or the kindergarten she belongs to will also be replaced.
7. Contact Person. Should you have questions regarding the survey, please contact the researcher at sumcheewah@gmail.com.

Appendix 2 - Protocol for the focus group sessions to gather input on the questionnaire items

Two focus group sessions of 3.0 hour duration, each with 10 educators, were conducted by me, the PhD student researcher. The two sessions were conducted in a different manner as there was time constraint. In the first session, participants were asked to give inputs from scratch while in the second session, participants were sometimes asked to give inputs from scratch while at other times they were asked to refine lists generated by the first focus group and add to the list generated, where appropriate. In each session, the focus groups worked in 5s for generation of ideas and as a large group of 10 when consensus was needed. The instructions given for the 2 sessions have been tabulated below.

	Instructions given to 1 st focus group	Instructions given to 2 nd focus group	Research question
1	Please generate a list of key tasks that principals perform on a daily basis. Please describe these key tasks. Please indicate the approximate number of hours <u>you</u> spend on each key task every week.	Please generate a list of key tasks that principals perform on a daily basis. Please describe these tasks. Please indicate the approximate number of hours <u>you</u> spend on each key task every week.	RQ 1,2,3
2	Please make a list of ways by which principals support the teaching and learning at your kindergartens.	Please add to the list of ways by which principals support the teaching and learning at kindergartens.	RQ 1,3
3	Please make a list of structures that have been put in place to support the professional development of teachers.	Please review and amend the list of structures that have been put in place to support the professional development of teachers.	RQ 1

4	<p>What are the competency areas for which teachers need professional development in?</p> <p>Which 3 competency areas are most critical at your centre currently?</p>	<p>Please review the list of competency areas for which teachers need professional development in and amend the list as necessary.</p> <p>Which 3 competency areas are most critical at your centre currently?</p>	RQ 1
5	<p>What are some changes in the macro environment that have might have influenced the developmental needs of teachers?</p>	<p>What are some changes in the macro environment that might have influenced the developmental needs of teachers?</p>	RQ1,4
6	<p>What strategies have you adopted to engage your teachers in their work?</p>	<p>What strategies have you adopted to engage your teachers in their work?</p>	RQ2
7	<p>Please make a list of key structures that your centre has put in place for working with parents and the community,</p>	<p>Please review and refine the list of key structures that centres have put in place for working with parents and the community.</p>	RQ3

Appendix 3 - The Questionnaire

Nurturing Leadership Capacity in Kindergartens

This survey is part of the research project, Nurturing Leadership Capacity in Kindergartens. It is a research project undertaken by Ms Sum Chee Wah, to fulfil the requirements of her PhD candidature at the Institute of Education (IoE), London. This project is carried out with the support of the Ministry of Education (MOE), Singapore. The purpose of the project is to investigate how kindergarten principals in Singapore create conditions for continuous professional learning among teachers and how they work with teachers to provide for the learning of the children. The findings of the project should inform the preparation of potential principals and the on-going professional development of incumbent principals. Kindergarten principals are encouraged to participate in it so that an accurate picture of the current status can be obtained. The data collected will be held in strict confidence by the investigator, her research assistants and her supervisor, Professor Iram Siraj-Blatchford, of the IoE, London. Individual participants will not be identified in the research report and only anonymised data will be shared with the MOE.

Thank you for your participation in this survey.

Overview

This survey is organised into 2 sections. The first section, consisting of 21 questions, is on leadership and professional development. The second section, with 12 questions, requires information on your background and your kindergarten.

The questions and response templates within each section vary in length and format. Please read through the questions carefully and provide the information needed as accurately as you can.

Q1. In the spaces below, please indicate three most important SEASONAL tasks that you perform in your role as principal. Seasonal tasks include those that you carry out once every quarter, once every six months or once every year. Please also indicate the roles of the people who are involved in these tasks with you.

Most Important Seasonal Tasks	Roles of the people Involved
1.	
2.	
3.	

Q2. This question aims at understanding how you spend your time on a normal day during the term. Please pick a normal day in the last 2 weeks and enter the activities and tasks that occupied your time on that day. *(Please write down as much as you can recall. For activities that took more than 1 hour, please enter in more than 1 time slot. Where a time slot is shared by a few activities, please enter all the activities in the same time slot.)*

Day of the week _____	
1	7:00 – 8:00 am
2	8:00 – 9:00 am
3	9:00 -10:00 am
4	10:00 – 11:00 am
5	11:00 am - 12:00 n
6	12:00 n – 1:00 pm
7	1:00 pm – 2:00 pm
8	2:00 pm – 3:00pm
9	3:00 pm – 4:00 pm
10	4:00pm – 5:00 pm
11	5:00 pm – 6:00 pm
12	6:00 pm – 7:00 pm

Q3. A list of routine tasks that principals perform in an average week during the term is given below. Please estimate the amount of time you spend on these tasks in a work week and the amount of time you would like to spend on them in an ideal situation. (Please place a cross on the scale to indicate the number of hours. If the number of hours exceeds 12, please indicate it on the line after the scale.)

	Actual time spent in a week (hrs)	Time you would spend in an ideal Situation (hrs)
1 Observe classes and coach teachers on pedagogy	0 3 6 9 12 ___ hrs	0 3 6 9 12 ___ hrs
2 Counsel staff and mediate staff issues	0 3 6 9 12 ___ hrs	0 3 6 9 12 ___ hrs
3 Monitor teaching (e.g. through informal drop-ins, approving lesson plans)	0 3 6 9 12 ___ hrs	0 3 6 9 12 ___ hrs
4 Communicate with staff on teaching and learning	0 3 6 9 12 ___ hrs	0 3 6 9 12 ___ hrs
5 Monitor children's development (e.g. through checking attendance, children's portfolio, interaction with children)	0 3 6 9 12 ___ hrs	0 3 6 9 12 ___ hrs
6 Make arrangements for learning of children with special educational needs	0 3 6 9 12 ___ hrs	0 3 6 9 12 ___ hrs
7 Plan and arrange field trips	0 3 6 9 12 ___ hrs	0 3 6 9 12 ___ hrs
8 Procure and develop teaching resources	0 3 6 9 12 ___ hrs	0 3 6 9 12 ___ hrs
9 Keep abreast with developments in sector	0 3 6 9 12 ___ hrs	0 3 6 9 12 ___ hrs
10 Prepare staff, children and their parents for change and innovation	0 3 6 9 12 ___ hrs	0 3 6 9 12 ___ hrs
11 Attend to health and emergency issues	0 3 6 9 12 ___ hrs	0 3 6 9 12 ___ hrs
12 Communicate with parents	0 3 6 9 12 ___ hrs	0 3 6 9 12 ___ hrs
13 Communicate with members of public	0 3 6 9 12 ___ hrs	0 3 6 9 12 ___ hrs
14 Communicate with Ministry of Education and/or operations headquarters	0 3 6 9 12 ___ hrs	0 3 6 9 12 ___ hrs
15 Execute tasks associated with financial control, management of budget and accounts	0 3 6 9 12 ___ hrs	0 3 6 9 12 ___ hrs
16 Attend to other daily routines (e.g. deployment of relief teachers, checking on safety and hygiene)	0 3 6 9 12 ___ hrs	0 3 6 9 12 ___ hrs
17 Others 1 (please specify) _____	0 3 6 9 12 ___ hrs	0 3 6 9 12 ___ hrs
18 Others 2 (please specify) _____	0 3 6 9 12 ___ hrs	0 3 6 9 12 ___ hrs
19 Others 3 (please specify) _____	0 3 6 9 12 ___ hrs	0 3 6 9 12 ___ hrs

Q4. The first six tasks in the response template for Q3 are related to teaching and learning. Where there are differences between the ideal and actual amount of time you spend on these tasks, please indicate the key reasons for the differences. *(Please read through the entire list below and then tick only 2 key reasons)*

1 Not able to automate mundane administrative tasks resulting in time being taken up by them

2 Learning on the job to perform some other tasks hence the need to sacrifice these tasks for the time being

3 Learning to perform these tasks so I am taking longer than I should

4 These tasks have been delegated to other staff members

5 I am giving less attention to these tasks as I am not so confident in performing them

6 Teachers are not supportive of these measures

7 The Governing Board is not supportive of these measures

8 Too much to do and too little time to work on them

9 I have not thought about how I can better manage my time

10 Others 1 *(Please specify)* _____

11 Others 2 *(Please specify)* _____

Q5. What proportion of your time is spent on the following modes of work in a normal work week during the term? (Please base the proportion on estimation.)

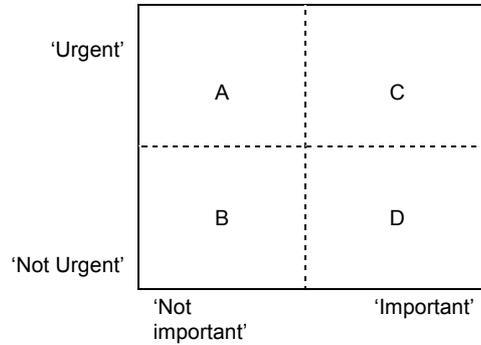
Modes of work	Percentage of your time spent
1 Working alone (e.g. completing administrative tasks)	_____ %
2 Working with staff	_____ %
3 Working directly with children	_____ %
4 Working directly with parents	_____ %
5 Working with governing body and stakeholders outside of the kindergarten	_____ %
6 Others	_____ %
Total	100%

Q6. On the average, how much time do you spend per work week guiding teachers in their work, planning for professional development of staff and executing these plans? (Please indicate the number of hours you devote to these tasks and also indicate the number of hours you actually work per week.)

	No. of hours per week
1 Guiding teachers in their work	
2 Planning for professional development of staff and executing these plans	
3 Number of hours you <u>actually</u> work per week in your role as principal*	_____ hours

* For those performing duo roles (e.g. Business Administrators cum principal), please provide the number of hours you operate as principal.

Q7. Tasks performed by principals everyday fall under a continuum of importance and urgency. Using a two by two table, the different tasks can broadly be classified into 4 categories, A - 'Urgent but Not Important', B - 'Not Urgent and Not Important', C - 'Important' and 'Urgent', D - 'Important' but 'Not Urgent'.



For the list of tasks given below, please circle the appropriate category and explain why you have chosen this answer.

Example: Taking a call from a parent to confirm the student's dress code for the next school day. A B C D

Reason:

The information needed is not critical to the operations of the kindergarten although the lack of information may cause the parent and child anxiety. A staff member can provide the information to the parent. This is a task that can be delegated and not one that must be completed by the principal.

1 Working with teachers to customize activities for students A B C D

Reason:

2 Going through the portfolios of students A B C D

Reason:

- 3 Visiting the home of a student who has been absent for a week A B C D

Reason:

- 4 Reflecting on a lesson with teachers A B C D

Reason:

- 5 Responding to the Ministry of Education's request for data on student enrolment A B C D

Reason:

Q8. What have you done to build a culture to support learning among staff?
(Please provide the 2 strategies that you think have been most useful, and write briefly on how they have been useful.)

<p>1. <u>Strategy</u></p> <p><u>How strategy has been useful</u></p>

2. Strategy

How strategy has been useful

Q9. For each pair of tasks, A and B, which do you consider as more important for your kindergarten? (For each pair, please circle 'A' or 'B', whichever is more important and explain why the selected option is more important to you.)

1 A. Carry out inventory checks with staff

 B. Develop the strategic plan with staff

(Please circle either A or B below)

A / B is more important because _____

2 A. Coach and counsel staff

 B. Monitor and approve staff professional training

A / B is more important because _____

3 A. Annual review of standard procedures for dealing with emergencies

 B. Annual review and development of the curriculum with teachers

A / B is more important because _____

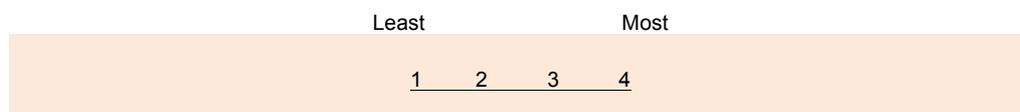
- 4 A. Conduct team building activities for staff
 B. Work with sponsors on Teachers' Day gifts

A / B is more important because _____

- 5 A. Conduct morning assembly daily
 B. Check student attendance daily

A / B is more important because _____

Q10. How important are the following modes/strategies for professional development of teachers at your kindergarten? (For each mode/strategy, please indicate how important it is by drawing a cross on the scale of 1 to 4 with 1 for least important and 4 for most important. For example, if your response is 1.5 for a particular item, please draw a cross mid way between 1 and 2.)



If you have not explored a particular mode/strategy, please place a tick in the 'Unexplored' column for that mode/strategy]

		Least		Most	Unexplored	
1	Observation of teaching - <u>at least once annually per teacher</u>	1	2	3	4	<input type="checkbox"/>
2	Follow-up discussion with teacher after observing lesson - <u>at least once annually per teacher</u>	1	2	3	4	<input type="checkbox"/>
3	<u>System</u> of peer observation with follow-up discussion of lesson observed	1	2	3	4	<input type="checkbox"/>
4	Discussion of the curriculum with teachers <u>at least once a term</u>	1	2	3	4	<input type="checkbox"/>
5	Discussion of pedagogy with teachers <u>on a weekly basis</u>	1	2	3	4	<input type="checkbox"/>
6	Weekly teacher self reflection	1	2	3	4	<input type="checkbox"/>
7	Discussing with teachers their training and development needs	1	2	3	4	<input type="checkbox"/>
8	Distributed or shared leadership	1	2	3	4	<input type="checkbox"/>
9	Learning journeys	1	2	3	4	<input type="checkbox"/>
10	Seminars and workshops organized by MOE	1	2	3	4	<input type="checkbox"/>
11	Seminars and workshops organized and conducted by AECES** and other agencies	1	2	3	4	<input type="checkbox"/>
12	Training / development organized for entire teaching staff of kindergarten	1	2	3	4	<input type="checkbox"/>
13	Courses leading to certification	1	2	3	4	<input type="checkbox"/>
14	Job rotation / Change of job scope	1	2	3	4	<input type="checkbox"/>
15	Coaching / Mentoring	1	2	3	4	<input type="checkbox"/>
16	Others 1 (Please specify) _____	1	2	3	4	<input type="checkbox"/>
17	Others 2 (Please specify) _____	1	2	3	4	<input type="checkbox"/>

** The Association of the Early Childhood Educators, Singapore

Q11. There are 2 parts to this question on teacher training and development.

11.1 Please indicate the 3 most common areas of training / development that your teachers participated in over the last 3 years in the middle column (Please indicate 1 for the most common, 2 for the second most common and 3 for the third most important).

11.2 Kindly indicate the 3 most important areas of training and development for your teacher in the next 3 years. (Please indicate the priority with 1 indicating the top priority, 2 indicating the 2nd highest priority and 3 indicating the 3rd highest priority).

	<i>For the last 3 years, the 3 most common areas of training were</i>	<i>For the next 3 years, the 3 most important areas of training are</i>
1 SPARK related e.g. Quality Rating Scale	_____	_____
2 Child development	_____	_____
3 Curriculum development	_____	_____
4 Play pedagogy	_____	_____
5 Assessment for learning	_____	_____
6 Language and literacy	_____	_____
7 Numeracy	_____	_____
8 Self and social awareness	_____	_____
9 Aesthetics and creative expression	_____	_____
10 Motor skills development	_____	_____
11 Mother Tongue Languages	_____	_____
12 Special educational needs	_____	_____
13 Innovation in teaching	_____	_____
14 Partnerships with parents	_____	_____
15 Project management	_____	_____
16 Teacher leadership	_____	_____
17 Others 1 (Please specify) _____	_____	_____
18 Others 2 (Please specify) _____	_____	_____
19 Others 3 (Please specify) _____	_____	_____

Q12. How many people serve on the leadership / management team at your kindergarten? (Please indicate in the space provided a number and this number should include you.)

_____ people

Q13. Please state the roles of this team in broad terms. (Please describe briefly in the box below.)

Q14. What are the structures that have been put in place to support teachers in their professional development? (Please tick all that apply)

- | | | |
|----|--|--------------------------|
| 1 | Full sponsorship of course / training fees | <input type="checkbox"/> |
| 2 | Subsidy for course / training fees | <input type="checkbox"/> |
| 3 | Budget for professional development of teachers | <input type="checkbox"/> |
| 4 | Interest free loans for staff to pay course fees | <input type="checkbox"/> |
| 5 | Time off for teachers to attend training courses | <input type="checkbox"/> |
| 6 | Protected time for discussion of professional matters (as distinct from administrative matters) | <input type="checkbox"/> |
| 7 | <u>System</u> of relief teachers looking after the classes while teachers are attending training courses | <input type="checkbox"/> |
| 8 | <u>Policy</u> commitment to providing at least 30 hours of training for each teacher annually | <input type="checkbox"/> |
| 9 | Training needs analysis | <input type="checkbox"/> |
| 10 | Performance feedback | <input type="checkbox"/> |
| 11 | Others 1 (Please specify) _____ | <input type="checkbox"/> |
| 12 | Others 2 (Please specify) _____ | <input type="checkbox"/> |



Q15. What are 3 most important actions that you have taken to improve TEACHING AND LEARNING at your kindergarten in the last 3 years? (For each important action, please write concisely but do provide sufficient information to help the reader understand what exactly you did and the impact that was felt.)

1. Action

Impact

2. Action

Impact

3. Action

Impact

Q16. What are the activities/channels used by your kindergarten to communicate with parents? (Please tick all that apply to your kindergarten)

- | | | |
|----|--|--------------------------|
| 1 | Orientation for parents and their children | <input type="checkbox"/> |
| 2 | <u>Daily</u> two-way communication between teacher and parent on the child's learning through phone / email / daily communication booklet | <input type="checkbox"/> |
| 3 | <u>Weekly</u> two-way communication between teacher and parent on the child's learning through phone / email | <input type="checkbox"/> |
| 4 | <u>Termly one-to-one</u> meeting between teacher and parent to discuss child specific learning | <input type="checkbox"/> |
| 5 | <u>At least 2</u> dialogue sessions with parents a year to gather feedback on the curriculum | <input type="checkbox"/> |
| 6 | Talks for parents on how to be effective in supporting the <u>development</u> of their children | <input type="checkbox"/> |
| 7 | Talks for parents on health and diet | <input type="checkbox"/> |
| 8 | Newsletters / brochures / flyers / update notes to parents on <u>educational</u> *** information that is relevant to the parents of your kindergarten (Advertisement brochures, updates on administrative matters should not be counted) | <input type="checkbox"/> |
| 9 | Use of a regularly updated website with <u>educational</u> *** information that is relevant to the parents of your kindergarten | <input type="checkbox"/> |
| 10 | Open House for parents interested in placing their children in the kindergarten | <input type="checkbox"/> |
| 11 | Others 1 (please specify)
_____ | <input type="checkbox"/> |
| 12 | Others 2 (please specify)
_____ | <input type="checkbox"/> |

*** Educational information refers to information on education and child development as well the principles underlying the programmes provided by the kindergarten. Information of administrative nature is not considered as educational information in this question.

Q17. The purpose of this question is to understand the ways by which parents support the work of the kindergartens. Which the following statements describe most accurately the involvement of your pupils' parents. *(There are minor differences between the statements. Please read through carefully and then tick one or two that apply to a large number of parents)*

- | | | |
|----|--|--------------------------|
| 1 | Parents are partners and collaborators of teachers, and they provide input to the kindergarten curriculum. | <input type="checkbox"/> |
| 2 | Parents have specialist expertise and they are volunteers at the kindergarten (as speakers, reading mums and dads) | <input type="checkbox"/> |
| 3 | Parents support as chaperone / helper for outings / helper in development of teaching resources | <input type="checkbox"/> |
| 4 | Parents support as chauffeurs, care-givers, and cheer-leaders, leaving the work of education to the teachers | <input type="checkbox"/> |
| 5 | Parents provide feedback to teachers on the impact of the programmes on the development of the children | <input type="checkbox"/> |
| 6 | Parents do little to support the learning and development of their children | <input type="checkbox"/> |
| 7 | Grandparents and domestic helpers are the main contact points for teachers. | <input type="checkbox"/> |
| 8 | Parents co-design the curriculum with teachers | <input type="checkbox"/> |
| 9 | Others 1 <i>(please specify)</i> _____ | <input type="checkbox"/> |
| 10 | Others 2 <i>(please specify)</i> _____ | <input type="checkbox"/> |

Q18. The community** (other than parents) is involved in the work of the kindergarten in different ways. Please indicate how the community (other than parents) is involved. (Please tick all that apply)**

- | | | |
|---|--|--------------------------|
| 1 | The community around the kindergarten is a subject of study by the children | <input type="checkbox"/> |
| 2 | Some members of the community with expert knowledge are service providers | <input type="checkbox"/> |
| 3 | Some members of the community are volunteers at the kindergarten | <input type="checkbox"/> |
| 4 | Some members of the community are sponsors, and they offer financial support and/or other resources to support teaching and learning | <input type="checkbox"/> |
| 5 | Some members of the community are collaborators or partners | <input type="checkbox"/> |
| 6 | Others 1 (<i>please specify</i>) _____ | <input type="checkbox"/> |
| 7 | Others 2 (<i>please specify</i>) _____ | <input type="checkbox"/> |

**** Community refers to those residing or working within your immediate neighbourhood and those outside of this physical space who might for some reason feel that they are linked to the kindergarten, e.g. alumni members and their family members.

Q19. Have you participated in any professional development activity specific to your leadership role over the last 3 years? (Please tick one)

- 1 Yes
- 2 No (If 'No', please skip Q20)

Q20. If 'Yes, please indicate the training and professional development activities you were involved in over the last 3 years. (Please tick all relevant boxes)

	Training activities over the last 3 years
1 Leadership courses	<input type="checkbox"/>
2 Conferences/Seminars organized by MOE	<input type="checkbox"/>
3 Conferences/Seminars organized by agencies other than MOE	<input type="checkbox"/>
4 Local learning journeys	<input type="checkbox"/>
5 Overseas learning journeys	<input type="checkbox"/>
6 Discussion with other principals	<input type="checkbox"/>
7 Induction programmes	<input type="checkbox"/>
8 Mentoring or coaching from others	<input type="checkbox"/>
9 Performance feedback from supervisors	<input type="checkbox"/>
10 Academic study/qualifications (e.g. ADKET, DECCE-L, Bachelors Degree)	<input type="checkbox"/>
11 Others (<i>please specify</i>)	<input type="checkbox"/>

Q21. Please indicate the leadership skills and qualities that you think are important for you to develop or strengthen over the next 3 years?
(Please tick all that are relevant)

		Skills and qualities to develop over next 3 years
1	Modelling good teaching	<input type="checkbox"/>
2	Using learning theories and pedagogies in teaching	<input type="checkbox"/>
3	Helping children who have special learning needs	<input type="checkbox"/>
4	Managing pupil behaviour	<input type="checkbox"/>
5	Leading curriculum change and innovation	<input type="checkbox"/>
6	Implementing change and improvement successfully	<input type="checkbox"/>
7	Developing effective project management skills	<input type="checkbox"/>
8	Analysing and interpreting student data and information	<input type="checkbox"/>
9	Adapting your leadership style to the kindergarten's culture and needs	<input type="checkbox"/>
10	Developing a learning culture and community	<input type="checkbox"/>
11	Developing interpersonal skills	<input type="checkbox"/>
12	Managing finance and premises	<input type="checkbox"/>
13	Managing staff performance	<input type="checkbox"/>
14	Nurturing teamwork amongst staff	<input type="checkbox"/>
15	Developing future leaders / succession planning	<input type="checkbox"/>
16	Effective communication	<input type="checkbox"/>
17	Forming partnerships with other kindergartens / agencies to improve developmental of children	<input type="checkbox"/>
18	Engaging and building effective relationships with parents	<input type="checkbox"/>
19	Engaging and building effective relationships with the community	<input type="checkbox"/>

- | | | |
|----|--|--------------------------|
| 20 | Strategic thinking and scanning the environment to anticipate trends and changes | <input type="checkbox"/> |
| 21 | Strategic planning | <input type="checkbox"/> |
| 22 | Systems thinking | <input type="checkbox"/> |
| 23 | Translating plans into action | <input type="checkbox"/> |
| 24 | Developing personal resilience | <input type="checkbox"/> |
| 25 | Knowing your legal responsibilities as a kindergarten leader | <input type="checkbox"/> |
| 26 | Others 1 <i>(Please specify)</i> _____ | <input type="checkbox"/> |
| 27 | Others 2 <i>(Please specify)</i> _____ | <input type="checkbox"/> |

PERSONAL/KINDERGARTEN BACKGROUND

P1. What type of Kindergarten are you heading? *(Please tick one box)*

- 1 Commercial
- 2 Church/Mosque/other religious-based
- 3 Ethnic based
- 4 Community based

P2. What is the pupil enrolment in your kindergarten? *(Please tick one box)*

- | | |
|--------------------------------------|---|
| 1 <input type="checkbox"/> 1 - 49 | 6 <input type="checkbox"/> 250 - 299 |
| 2 <input type="checkbox"/> 50 - 99 | 7 <input type="checkbox"/> 300 - 349 |
| 3 <input type="checkbox"/> 100 - 149 | 8 <input type="checkbox"/> 350 - 399 |
| 4 <input type="checkbox"/> 150 - 199 | 9 <input type="checkbox"/> 400 - 499 |
| 5 <input type="checkbox"/> 200 - 249 | 10 <input type="checkbox"/> More than 500 |

P3. What is the teacher strength of your kindergarten? *(Please indicate the total number of teacher positions in the space below.)*

___ *(No. of teachers)*

P4. Please provide information on the highest professional qualification of teachers at your kindergarten. *(Please indicate the number of teachers with each level of qualification)*

	No. of teachers with each level of qualification
¹ DECCE-T only / DECCE – L only / DECCE –T and L only	_____
² Advanced Diploma in ECCE only / Specialist Diploma in ECCE only	_____
³ Bachelors degree in ECCE only	_____
⁴ Post-graduate degree in ECCE only	_____
⁵ No professional qualification but is currently enrolled in a course leading to professional qualification.	_____

P5. What is your current role? *(Please tick one box)*

- ¹ Principal
- ² Acting Principal
- ³ Branch Administrator cum Principal
- ⁴ Branch Administrator cum Acting Principal

P6. As of September 2012, for how many years have you been

Number of years

(Please round down to the nearest whole number)

- 1 teaching in a kindergarten? _____
- 2 the Principal or Acting Principal at this or any other kindergarten or child care centre? _____
- 3 been the Principal or Acting Principal at this kindergarten? _____

P7. Which one of the following age brackets do you fall into? (Please tick one box)

- | | | | | | |
|---|--------------------------|---------|----|--------------------------|--------------|
| 1 | <input type="checkbox"/> | 20 - 24 | 6 | <input type="checkbox"/> | 45 - 49 |
| 2 | <input type="checkbox"/> | 25 - 29 | 7 | <input type="checkbox"/> | 50 - 54 |
| 3 | <input type="checkbox"/> | 30 - 34 | 8 | <input type="checkbox"/> | 55 - 59 |
| 4 | <input type="checkbox"/> | 35 - 39 | 9 | <input type="checkbox"/> | 60 - 64 |
| 5 | <input type="checkbox"/> | 40 - 44 | 10 | <input type="checkbox"/> | 65 and above |

P8. What is your ethnic background? (Please tick one box)

- 1 Chinese
- 2 Indian
- 3 Malay
- 4 Others *(please specify)* _____

P9. What is your gender? (Please tick one box)

- 1 Male
- 2 Female

P10. Do you have work experience outside of the Early Childhood Education and Care sector? (Please tick either 'Yes' or 'No')

- 1 Yes
 2 No (If 'No', please skip P11)

P11. If 'Yes', what was the last job you held before joining the Early Childhood Education and Care sector? (Please provide the job title)

P12. Please indicate your highest professional qualification. (Please tick one box and provide the name of the institution where you obtained the qualification)

	<u>Qualification</u>		<u>Name of Institution and Country</u>
1	Diploma in Early Childhood Education and Care	<input type="checkbox"/>	_____
2	Advanced Diploma in Kindergarten Education (ADKET)	<input type="checkbox"/>	_____
3	Bachelors degree in Early Childhood Education and Care	<input type="checkbox"/>	_____
4	Masters degree in Early Childhood Education and Care	<input type="checkbox"/>	_____
5	Doctoral degree in Early Childhood Education and Care	<input type="checkbox"/>	_____
6	Bachelors degree in Psychology /Applied Psychology/Education	<input type="checkbox"/>	_____
7	Masters degree in Psychology /Applied Psychology/Education	<input type="checkbox"/>	_____
8	Doctoral degree in Psychology /Applied Psychology/Education	<input type="checkbox"/>	_____
9	Other Degrees (Please specify subject)	<input type="checkbox"/>	_____

Appendix 4 - Content for the briefing of the participants of survey

Background information on the project

- The purpose of this project is to investigate how kindergarten principals in Singapore create conditions for continuous professional learning among teachers and how they work with teachers to provide for the learning of the children.
- The research findings will provide information useful for the preparation of potential principals and the on-going professional development of incumbent principals.
- This project is part of the research project of Sum Chee Wah to fulfil the requirements of her PhD at the IoE, London. It is also a project sponsored by MOE as the findings will be useful for planning and policy purposes.
- The focus of the project is on the entire kindergarten landscape, system level issues, not on individuals although individual kindergarten data will need to be collected to provide the composite picture.
- There are 2 parts to the project. The first is a survey targeting the entire population of kindergarten principals. The 2nd part of the project is composed of case studies. This will be carried out in Feb/March next year.
- Whether in this survey or in the multi-case study, individual kindergartens and principals will not be named. If specific quotes are taken, pseudo-names will be used.

Briefing on the survey

- For this survey there are 2 sections. The first is the survey proper. It has 21 questions. The 2nd section requires you to provide background information on yourself and the kindergarten you lead.
- Please read through the questions carefully before you answer each question as the format of each question is different.
- Please answer all questions as best as you can.
- Now going on to specific questions:
 - The following are some questions that may need clarification
 - Q1: Seasonal Tasks refer to those that you carry out once a year or once in a while, for example, time-tabling. The “roles of the people involved” refers to the designations of the people involved.

- Q2: The purpose of this question is to help in recall. It is a lead up to the next 2 questions. So try to recall as much as possible of what you do on a typical school day.
- Q3: Please answer all the sub-questions.
- Q5: Percentage of time spent working alone, working with staff etc. Sometimes, you may be working with staff and in the presence of the children. For example, in demonstrating a lesson you are working mainly to show the teacher how to execute a lesson but the children are present. As such you should count this as working with staff.
- Q7: The matrix indicates the interaction between 2 considerations in our planning and operations, namely, importance and urgency. There are tasks that are important and urgent, these are tasks that would fall into quadrant C; there are tasks which are important but not urgent and they fall into quadrant D; there are tasks which are urgent and not important in which case they fall into quadrant A; and there are also tasks which are not important and not urgent which are in quadrant B. The urgency and importance of a task is contextual. A particular task may fall under different quadrants for the kindergartens according to the local context. So providing the reasons for your categorisation is important.
- Q10: This question requires an answer for every sub-question. Please indicate how important each item is at your kindergarten currently. If a particular task has not been explored, tick the box 'unexplored' and leave the 1-4 scale blank.
- Q11: Please note that this question requires only three items to be selected for each column. Please use 1,2,3 to indicate your responses.
- Q12: 'Leadership/management team' here doesn't refer to the management board that you report to. This is referring to the internal team of staff who help you with the daily operational issues. The size of this team usually varies according to local factors and the organisational structure. In some situations, there could be none, in others, there could be 5-6.
- Q13: Please indicate what the team mentioned in Q12 does. For example, do they co-design with you or do they provide inputs for you to consider in your decision making?
- Q17: The question requires you to identify a statement to describe how parents of your kindergarten are involved in the development of their children. In some kindergartens, you may have a more varied population of parents and thus you will need a couple of statements to describe the prevailing participation of your parents. If necessary tick more than one statement and write a footnote to explain the situation

Appendix 5 - Singapore Pre-school Accreditation Framework (SPARK)

Quality Rating Scale (2013 Version) (SPARK Instrument)

MOE Singapore launched the Quality Rating Scale (QRS) in 2010 to provide pre-schools with benchmarks to guide their improvement efforts. The instrument was developed through wide consultation and subjected to psychometric studies on reliability and validity²¹.

The instrument was based on 5 core values, the Child our focus, leadership with vision, partnership for growth, innovation with purpose, professionalism with impact. The instrument has 6 criteria: Leadership, Planning and Administration, Staff Management, Resources, Curriculum, Pedagogy.

²¹ Cronbach's Alpha for the entire instrument was 0.85, while inter-rater reliability was 0.65 – 1.00, suggesting that the instrument was reliable. The instrument was validated against established instruments, the Early Childhood Environment Rating Scale Revised (ECERS-R), the Early Childhood Rating Scale Extension (ECERS-E) and the Programme Administration Scale (PAS) and the correlation with these instruments were 0.5, 0.3, 0.5 respectively.

1. LEADERSHIP

1.1 Strategic Leadership					
1	Emerging 2	3	Performing 4	5	Mastering 6
<i>Understanding vision, mission and core values</i>					
	A2 Centre has a written set of vision, mission and core values or philosophy and core values, which centre leaders are able to articulate.		A4 Centre leaders engage teachers in understanding the vision, mission and core values or philosophy and core values.		A6 Centre's vision, mission and core values or philosophy and core values are reviewed periodically.
<i>Communicating vision, mission and core values</i>					
	B2 Teachers and parents are informed of the vision, mission and core values or philosophy and core values.		B4 Teachers are able to explain the vision, mission and core values or philosophy and core values.		B6 Teachers and children embrace the core values of the centre.
<i>Translating vision, mission and core values into a strategic plan</i>					
	C2 The vision, mission and core values or philosophy and core values focus on the holistic development ⁶ of children.		C4 The vision, mission and core values or philosophy and core values are translated into specific goals and reflected in a strategic plan.		C6 The strategic plan is reviewed at least once a year.
1.2 Curriculum Leadership					
1	Emerging 2	3	Performing 4	5	Mastering 6
<i>Centre leaders' role in curriculum planning</i>					
	A2 Centre leaders take the lead role in curriculum planning that is guided by principles of teaching and learning.		A4 Centre leaders ensure that teachers support children's learning through an integrated and holistic curriculum.		A6 Centre leaders ensure a centre-wide approach in providing an integrated and holistic curriculum that creates opportunities for active learning.
<i>Classroom observations</i>					

B2 Centre leaders conduct classroom observations annually.

B4 Centre leaders conduct classroom observations with written feedback on teacher's teaching strategies with follow-up actions.

B6 Centre leaders use documentation of classroom observations for raising the quality of teaching and learning.

Involvement of teachers

C2 Centre leaders regularly evaluate teaching and learning practices with teachers.

C4 Centre leaders involve teachers in planning teaching and learning practices.

C6 Centre leaders nurture a culture of professional learning and collaboration among teachers.

2. PLANNING AND ADMINISTRATION

2.1 Strategic Planning					
1	Emerging 2	3	Performing 4	5	Mastering 6
<i>Self-appraisal</i>					
	A2 Centre practises annual self-appraisal.		A4 Teachers are involved in the annual centre self-appraisal.		A6 There is alignment between the centre's self-appraisal and the action plan for the following year.
<i>Goal setting</i>					
	B2 Centre has short-term and long-term goals that are aligned to the vision, mission and core values or philosophy and core values.		B4 Teachers are involved in the regular review of short-term goals.		B6 Centre leaders review the long-term goals with teachers and parents annually.
<i>Action planning</i>					
	C2 Centre leaders carry out annual action planning.		C4 Teachers are involved in the annual action planning.		C6 Centre leaders review annual action plans with teachers and parents.

2.2 Programme Structure and Implementation

1	Emerging 2	3	Performing 4	5	Mastering 6
	<i>Programme planning</i>				
	A2 Centre has a programme plan across all levels for the whole year.		A4 The curriculum plan for the whole year is progressive from nursery to K2 .		A6 Centre actively seeks and considers input from teachers and parents for programme planning.
	<i>Implementation of plans</i>				
	B2 Activities are carried out in a timely manner, according to the programme plan.		B4 There is provision in the programme for activities that relate to current issues.		B6 There is provision in the programme for child-initiated ideas and activities to develop active learners.
	<i>Addressing different learning needs</i>				
	C2 Centre's programme includes a variety of activities beyond the classroom.		C4 Centre's programme includes differentiated activities that cater to children with different learning abilities and styles.		C6 Centre's programme includes differentiated activities that cater to children with specific needs.

3. Staff Management

3.1 Induction and Deployment

1	Emerging 2	3	Performing 4	5	Mastering 6	
<i>Induction</i>						
A2	There is a basic induction for teachers who are new to the centre.		A4	Centre has a formal induction programme.	A6	The formal induction programme is reviewed annually.
<i>Mentorship</i>						
B2	Every new teacher is guided by a more experienced teacher(s) in the centre.		B4	Centre has a mentoring programme to facilitate the professional development of new teachers.	B6	The mentoring programme is reviewed annually.
<i>Staff deployment</i>						
C2	Job scope and responsibilities are clearly defined and communicated to teachers.		C4	Centre deploys teachers, taking into consideration children's needs and teachers' strengths, skills and experience.	C6	The deployment makes provision for planned and unplanned absence of teachers.

3.2 Professional Development and Performance Appraisal*

1	Emerging 2	3	Performing 4	5	Mastering 6	
<i>Professional development</i>						
A2	Centre involves staff in developing their yearly individual professional development map through identifying their strengths and weaknesses.		A4	Staff attend training according to their individual professional development maps.	A6	Centre uses a total professional development map to improve the competencies of staff.
<i>Performance appraisal</i>						
B2	Centre practises staff appraisal at least once a year.		B4	Centre has a staff appraisal system which is communicated to staff.	B6	Staff articulate and demonstrate their understanding and expectations of the staff appraisal system.

Recognition

C2 Centre recognises staff for their contributions.

C4 Centre has a structure for staff career advancement which is communicated to staff.

C6 Centre encourages and rewards staff for accomplishment through a career advancement system.

3.3 Staff Well-being					
1	Emerging 2	3	Performing 4	5	Mastering 6

Approaches to promote staff well-being

A2 Staff are aware of the centre's plans and approaches to promote staff well-being.

A4 Centre gathers feedback from staff to improve its approaches.

A6 Centre improves its overall working conditions and environment to promote the well-being of staff.

Needs of staff

B2 Time and space are provided for staff to meet personal needs.

B4 Centre organises a variety of activities for staff to promote interaction and well-being.

B6 Staff demonstrate strong motivation and commitment to the centre.

4. RESOURCES

4.1 Teaching and Learning Environment and Resources					
1	Emerging 2	3	Performing 4	5	Mastering 6
<i>Physical setting</i>					
	A2 Centre has adequate space and the physical setting is child-friendly.		A4 Centre's physical setting has appropriate furnishings to support different types of learning activities.		A6 Centre's physical setting and facilities allow for creative use to enhance children's learning and sustain their interest.
<i>Display of children's work and materials</i>					
	B2 Centre displays children's work and materials of interest to them in all classrooms.		B4 Centre keeps displays of children's work and materials of interest current.		B6 At least 50% of the centre's display consists of a variety of children's work.
<i>Teaching and learning resources</i>					
	C2 There is a wide selection of teaching and learning resources.		C4 Teaching and learning resources are well-maintained and well-organised to facilitate usage.		C6 Teaching and learning resources are used innovatively to enhance children's learning and sustain their interest.
<i>Acquisition and use of teaching and learning resources</i>					
	D2 Acquisition of resources is guided by a written set of selection criteria that supports teaching and learning in the different learning areas.		D4 There is guidance on proper use of teaching and learning resources.		D6 The acquisition and usage of teaching and learning resources is reviewed annually.

4.2 Collaboration with Parents*					
1	Emerging 2	3	Performing 4	5	Mastering 6

Parental involvement in centre activities

A2 Centre communicates its programmes and activities to parents at least once a term.

A4 Centre engages parents in participating in a variety of programmes and activities.

A6 Centre has established an active parent support group.

Home-learning support

B2 Centre provides materials at least once a term to help parents facilitate children's development at home.

B4 Centre organises a variety of activities to support parents in facilitating children's development at home.

B6 Centre involves parents in reviewing and customising centre activities to meet the different learning needs of the children.

4.3 Collaboration with Community					
1	Emerging 2	3	Performing 4	5	Mastering 6

Transition from pre-school to primary school

A2 Centre works with primary school(s) to familiarise children with the primary school settings.

A4 Centre works with primary school(s) to familiarise teachers and parents with primary school education.

A6 Centre has an established partnership with primary school(s) for smooth transition of the children.

Collaborations with other community partners

B2 Centre works with the community to enhance the development of children.

B4 Centre maintains established partnerships with the community to enhance the development of children.

B6 Centre reviews the collaboration with the community annually.

5. CURRICULUM

5.1 Integrated Curriculum and Holistic Development*					
1	Emerging 2	3	Performing 4	5	Mastering 6
<i>Setting of learning objectives and goals</i>					
	A2 Learning objectives are set for activities in all learning areas/domains.		A4 Learning goals are set for all learning areas/domains and for all levels.		A6 Learning goals for all learning areas/domains and levels are reviewed annually to meet the needs of children.
<i>Activity planning</i>					
	B2 Activities are planned for all the learning areas/domains and levels.		B4 Activities are planned to help children learn in meaningful contexts.		B6 Activities are planned to help children integrate learning and make connections across learning areas/domains.
<i>Developing positive learning dispositions</i>					
	C2 Teachers support and encourage children's positive learning dispositions.		C4 Teachers provide opportunities for children to develop positive learning dispositions.		C6 Teachers create a culture that encourages children to display positive learning dispositions.
5.2 Aesthetics and Creative Expression					
1	Emerging 2	3	Performing 4	5	Mastering 6
<i>Exploration and expression using music resources</i>					
	A2 Teachers ensure that sufficient musical instruments are available to the children.		A4 Teachers provide opportunities for children to explore elements of music with voice, body percussion and/or musical instruments.		A6 Teachers provide opportunities for children to create their own songs, music or dance movements.
<i>Exposure to and appreciation of different types of music</i>					
	B2 Teachers conduct music and dance / movement activities regularly.		B4 Teachers create awareness of a variety of music and dance from different cultures.		B6 Teachers provide exposure to a variety of musical and dance performances.

Exploration and expression using art resources

C2 Teachers ensure that sufficient art materials are available to children daily.

C4 Teachers provide opportunities for children to experiment with elements of art to create artworks.

C6 Teachers provide opportunities for children to express their ideas through a variety of techniques and art forms.

Exposure to and appreciation of different types of art

D2 Teachers conduct art activities to create awareness of basic elements of art.

D4 Teachers provide opportunities for children to talk about what they see, think and feel about their own and their peers' artworks.

D6 Teachers provide opportunities for children to talk about what they see, think and feel about a variety of artworks.

5.3 Environmental Awareness					
1	Emerging 2		Performing 4		Mastering 6
	3		5		

Exploration and understanding of the world

A2 Teachers provide a variety of materials and equipment for children to explore the environment around them.

A4 Teachers provide opportunities for children to gather information about the environment through meaningful activities and communicate their findings in different ways.

A6 Teachers extend children's learning by helping them to make conclusions or suggest possible reasons to explain their findings/discoveries.

Acquiring right attitudes towards the environment

B2 Teachers create an awareness of the importance of showing care and respect for the environment.

B4 Teachers provide opportunities for children to discuss issues concerning the environment they live in.

B6 Teachers create a culture that encourages children to display positive attitudes towards the environment.

5.4 Language and Literacy					
1	Emerging 2	3	Performing 4	5	Mastering 6
	<i>Development of speaking and listening skills</i>				
	A2 Teachers model good expressive language skills.		A4 Teachers provide opportunities for children to participate in a variety of communication activities.		A6 Teachers differentiate communication activities for children of different language abilities.
	<i>Use of books and reading</i>				
	B2 Teachers ensure a sufficient number of appropriate books is accessible to the children.		B4 Teachers provide a variety of appropriate books that are accessible to the children.		B6 Teachers systematically support parents/guardians in encouraging children to read at home.
	<i>Book and print awareness</i>				
	C2 Teachers read/tell stories using books or other materials to children on a daily basis.		C4 Teachers read/tell stories using books or other materials with small groups based on the children's reading ability.		C6 Teachers provide opportunities for children to share what they have read.
	<i>Phonological awareness and word recognition</i>				
	D2 Teachers promote alphabet knowledge, beginning sounds and familiar words during daily activities.		D4 Teachers systematically reinforce alphabet knowledge, sounds and familiar words.		D6 Teachers systematically monitor the development of children's language skills and provide appropriate intervention.
	<i>Development of writing skills</i>				
	E2 Teachers ensure sufficient writing materials are accessible to the children.		E4 Teachers facilitate children's understanding of writing conventions according to their abilities.		E6 Teachers provide opportunities for children to write in meaningful contexts according to their abilities.

5.5 Motor Skills Development					
1	Emerging		Performing		Mastering
1	2	3	4	5	6

*Development of gross motor skills**

A2 Teachers use a variety of equipment/materials to develop children's gross motor skills at least twice a week.

A4 Teachers provide opportunities for children to develop a range of gross motor skills through the use of a variety of equipment/materials throughout the year.

A6 Teachers systematically monitor children's development of gross motor skills and provide appropriate intervention.

*Development of fine motor skills***

B2 Teachers ensure that a variety of materials is available to the children to develop their fine motor skills.

B4 Teachers provide opportunities for children to develop a range of fine motor skills throughout the year.

B6 Teachers systematically monitor children's development of fine motor skills and provide appropriate intervention.

*Healthy and safety practices****

C2 Teachers establish rules and routines for children to develop healthy habits and safety practices.

C4 Teachers provide opportunities for children to know the importance of healthy habits and safety practices.

C6 Teachers create a culture that encourages children to demonstrate healthy habits and apply safety practices in a variety of contexts.

5.6 Numeracy					
1	Emerging		Performing		Mastering
1	2	3	4	5	6

Development of mathematical concepts and skills

A2 Teachers demonstrate mathematical concepts/skills using materials/games.

A4 Teachers reinforce mathematical concepts/skills in different learning contexts.

A6 Teachers facilitate children's use of mathematical concepts/skills in practical tasks.

Use of mathematical terms

B2 Teachers use mathematical terms to explain concepts and demonstrate skills.

B4 Teachers facilitate children's use of mathematical terms in different learning contexts.

B6 Teachers provide opportunities for children to communicate with one another using mathematical terms.

5.7 Self and Social Awareness					
1	Emerging		Performing		Mastering
1	2	3	4	5	6

Development of self and social awareness

A2 Teachers create a warm and secure environment for children to manage both positive and negative behaviour during daily activities.

A4 Teachers provide opportunities for children to understand socially acceptable behaviour.

A6 Teachers serve as positive role models of socially acceptable behaviour.

Appreciation and acceptance of diversity

B2 Teachers create awareness of the different races and cultures in the society.

B4 Teachers provide opportunities for children to understand the need to show respect and understanding for people who are different from them.

B6 Teachers creates a culture that encourages children to show care and respect for people who are different from them.

6. PEDAGOGY

6.1 General Principles for Pedagogy					
1	Emerging		Performing		Mastering
1	2	3	4	5	6

Questioning

A2 Teachers interest and motivate children by asking a range of open-ended questions.

A4 Teachers encourage children to ask questions and express opinions.

A6 Teachers use children's questions and responses to engage them in sustained conversations.

Facilitating purposeful play

B2 Teachers provide opportunities for children to engage in purposeful play.

B4 Teachers monitor and facilitate children's play to ensure that learning objectives are met.

B6 Teachers use children's play to stimulate thinking and extend learning.

Promoting ample opportunities for interaction

C2 Teachers provide opportunities for children to interact with materials and the physical environment.

C4 Teachers provide opportunities for children to interact with peers and adults in the centre.

C6 Teachers provide opportunities for children to interact with others in the community.

6.2 Assessment of Children's Learning and Development					
1	Emerging 2	3	Performing 4	5	Mastering 6

Observing and documenting children's learning and development

A2 Teachers observe and use a variety of methods¹ to record children's holistic development.

A4 Teachers systematically observe and document children's holistic development.

A6 Teachers use information from documentation to improve teaching and learning.

Communicating children's learning and development to parents

B2 Teachers share information on children's learning and development with parents/guardians regularly.

B4 Teachers provide a summary report to inform parents/guardians about the child's holistic development.

B6 Teachers use information from the summary report to engage parents/guardians in enhancing the child's learning and development.

Appendix 6 - Sample of interview protocol used for semi-structured interviews - Principals

Broad Areas	To be established	Opening and follow-up questions
<p>Introduction of project</p> <ul style="list-style-type: none"> - Background - Ethics 	<ul style="list-style-type: none"> • They understand the project. • They understand their involvement and rights. • They understand about subsequent reporting back. 	<ul style="list-style-type: none"> • Thank you for agreeing to participate in this study. • As mentioned in the letter which I sent to you earlier,Do you have questions regarding the nature of the study? • I will be tape-recording this session. Are you comfortable with the recording of this session? If at any time, you would like me to stop the recording, just let me know.
<p>What are the 'leadership theories' that principals hold? and what experiences have shaped these theories?</p>	<p>Their beliefs on leadership especially</p> <ul style="list-style-type: none"> • whether they have a vision and whether they seek to have the staff also share the vision, • what they have considered in deciding on the mission and vision, • whether they believe in engaging staff through sharing leadership, • whether they believe that building trust and teamwork are essential, • whether they think role modelling is important, and • how they signal the importance of learning. <p>Also</p> <ul style="list-style-type: none"> • the MOE and/chain headquarters policies and initiatives that have shaped their beliefs and practices and why, and • whether their past experience especially that outside of education has helped them. 	<p>Opening Questions</p> <ul style="list-style-type: none"> • How would you describe the way you lead this centre? • How do your staff know what you are trying to achieve? • What have you been trying to achieve? • What earlier experiences, either in school or at work, have influenced the way you lead this centre? • What were the events and developments in the sector that have shaped the way you lead this centre? <p>Follow-up questions (examples):</p> <ul style="list-style-type: none"> • Could you think of the people and events that have shaped the way you lead?(direct) • To what extent do you think trust and teamwork have featured in the way you lead this centre? (direct) • Why did you say....(did this or that?) • Could you say more on • Could you give examples of

<p>What are the contextual factors at the kindergarten that have shaped the application of these theories?</p>	<p>Their opportunities and constraints, especially</p> <ul style="list-style-type: none"> • the profile of the centre and key challenges of the centre e.g. pupil profile (% of students receiving financial aid), social economic background of the families, changing profile of the families, competition, popular demand, physical constraints. • constraints placed by people 1 level above and 1 level below the principal 	<p>Opening questions:</p> <ul style="list-style-type: none"> • What is the profile of the pupils here like? • What are the factors that have had an impact on the way you lead this centre? <p>Or</p> <ul style="list-style-type: none"> • Supposing a new principal takes over from you tomorrow, what advice would you give to the new principal regarding the leading of this centre? <p>Follow-up questions:</p> <ul style="list-style-type: none"> • What are the key challenges you have faced in running this centre? Are there areas that you think would be difficult to overcome? • How has the pupil profile affected the way you lead this centre? (direct) • How has your supervisor supported you in your work? Are there other areas that you would like them to support you in? What are these areas? (direct and specific) • Have the teachers been able to help you realize your vision? (direct and specific)
<p>What are some staff and pupil outcomes that can be attributed to the application of these leadership theories or leadership behaviours?</p>	<p>What is the impact of their leadership?</p> <ul style="list-style-type: none"> • Whether teachers have become more engaged as a result of certain leadership behaviours, • Extent to which the principal thinks the teachers are engaged in the vision of the centre • If there are specific areas of leadership that she thinks she can improve on. 	<p>Opening questions:</p> <ul style="list-style-type: none"> • What are the visible student or staff outcomes that you think you can claim credit for from your leadership efforts? <p>Or</p> <ul style="list-style-type: none"> • In what ways have your staff and students responded to your leadership efforts? • How would your staff describe the leadership that you have provided? • Reflecting on what you have done in the last 5 years, what would you do differently if given another opportunity? <p>Follow-up questions:</p>

		<ul style="list-style-type: none"> • On a scale of 1-10, how much would you say your teachers trust you? (direct) • How do you know that your teachers are living up to your expectations? • How do you know that your staff is with you?
<p>How do principals build teamwork, develop professional knowledge and skills of staff and prepare them for change?</p>	<p>Practices in 2 areas: Nurturing teamwork and developing the teachers professionally</p> <ul style="list-style-type: none"> • What they have done to establish teamwork. If the principal talks about teamwork in the earlier section, then follow up immediately on what they have done to establish teamwork. • What they have done specifically to develop professional knowledge and skills of teachers. On this area, also establish 3 details: <ul style="list-style-type: none"> (i) how the formal class observation is capitalized on and specifically if there is a post-observation conversation on the lesson (ii) if teacher self-reflection sessions are conducted regularly and (iii) if there are regular platforms for professional dialogue. • how principals prepare teachers for change. 	<p>Opening questions:</p> <ul style="list-style-type: none"> • Could you tell me what you do consciously and sub-consciously to establish teamwork? • What do you do to help your teachers improve their professional skills and knowledge? • Typically, what would you do to prepare your staff and students for change. <p>Follow-up questions:</p> <ul style="list-style-type: none"> • How do you know there is teamwork? • (if the topic of ownership is not mentioned) What did you do to promote ownership of the services? • (If topic of feedback after classroom observation is not mentioned) How do you give feedback to the teachers on their classroom practices? • Is professional dialogue and reflection something that is done on a regular basis? Could you elaborate on how it is done and what expectations you have of your teachers? • Using SPARK as an example, could you detail how you communicated SPARK to your staff <p>Or</p> <ul style="list-style-type: none"> • What did you do to prepare your teachers when your headquarters last introduced changes. • What structures and processes do you think can be put in place at MOE and/ your chain headquarters to support

		professional growth of staff members?
How do principals lead in the curriculum planning and review process?	<p>The curriculum leadership provided by the principal especially</p> <ul style="list-style-type: none"> the role of the principal and the teachers in curriculum review and planning <p>if the centre follows a specific curriculum stipulated by a central body (as in a chain operation), how the curriculum is customised at the centre level, the extent of customisation and the role played by the principal and senior teacher.</p> <p>Establish if the needs of the children have been considered.</p>	<p>Opening questions:</p> <ul style="list-style-type: none"> How do you decide on the topics and activities that go into the curriculum? (For chain operated centres) Can you describe how the central curriculum is customised for the use at this centre? <p>Follow-up questions:</p> <ul style="list-style-type: none"> Who normally suggests changes to the curriculum? How are the suggestions surfaced for consideration? How do you know something in the curriculum needs to be changed? Are these suggestions documented? <p>(If answer is not specific) Can you show us one example of how the curriculum has been customised and the process that you brought the teachers through.</p> <ul style="list-style-type: none"> Who decides on whether the change/customisation should be effected? What is the role of the senior teacher and what is/are the role(s) of the rest of the teachers? How do you monitor the implementation of the curriculum? <p>How do you know that the changes made to the curriculum have been necessary and impactful?</p>
How are parents and the rest of the community tapped on for the learning of the staff and students.	<p>How the parents and community are tapped on, for example,</p> <ul style="list-style-type: none"> the extent of involvement of parents and the community how principal decides on the ideal level of involvement of parents and the community have not been involved more. 	<p>Opening questions:</p> <ul style="list-style-type: none"> In your mind, what is the ideal way for parents to be collaborating with the centre? How are they involved now? What opportunities are there for collaboration with the community, for example, with the National Library Board, National Parks, National Art Museum, the Museum, the Sports Council, the primary, secondary schools and junior colleges and other members of this community and the extended educational

		<p>community?</p> <p>Follow-up question:</p> <ul style="list-style-type: none"> • What are some challenges working with parents and members of the community? • What suggestions do you have for MOE, ECDA, (and your headquarters) in terms of policies that might support the collaborations between kindergartens and the different members of the community?
<p>Ensuring programme coherence and sustaining development of the centre</p>	<p>Establish what principals understand by growth and development of their centres; what they think would sustain the growth of their centres</p> <p>Establish what they have been doing to ensure that there is growth.</p>	<p>Opening questions:</p> <ul style="list-style-type: none"> • In what ways do you think your centre has grown or developed over the years? <p>Follow-up questions:</p> <ul style="list-style-type: none"> • How do you track the growth and development of your centre? • Which of your efforts so far have contributed to the growth and development of your centre? What have you looked out for in planning and operations to ensure that your centre grows? • What do you think are leadership practices that you should continue with to sustain the growth and development of your centre? • What do you think you need to do differently for the centre to sustain its grow and develop?
<p>“Thank-you”</p> <p>What next</p>	<p>Closure, and</p> <ul style="list-style-type: none"> • willingness of principal to continue participation • if principal understands forthcoming schedule 	<p>Summarise key points</p> <p>Thank principal</p> <p>The next interviewee.. . etc.</p>

Appendix 7 - Comparison of the responses given by Principal of F3 to Researcher and to Research Assistants at separate interviews

(Section on what she views as leadership and how she guides her staff)

I interviewed the principal of Kindergarten F3 in March 2013 and I asked two research assistants to interview her again on the same areas in June 2013 to check if she would give different answers to interviewers with different power positions. This was necessary as I may be deemed by some as being in a powerful position and hence I may have elicited different responses from the interviewees. The research assistants were in their twenties and were pursuing research masters degrees at a local university at the time of the interview.

The transcripts of both interviews were analysed. The key points made in both responses were essentially the same, for example, in the snippet on leadership and guidance for teachers, she made the following points in both interviews:

- Role modelling was an important part of her leadership; she would work alongside her staff to get things done;
- Whatever she wanted the teachers to do, she made sure that she could do them herself;
- She believed in giving her staff space to come up with ideas and implement them. She would not stop her teachers from trying out innovations unless there was imminent danger. Her underlying belief is that it is important to build ownership of staff;
- Whenever she embarked on innovation, she would always get agreement from her staff before embarking on them as innovations would require time and effort from staff;
- SPARK, the accreditation of kindergartens, provided much needed standards of practice for the kindergartens. SPARK encouraged the setting up of structures that are necessary for continuity of practices especially in a situation where there are changes in personnel. SPARK

gave affirmation to kindergarten staff on their efforts.

- The cluster principal taught the principals administrative skills, and handheld them through the SPARK process.

However, there were some differences in the examples given, and the patterns of speech. She appeared to be more formal and less repetitive with me than with the research assistants as I interrupted her more frequently to keep our conversation going.

The table below provides a snippet of the responses from the two interviews.

Responses to me (I : me; P-F3: Principal of Kindergarten F3)	Responses to research assistants (RA: Research Assistant; P-F3: Principal of Kindergarten F3)
<p>I: This is the first time I see learning centres set up centrally for the entire level. Can you describe how you set up the learning centres?</p> <p>P-F3: Actually one good thing about setting up the learning centre centrally is that there is ownership of the Centre. Every teacher and every class that comes in, right, the teacher will make sure that the children take care of the learning centre. When the teachers set-up the, we do it together. The teachers know where the things are kept. It's a common place. When I come up with new activities, everyone is involved. No one is left behind, or left alone. When I - (Interrupting)</p>	<p>RA: Can you describe the way you lead this Centre?</p> <p>P-F3: I will walk my talk, I believe in.. Everything I do, [I] will be a role model for the staff. Whatever that is meant to be delivered, I must also able to do it. I will work with them, assure them that they do not work alone. They feel comfortable [to work on] new projects or new curriculum, [that is because] I always work with them. I won't just tell them. I won't just delegate the job. The assurance was given that we will work together as a team, I will be there to guide them. I will also give them autonomy to decide on what is good for the cohort that the teacher is handling. (Continued)</p>

I: So you lead in these efforts.

P-F3: Yes, I, I.. I am always involved in the learning centre set-up because I believe that I have to walk the talk. For example, when I have new teachers, like Serena and Ruth, I will go in and model how I talk to the children. When they set up the centres initially, I will set up with them.

I: Ah-ha

P-F3: I have to prove to them that it is not so difficult to set-up a learning centre. I involve them in the planning. Sometimes, I do have some ideas but they have very good ideas and they say, can we try this, I will let them try. It is fine with me. You know, when they shift some positions, fine with me. Sometimes I have to tell them that their ideas don't work but if they still want to go ahead, I will let them try. When they have set up the centres, and they realize what I mean, they will also tell me, you know, Jan, you are right about it, and they will revert to what I tell them. I will never say, "you must follow". I let them try. I will tell them that the previous person did it in this way, but you can do it your way... -

(Interrupting)

I: So you learned from your previous supervisors what to do and what not to do as a leader.

P-F3: I don't leave them alone as some just have no idea on how to set up a learning centre. I have lots of pictures of previous set-up, so they can look at them to have some ideas. So that way, the teachers don't have to spend a lot of time setting up learning centres. Setting up learning centres is not a dread to them anymore. We can finish within one or two days. They know where to get the things. So it is a breeze. (repeating)

Along the way when there is curriculum review, the staff will also be able to suggest changes to be made. I won't say 'no', you have to do things my way. We will sit together to discuss. When someone has a decision, they want to make changes, we need to have consensus from all. Because our practice is the curriculum will not only be among the centre staff alone, we work with other centres at the branch level. The rest of the colleagues from other branch centres will also sit together to discuss. So we are open for discussion and there must be a consensus from everyone. Not something that the principal will insist on doing and the rest will follow.

RA: It sounds like you're quite closely involved with your staff and you've got a good relationship with them.

P-F3: Through the SPARK, I would say. We have a clearer idea about how in terms of leadership, there are certain areas I have to look into, like the admin part, the staff development part. Prior to that, we know that we are centre principals, we come in, we're supposed to guide the teachers in certain aspects, but in the professional standards we are still not there yet. There are still certain criteria that we did not have then. Now I know I need to have strategic planning, vision, mission. This is something we have not done before. But with the SPARK guidelines, I know that in order to be more professional in leadership, we will have to be able to help the centre develop a bold vision, help staff embrace what is in the centre, the core value that everyone should embrace. This is something that we did not have in the past. Now we have a common vision, a goal and how to reach it. We all know where we are heading. (Continued)

<p>I: Ah-ha, it was difficult at the start, lah.</p> <p>P-F3: Ya, a few years back lah. Now I set higher standards. I set them a challenge, the next level is, we have to do more for the learning centre, like what are the challenges that you want the children to have at the learning centres. We introduced the learning centre web in term 3 and 4.</p> <p>I: Ah-ha, tell me more about it.</p> <p>P-F3: To actually do up the web, it is a lot of work for them. So I told them that we will go gradual, this March holidays we will finish up the term 1 web because the last holidays everyone was busy training and I did not want to take up too much of their holidays, and because I have to take over the K1 class the last time, I could not spend too much time on this aspect. Hopefully we can come up with something.</p> <p>I: Okay.</p> <p>P-F3: Term 3 and 4, we have the web already, because last June, I worked with them. Maybe I can show you the Term 3 and 4 web. When the teachers go into the learning centre, they won't be at a lose.</p> <p>I: We were talking about how your leadership concepts got shaped by the different settings you were at and the different supervisors you worked with.</p> <p>P-F3: Hm..</p> <p>I: What were the changes in MOE that could have affected the way you lead this Centre?</p>	<p>Prior to this, it's like... I just need to deliver the lesson, following this curriculum, it is fine. We don't even review, you know.. the set of curriculum can be there for years. But with the SPARK criteria, we know that we have to do a review even for vision and goals, we won't be stagnant anymore.</p> <p>The staff is also aware of the need for professional development. Last time there was no such thing as professional development. Teachers will always be teachers, principals will always be principals for a long time, but with that we are... (phone ringing)</p> <p>P-F3: Please excuse me</p> <p>RA: Okay.</p> <p>(20) (phone call interrupts)</p> <p>P-F3: With the guidelines, for my case, I need to plan - the strategic planning for my staff, I need to guide them with professional development, that's where the funding comes in, the teachers will go for training, which is good because with SPARK, they [the governing board] are more generous, they are willing to send the teachers for training. Last time it was a little bit more difficult. But with this new MOE belief that teachers should have training after their professional certification, they should be equipped with more skills to be in the classroom, and with more funding, I can develop the teachers.. It is part of my job to develop the teachers. With the guideline, I know that I am supposed to do so, and I have the authority to do it. (Continued)</p>
<p>P-F3: The impact..</p>	<p>Also in terms of curriculum, we are more aware of how to plan the curriculum.</p>

<p>I: What were the MOE policies that had an impact on you as a leader. Was it the training you received... , SPARK, innovation award. What really had an impact on how you lead?</p> <p>P-F3: The way I lead, eh?</p> <p>I: What about the changes in your HQ and how did these changes impact your leadership?</p> <p>P-F3: The cluster principals, they taught me administrative skills. In those days, we don't file things. There are so few of us, we spend a lot of time on KiFAS, fees and so many things. We do a lot but we don't have time to file evidences. Mrs. Ju came along and said, "you have to start filing, and have proper minutes taken of meetings. You need to keep proper records". Like I've said, Mrs. Ju handheld us.</p> <p>I: So you have been doing but did not record what you have done, and did not put up systems.</p> <p>P-F3: Precisely, so if I leave, everything may fall. When SPARK came in, SPARK provided the guidelines. So whoever comes in, right, there will be continuity. They look at my files, they will know where we are heading. Where should the next level be. And also because of SPARK...the cluster principal came into the picture-</p> <p>(interrupting)</p>	<p>Given the Kindergarten Curriculum Guide (KCG), I am able to plan in detail with the teachers, and because of that we are more organized and we have to make sure that our children have the six learning areas within that one week. Those days, we will just base on the academic aspect, English, math, Chinese, arts and craft. We just buy books and deliver. The whole environment has changed. Now the staff has more training, they have more creative ideas to teach our little ones. Teaching is not so dull anymore. There are open discussions, group discussions. Children are able to go out of the centre. The teachers are able to bring the children out for learning. It would not be just confined to the centre itself. I thought it's a really good thing to have this KCG and this SPARK criteria guidelines because when we are being assessed, all these are being looked into. It's a must thing that the centre should equip with which I'm glad is happening. With the guideline, I can plan more for the children and for the staff.</p> <p>RA: it sounds like SPARK and the kindergarten curriculum guidelines have shaped the way you lead the centre, shaped the curriculum development and professional development.</p> <p>P-F3: Precisely, in terms of curriculum development and staff welfare, it's well looked after. At least our management will be aware that these are areas that need to be looked into, not just to meet the SPARK requirement but they also learn that if the staff has a sense of belonging and if they are well taken care of, then they won't leave, the retention rates will be high. The staff will not want to leave. (Continued)</p>
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<p>I: Oh, I think the cluster principal came in parallel.</p> <p>P-F3: Oh parallel. I would say both works, you know. With MOE policy, we have proper guidelines. But at first I was not sure. But Mrs. Ju said I was ready. Until I filed in all my documents, I didn't know if I was ready. With the consensus of the staff, we went for it. Because of SPARK, we know that we are almost there. After the assessment, we found that we have many gaps. We are now working to close those gaps. At least I know now that I have met the minimum. I am so glad.</p> <p>I: At least now, you know where you are.</p> <p>Laughter</p> <p>P-F3: Yes, we are working towards performing. There are still areas to iron out. At least we know that all these years, the efforts did not go down the drain, and for the teachers, it was affirming. In terms of belonging and ownership too. There is a sense now that this Centre is theirs. It's their child, their baby. So now, whenever I have a new idea, they are very receptive. Now, we are short of one staff, they are willing to try new projects still. I told them I am behind them and will support the whole project. So when MOE offered the project and I asked them [the teachers], they said, "Yes, why not?. Since it is good for the Centre, why not? " I told them there will be extra work, and training, Okay. They said, "no problem! Go for it".</p>	<p>My centre is almost 20 years old, and the staff has been with me for 13 years. I have been here for about 16, 17 years. The one who resigned last year, it was time for her to retire. Because of that [low retention], we all work together, and we see the changes. When we see the SPARK criterion, we are happy because there are many areas that the will look into. And also the role of the principal has been clearly spelt out. We know our roles, there are more training opportunities for us, we can be better principals. We know our roles and duties. It's clearly defined I would say. I would say it's a good thing to have SPARK but the sad thing is that when they come they only assess us for two days, they can't really see the whole picture. Actually I did tell Ms. Su. In two days, they want to see the six areas within the centre, a bit impossible lah I would say. Maybe here and there but you can't see details. There are things they say they don't see, or very little evidence, that doesn't mean that the centre is not doing it. It could be that in those two days, it was very difficult to see it. But why should we adjust that timetable just for the 2 days of assessment. This one little issue that I brought up. But overall, it is good, you see improvements everywhere.</p> <p>Everyone is aware of things like safety in the centre. Safety is one important aspect. There are centres with wiring all over the place and it is not safe for the children, corners are not covered, but with these guidelines, the centres are aware of what are the equipment, stationery that are allowed, and what are not.</p>
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Appendix 8 - Sample of notes taken in the course of carrying out the case studies - Kindergarten F3

Key research question: “How do kindergarten principals in Singapore build the capacity for learning of their centres”

Research notes of 12 and 13 March 2013

Centre: Kindergarten F3

How did the principal build the knowledge, skills and dispositions of teachers?

The ‘leadership theories’ held by the principal

- Principal articulated what she believed were important roles of a leader. She said that she took the following tasks seriously as a leader:
 - she had to demonstrate willingness to learn;
 - she took over a class whenever a teacher was absent;
 - she role modelled what she felt was good teaching;
 - she took part in the planning and setting up of the learning centres and learnt alongside the teachers;
 - she visited each class for at least 10 minutes everyday to observe the teachers and students;
 - she enrolled her teachers in training courses;
 - she was the gate-keeper.
 - she spoke about the human resource (HR) infrastructure provided by her headquarters that had recognized the efforts of teachers and raised the motivation of teachers;
 - she spoke enthusiastically about the resources made available by MOE’s teaching and learning grant.
- She spoke proudly about grooming the senior teacher for the role of a principal, and exposing her gradually to the various aspects of a leader’s work such as curriculum development, supervision and mentoring of teachers.
- She alluded to the importance of the following:
 - building team spirit;
 - allowing teachers to partake in classroom level decisions regarding the curriculum;
 - motivating teachers through career development opportunities.

Structures put in place to support learning

- The principal facilitates the learning needs analysis of teachers, although what she related didn't sound very systematic. There were also some contradictions between what the teachers said and what she said about learning needs analysis.
- No regular platforms have been put in place for staff dialogue and sharing as classes run for 4 hours for each session with the same set of teachers teaching the two sessions. Teachers have only a half an hour lunch break. The discussions to plan and design the learning centres seem to be the core piece for professional dialogue and development.
- Teachers were required to write their weekly reflections. Samples shown to me suggested that these were cursorily done, with insufficient detail for follow-up. Some examples,
 - “Lesson was successful. All tasks completed”
 - “Need to review activity for learning centre...”
 - “Children had difficulty with ...”

The resources (time, funds, information on learning resources) made available to staff

- The principal acknowledged that the funds set aside for teachers to attend training courses had grown astronomically. The shortage of teachers appeared to be the key reason for not sending more teachers to these training courses.
- The teachers appeared to look forward to attending courses on music education and complained about the dearth of such courses.
- The senior teacher talked about the leadership course she had attended and the projects she had to carry out as part of the course, and others chirped in on the projects, suggesting their involvement in supporting the senior teacher in the leadership course.

How did the principal cultivate a kindergarten-wide professional environment?

Service and attention to learning of the children

- The principal appeared to be 'ever present' and she had good knowledge of the children. The principal showed ownership of what went on at the centre and the well-being of the children under her care.

Building trust and teamwork

- Yes, efforts to build trust and teamwork were evident, for example, the principal gets teachers to plan and set up the learning centres together.
- The teachers appeared to be very comfortable with one another at the interview.

Staff ownership and agency

- Teachers were involved in the curriculum planning. This was done together with a few other centres every term and then customized for the centre.
- A teacher had been appointed to look after the curriculum for each level-nursery, K1 and K2.

Involvement of parents in planning, monitoring and reviewing of the learning of the children

Apart from carrying out a twice yearly one-to-one parent-teacher conversation on the development of the children based on an annotated portfolio of the children's work and a checklist (based on MOE's Kindergarten Curriculum Guide) that the centre has developed on the performance of skills, the children brought home a home-learning activity to work on with parents every term. Parents also participated as volunteers in outings, and as demonstrators of specific activities e.g. baking, sandwich making.

Innovation and change

- The principal was willing to take on new ventures, for example, applying for innovation grant to support a literacy project. However, while she appeared to be enthusiastic in bringing about improvements, her own skills in developing curriculum, pedagogy appeared quite limited.
- The willingness of teachers to try new ideas was premised on their belief that the principal would be there to guide them. The presence of the principal was much felt.

How did the principal take care of coherence of goals, plans and actions?

- The principal appears to be the key driver of the programmes at the kindergarten.
- The principal and staff talked about the review of plans every term at cluster level but it was not clear what platform was used for the customization of these plans to the centre level. In the interview with the teachers, they claimed that they took note of the "things that didn't seem to work as well" at the learning centres and made changes as they planned for the next theme. They agreed that evidence on how the children benefitted from the learning centres had not been properly documented and reviews of the learning centres were not done systematically.
- Lesson observation of a K1 motor skills class conducted indoors. The class did not seem to be carefully planned and executed especially from the safety point of view. There appeared to be a bottle-neck in getting onto a beam raised about 3 feet above ground, and one child repeatedly showed fear getting onto the beam but the teacher did not seem to have noticed her difficulty. There were also pillars in the room that prevented the teacher from seeing all that was happening in the room, and she did not seem to have taken this fact into account in her planning.
- Lesson observation of a class where children were asked to draw masks. The children came up with very similar designs, suggesting that the scaffolding for this activity was not sufficient. When I asked the teacher how she felt about the lesson, she seemed quite happy with the outcomes of her lesson.

What might be some contextual features that affected the principal's efforts to build the capacity of learning of the centre?

- 30-40% of the children received financial aid.
- The cluster principal shaped the principal's leadership thinking and this was explicitly stated in the interview with the principal.
- The SPARK standards provided the benchmark for minimum resources that each kindergarten should be equipped with and gave the principal the 'license' to request for resources, suggesting that the centre was deprived of resources previously.
- The centre was short of teachers (probably related to the short supply of teachers in the north zone) and there was no teacher who stood out as a strong teacher. The principal had to teach a nursery class and play a leading role in teaching.
- The principal's early success in securing recognition for innovation (when MOE started giving innovation funding and awards for innovation) could have in some way given the centre a boost in morale and given her confidence to work on more innovations and secure more innovation grants.
- The principal's warm and friendly nature may be the main reason for her easy relationship with parents and pupils. This has perhaps encouraged her to continue to be warm and friendly, and maintain good relationships with parents.
- The centre was located within a low/lower middle income neighbourhood. Parents appeared to be less critical but not without aspirations. Doing well academically in the primary school seemed to be taken as evidence by the parents as well as teachers that the kindergarten had done well.

Other points of interest

- The principal appeared to have good people skills. She was warm and friendly towards parents and teachers.
- What has really changed over the last 3 years? – more resources and increased demands from MOE has made possible a different approach to teaching at the centre. SPARK has set standards, so centres can no longer just get by. They need to show that they can meet these minimum standards. In the interview with the principal, she reflected that she has grown in leadership skills. There could be greater dynamism at the centre. However, it was not clear if all these changes had benefitted the children in real terms. It was also unclear if the teachers had actually improved their pedagogical skills and if the children had benefitted from all these changes. Parents said that they have seen changes through the years. Again, these changes may be in form but not in substance.

Appendix 9 - Transcription notes

Conventions used by researchers for transcribing interviews differ depending on the focus of their study. I have adopted the following conventions in this study:

- (5) number in round bracket indicates duration of pause in seconds
- (that is) words in round bracket indicates words that transcriber is uncertain of, either because recording was muffled, or sentence was not complete and transcriber has added words to provide completeness
- (...) inaudible words
- ... omission of irrelevant words from one or more sentences
- ? utterance is to be understood as a question (usually with an intonation)
- . end of a phrase or a sentence, NOT a question.
- , a short pause
- M-O-E alphabets read out one-by-one
- 1-2-3 numbers read out one-by-one
- speech that was cut-off

Appendix 10 - Comparison of codes done by BC and Researcher

I invited BC, a fellow PhD research student who has knowledge of coding to code a section of a transcript as a check on my own transcription. She was given the conceptual framework and the set of codes I had generated but was told that she could add to the list of codes. Both BC and I coded the transcript first and then went back to see how the coding fitted with the original codes. Our coding differed only in the use of terms.

Table 4a below compares her codes with my codes. Alphabets have been used in this table to denote the codes. As can be seen, we surfaced the same points A-J. I surfaced 2 more points than BC as she was less familiar with the scope of this study.

Table 4a – comparison of codes done by BC and me.

Summary of BC's coding for chosen section	Summary of my coding for same section
<p>In this snippet, the principal made the following points:</p> <ul style="list-style-type: none"> i. She believed building relationships with teachers is important - (A) ii. She mentioned that she created opportunities to build bonds amongst teachers - (B) iii. She alluded to having platforms for teachers to work together- (C) iv. Some routines have been built into the schedule of work of teachers - (D) v. She had been personally involved in the curriculum discussions with teachers individually at her office, as and when necessary - (E) vi. There was consideration for the pace of learning of the children but teaching was not necessarily differentiated pedagogically to meet the needs of the children - (F) vii. Gaining support from parents - (G) 	<p>In this snippet, the principal made the following points:</p> <ul style="list-style-type: none"> i. Building relationship with teachers individually (A) ii. Building bonds amongst teachers (B) iii. Creating platforms for building relationships (C) iv. Some routines have been built into the centres work schedule (D) v. Principal is involved in curriculum review (E) vi. Consideration for the pace of learning of children (F) vii. Building relationships with parents (G) viii. Opportunities for teachers to mentor others (H) ix. Teachers cannot decide on lesson delivery without approval

viii. Provide opportunities for staff to guide other staff - (H)	(I)
ix. Professional judgment by teachers requires her endorsement – (I)	x. Principal unsure of what is available at HQ (J)
x. Principal unsure of what is available at HQ (J)	xi. Curriculum Review is carried out (K)
	xii. Teachers are given guidance individually (L)

Table 4b shows the raw coding by BC and by me.

Table 4b: Raw coding on transcript - BC and me

Extracted from interview transcript of P-F5	BC's Coding	My coding
<p>I: Now, we go on to your leadership. Your ideas on leadership, what do you think is most important in leadership? In the way you lead this centre, what do you pay most attention to?</p> <p>P-F5: Staff teamwork.</p> <p>I: Teamwork, okay.</p> <p>P-F5: I think for my centre, we are lacking of that before. Because we have 5 centres [within the cluster] as I said. They are doing their own things. So to put them together to work as a team is very difficult. So we went for courses, we went for workshops. When I took over, we closed 3 centres and kept 2 centres. I worked on each individual teacher first. To understand them better. I had changes of staff. So work on them first individually, and from there try to understand them, and put them together to work on a project. And I spent I think, we have bonding period -</p> <p>(Phone ringing) -</p> <p>P-F5: Sorry, you hold on ah.</p> <p>(3 minutes later)</p> <p>I: We were talking about leadership and the key ideas on leadership. And you were saying just now about –</p> <p>(overlap)</p> <p>P-F5: Teamwork.</p>	<p>Building relationship with teachers (A)</p> <p>Creating platforms to work together (C)</p>	<p>Worked with each teacher-building relationship with individual teacher (A)</p> <p>We went for courses and work on projects – platforms for building relationships (C)</p>

<p>I: so how do the children respond?</p> <p>P-F5: yah yah, so we change. That [pirate] will go to the maybe third term. So I think we put, "myself" in the first term. To know about themselves first, then go onto others. So we do make changes.</p> <p>I: So do you know why the headquarters moved from the guided curriculum to the new curriculum?</p> <p>P-F5: They wanted to standardize the..And apart from the "guided", there is also the integrated curriculum.</p> <p>I: How is that different?</p> <p>P-F5: I'm not sure. This integrated one, taken up by a few centres.</p>	<p>Unsure of what is available at HQ (J)</p>	<p>Unsure of HQ policies (J)</p>
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Appendix 11- Demographic data – Questionnaire participants

Table A11.1: Overall Number of Participants by Role

Role	Non-Funded		Funded		Total	
	Frequency	%	Frequency	%	Frequency	%
Principal	51	86	147	87	198	87
Acting Principal	4	7	6	4	10	4
Branch Administrator cum Principal	4	7	16	9	20	9
Total	59	100	169	100.0	228	100

Table A11.2: Overall Number of Participants by Ethnicity

Role	Non-Funded		Funded		Total	
	Frequency	%	Frequency	%	Frequency	%
Chinese	38	63	124	73	162	71
Indian	7	12	16	10	23	10
Malay	10	17	27	16	37	16
Others	5	8	2	1	7	3.1
Total	60	100	169	100.0	229	100

Table A11.3: Overall Number of Participants by Gender

Number of Students	Frequency	%
Male	6	3
Female	223	97
Total	229	100

Table A11.4: Overall Number of Participants by Professional Qualification

Professional Qualification	Non-Funded		Funded		Total	
	Frequency	%	Frequency	%	Frequency	%
Diploma	22	37	106	63	128	56
Degree	38	63	63	37	101	44
Total	60	100	167	100.0	229	100

Table A11.5: Overall Number of Participants by Years as Teacher

Role	Non-Funded		Funded		Total	
	Frequency	%	Frequency	%	Frequency	%
1 to 5 years	12	24	58	40	70	36
6 to 10 years	15	31	44	30	59	30
11 or more years	22	45	43	30	65	34
Total	49	100	145	100.0	194	100

Table A11.6: Overall Number of Participants by Years as Principal

Role	Non-Funded		Funded		Total	
	Frequency	%	Frequency	%	Frequency	%
1 to 5 years	25	43	71	44	96	43
6 to 10 years	18	31	48	30	66	30
11 or more years	15	26	44	27	59	27
Total	58	100	163	100.0	221	100

Table A11.7: Overall Number of Participants by External Work Experience

Role	Non-Funded		Funded		Total	
	Frequency	%	Frequency	%	Frequency	%
Has external work experience	47	79	112	67	159	70
Does not have external work experience	13	22	55	33	68	30
Total	60	100	167	100.0	227	100

Appendix 12 – Factor analysis of the routine tasks performed by Principals (SQ3)

The 16 items in SQ3 covering principals' routine tasks were generated with input from two focus groups. The objective of the factor analysis was to surface the factors that underlie principals' routine tasks. An exploratory factor analysis (EFA) was conducted to examine how the items would cluster.

Between the EFA methods, Principal Axis Factoring was used instead of Principal Components Analysis because using the common variance rather than total variance would result in better estimates of the hypothetical and error-free latent factors. An oblique (Promax) rotation was used as the hypothesis was that the factors relating to principals' routine activities would likely be correlated. If the factors were indeed correlated, it would yield a more accurate and realistic representation of the relationship between factors. Also, statisticians had written that Promax rotation was almost always a good choice (Thompson, 2004).

The rules applied for deciding on the number of factors to retain were: (a) factors which had a Kaiser Eigenvalue > 1; (b) a scree plot showing the factors clearly; (c) conceptual clarity, ease of interpretability, and simple structure (Thurstone, 1947). With a sample size of 228, factor loadings needed to be at least .40 for items to be accepted (Hair, Tatham, Anderson and Black, 2006). A minimum factor loading of at least .40 on the relevant factor and also a cross loading of not more than .30 on all other factors (Stevens, 1996) were the further criteria applied for items to be retained.

In the SPSS output for the EFA, the Kaiser-Meyer-Olkin measure of sampling adequacy (.872) and significant Bartlett's test of sphericity (χ^2 (120) = 1655.904, $p < .001$) showed that the correlation matrix was suitable for conducting exploratory factor analysis (Table A5.3i.1). These tests assess multicollinearity in the data. Next, the communalities was examined (Table A5.3ii) to flag and eliminate items which had communalities below .20

(Worthington and Whittaker, 2006). However, there was no item meeting this criteria. This means that each of the 16 items shared significant common variance with the other items.

Table A12.1 *KMO and Bartlett's Test*

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.872
Bartlett's Test of Sphericity	Approx. Chi-Square	1655.904
	df	120
	Sig.	.000

Table A12.2 *Communalities*

	Initial	Extraction
3.01 Observe classes and coach teachers on pedagogy	.513	.531
3.02 Counsel staff and mediate staff issues	.317	.271
3.03 Monitor teaching (e.g. through informal drop-ins, approving lesson plans)	.606	.713
3.04 Communicate with staff on teaching and learning	.627	.658
3.05 Monitor children's development (e.g. through checking attendance, children's portfolio, interaction with children)	.522	.475
3.06 Make arrangements for learning of children with special educational needs	.396	.324
3.07 Plan and arrange field trips	.550	.509
3.08 Procure and develop teaching resources	.610	.782
3.09 Keep abreast with developments in sector	.472	.404
3.10 Prepare staff, children and their parents for change and innovation	.538	.539
3.11 Attend to health and emergency issues	.456	.424
3.12 Communicate with parents	.650	.742
3.13 Communicate with members of public	.605	.612
3.14 Communicate with Ministry of Education and/or operations headquarters	.374	.391
3.15 Execute tasks associated with financial control, management of budget and accounts	.395	.369
3.16 Attend to other daily routines (e.g. deployment of relief teachers, checking on safety and hygiene)	.503	.438

Extraction Method: Principal Axis Factoring

Next, the output clearly showing a 3-factor structure was determined. The rules pointed out earlier were: (a) there were 3 factors that had an Eigenvalue > 1, (b) the scree plot showed a leveling off after the third factor, (c) and the 3 factors were easily interpretable and conceptually clear. These 3 factors' Eigenvalues were 6.399, 1.783 and 1.296, and they accounted for 39.99%, 11.15% and 8.1% of the total variance respectively. (Table A12.3)

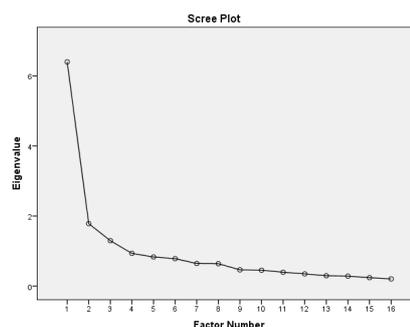
Table A12.3 Total Variance Explained

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings ^a
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	6.399	39.991	39.991	5.935	37.096	37.096	4.753
2	1.783	11.145	51.136	1.314	8.213	45.309	4.579
3	1.296	8.103	59.239	.933	5.830	51.139	4.312
4	.934	5.835	65.075				
5	.831	5.194	70.269				
6	.783	4.896	75.165				
7	.644	4.028	79.192				
8	.639	3.995	83.187				
9	.464	2.903	86.090				
10	.454	2.839	88.929				
11	.396	2.475	91.404				
12	.349	2.180	93.584				
13	.296	1.847	95.431				
14	.285	1.782	97.213				
15	.240	1.502	98.715				
16	.206	1.285	100.000				

Extraction Method: Principal Axis Factoring.

a. When factors are correlated, sums of squared loadings cannot be added to obtain a total variance.

Figure A12.1: Scree plot indicating 3 factors to extract.



Of the 16 items on the original list, 3 items were eliminated because they did not have a loading of greater than .4 on any factor. None of the remaining items showed significant cross-loadings of more than .3. The result was a final list of 3 factors comprising 13 items. **Table A12.4** presents the factor loadings with its item means and standard deviations.

Table A12.4: Factor Loadings, Means and Standard Deviations for "Time Spent on principals' Routine Activities" Items

Item	F1	F2	F3	M	SD
3.03 Monitor teaching (e.g. through informal drop-ins, approving lesson plans)	.902	-.008	-.096	3.90	2.24
3.01 Observe classes and coach teachers on pedagogy	.837	-.223	-.016	3.54	2.58
3.04 Communicate with staff on teaching and learning	.764	.073	.007	3.74	2.45
3.05 Monitor children's development (e.g. through checking attendance, children's portfolio, interaction with children)	.570	.050	.133	4.05	2.89
3.02 Counsel staff and mediate staff issues	.513	-.017	.027	2.89	2.19
3.06 Make arrangements for learning of children with special educational needs	.259	.219	.195	1.73	2.22
3.12 Communicate with parents	.177	.850	-.186	4.25	3.01
3.13 Communicate with members of public	-.087	.841	-.025	2.67	2.61
3.15 Execute tasks associated with financial control, management of budget and accounts	-.240	.696	.027	5.91	5.08
3.14 Communicate with Ministry of Education and/or operations headquarters	.044	.593	.011	2.50	2.45
3.16 Attend to other daily routines (e.g. deployment of relief teachers, checking on safety and hygiene)	.029	.531	.173	4.44	2.89
3.11 Attend to health and emergency issues	.088	.380	.288	2.93	2.32
3.08 Procure and develop teaching resources	-.006	-.176	.973	3.13	2.92
3.07 Plan and arrange field trips	-.094	.148	.677	2.96	2.27
3.10 Prepare staff, children and their parents for change and innovation	.076	.031	.669	3.35	3.05
3.09 Keep abreast with developments in sector	.274	.129	.338	3.38	2.43

Note. Boldface factor loadings have values .40 or more and mark items that load primarily on that factor. There are no cross-loadings with values .30 and higher. Factor 1 =Principals' Core Activities; Factor 2 =Principals' Administrative Activities; Factor 3 =Principals' Support Activities.

Factor 1, ***Principals' Core Teaching and Learning Activities***, is a 5-item dimension that essentially reflects the core activities that a kindergarten principal is expected to perform etc., engaging with students and teachers. The five items are:

- 3.03 *Monitor teaching (e.g. through informal drop-ins, approving lesson plans)*
- 3.01 *Observe classes and coach teachers on pedagogy*
- 3.04 *Communicate with staff on teaching and learning*
- 3.05 *Monitor children's development (e.g. through checking attendance, children's portfolio, interaction with children)*
- 3.02 *Counsel staff and mediate staff issues*

Factor 2, ***Principals' Administrative Activities***, is a 5-item dimension about the administrative activities that a principal engages in etc., communication with parents and the public, and finance matters. The items for this factor are:

- 3.12 *Communicate with parents*
- 3.13 *Communicate with members of public*
- 3.15 *Execute tasks associated with financial control, management of budget and accounts*
- 3.14 *Communicate with Ministry of Education and/or operations headquarters*
- 3.16 *Attend to other daily routines (e.g. deployment of relief teachers, checking on safety and hygiene)*

Factor 3, ***Principals' Administrative Activities in support of Teaching and Learning***, is a 3-item dimension about the support activities that a kindergarten principal performs etc., procuring teaching resources and planning field trips. The items for this factor are:

- 3.08 *Procure and develop teaching resources*
- 3.07 *Plan and arrange field trips*
- 3.10 *Prepare staff, children and their parents for change and innovation*

All 3 factors showed large correlations with each other; this ranged from .553 to .597. (Shown in Table A12.5)

Table A12.5 Factor Correlation

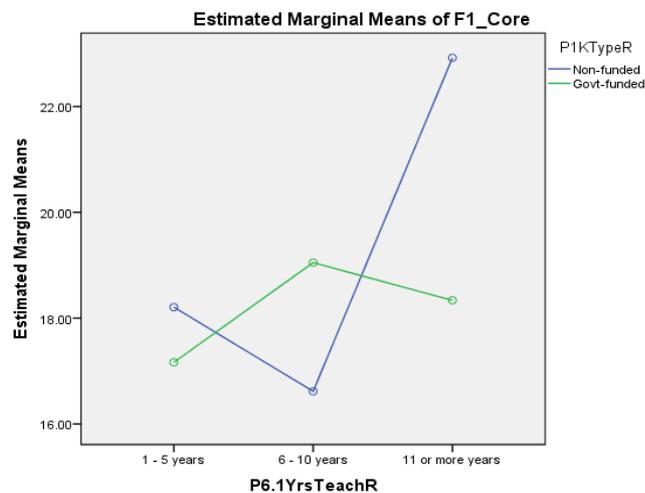
Factor		1	2	3
1	Principals' Core Activities	-	.558**	.594**
2	Principals' Administrative Activities		-	.556**
3	Principals' Support Activities			-

Note. ** p< .01

Inferential data on SQ3 based on factors derived from Exploratory Factor Analysis

ANOVA analysis was carried out controlling for Total time. These 3 graphs below show the interaction between Kindergarten Type and Years of Teacher Experience, controlling for Total Time on activities.

Figure A12.2

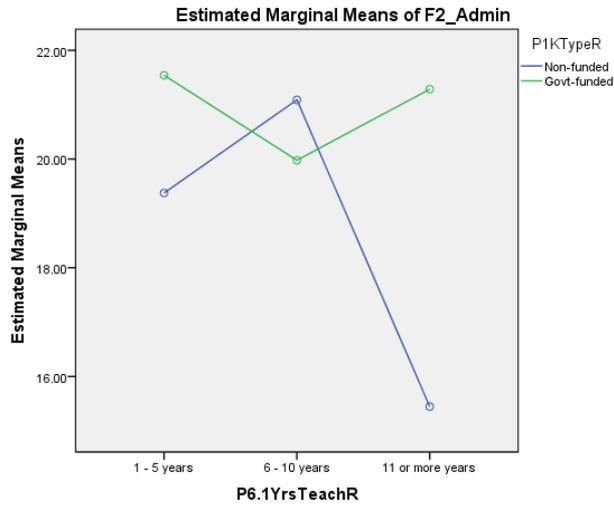


Covariates appearing in the model are evaluated at the following values: sumtimespent2 = 48.4105

Principals from Non-Funded kindergartens who taught more than 10 years spend more time on Core activities than those who taught for less years.

Among principals who taught more than 10 years, those from Non-Funded kindergartens spent significantly more time on Core activities than those from Funded kindergartens.

Figure A12.3

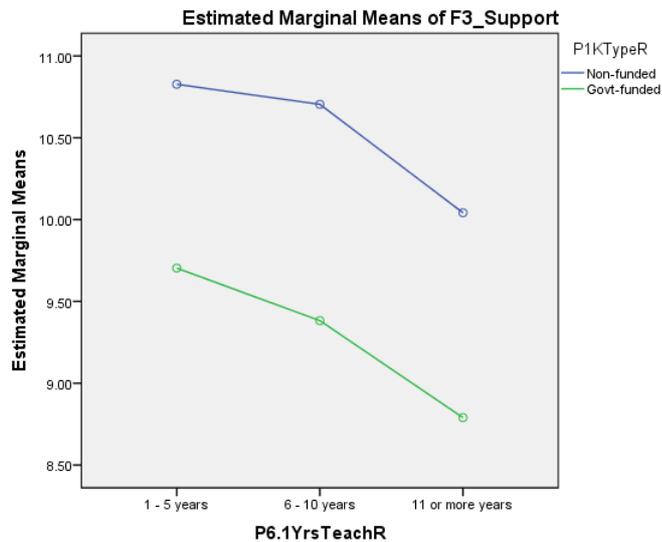


Covariates appearing in the model are evaluated at the following values: sumtimespent2 = 48.4105

Principals from Non-Funded kindergartens who taught more than 10 years spend less time on Admin activities than those who taught for less years.

Among principals who taught more than 10 years, those from Funded kindergartens spent significantly more time on Admin activities than those from Funded kindergartens.

Figure A12.4



Covariates appearing in the model are evaluated at the following values: sumtimespent2 = 48.4105

When controlling for Total time, the amount of time that principals from Non-Funded and Funded kindergartens spend on Support activities did not differ significantly.

Appendix 13 – Quantitative data related to Research Question 1

Comparison of the difference in learning areas of teachers by kindergarten type (SQ11)

In SQ11, although the participants were instructed to choose only 3 options, some participants chose many more options. When participants who deviated very much were removed from the dataset, the findings showed differences. In order to identify the common areas of training, two dummy variables, 'participants who did not deviate' - (ticked 0 – 4 boxes, $n = 217$), and 'participants with extreme deviations' (ticked 13 – 16 boxes, $n = 12$) were created. The analysis below was conducted after deviants were removed from the dataset.

Table A13.1: *Frequency Comparisons and Chi-square Analyses for Teacher Learning Areas by Kindergarten Type*

Item	Non-Funded ($n = 54$)		Funded ($n = 163$)		Total ($n = 217$)		χ^2 , $df = 1$	Odds Ratio
	Yes	No	Yes	No	Yes	No		
11.01 SPARK	36 (67)	18 (33)	108 (66)	55 (34)	144 (66)	73 (34)	.003	
11.02 Child Development	5 (9)	49 (91)	19 (12)	144 (88)	24 (11)	193 (89)	.237	
11.03 Curriculum Development	22 (41)	32 (59)	87 (53)	76 (47)	109 (50)	108 (50)	2.59	
11.04 Play	5 (9)	49 (91)	18 (11)	145 (89)	23 (11)	194 (89)	.136	
11.05 Assessment	5 (9)	49 (91)	21 (13)	142 (87)	26 (12)	181 (88)	.505	
11.06 Literacy	11 (20)	43 (80)	37 (23)	127 (77)	48 (22)	169 (78)	.128	
11.07 Numeracy	3 (6)	51 (94)	22 (14)	141 (86)	25 (12)	192 (88)	2.51	
11.08 Self and social skills	1 (2)	53 (98)	0 (0)	163 (100)	1 (1)	216 (99)	3.032	
11.09 Aesthetics	16 (30)	38 (70)	29 (18)	134 (82)	45 (21)	172 (79)	3.458	
11.10 Motor Skills Development	9 (17)	45 (83)	50 (31)	113 (69)	59 (27)	158 (73)	4.021*	2.21
11.11 Mother Tongue	5 (9)	49 (91)	5 (3)	158 (97)	10 (5)	207 (95)	3.538	
11.12 SPED	1 (2)	53 (98)	4 (3)	159 (97)	5 (2)	212 (98)	.065	
11.13 Innovation	16 (30)	38 (70)	28 (17)	135 (83)	44 (20)	173 (80)	3.89*	2.03

11.14 Parents	11 (20)	43 (80)	27 (17)	136 (83)	38 (18)	179 (82)	.407	
11.15 Project Management	2 (4)	52 (96)	7 (4)	156 (96)	9 (4)	208 (96)	.036	
11.16 Teacher Leadership	9 (17)	45 (83)	8 (5)	155 (95)	17 (8)	200 (92)	7.767* p=.015 (Fisher's)	3.88

Note. * = $p < .05$. Percentages are shown below frequencies in parentheses.

Comparison of the level of support for teachers to attend training courses (SQ14) by kindergarten type, principals' years of experience as teacher and principals' years of experience as principal

The level of support for teachers to attend training courses was looked at through three common structures that support staff professional development. These were items 14.1, 14.2 and 14.5 for sponsoring, subsidizing, and giving time off respectively. The number of ticks that participants gave to these items were computed and tabulated in Table A13.2.

Table A13.2: Frequency Comparisons for the level of support for teachers to attend training courses

Level of Support for teachers to attend training courses	<i>n</i>	%	Cumulative %
0	6	2.6	2.6
1	29	13	15
2	95	41.5	56.8
3	99	43	100

Note: 'Level of Support' indicates the number of ticks indicated for the 3 items.

Mann-Whitney U and Kruskal-Wallis tests revealed that there were no significant differences in principals' support for teachers to attend training courses going by the 3 variables, Kindergarten Type, Principals' Years as Teacher and Type of Institution.

Appendix 14 – Quantitative data related to Research Question 3

Comparison of participants' communication with parents by kindergarten type (SQ16)

The participants' years of experience as principal had no significant difference on the strategies they deployed to communicate with parents. The statistics for this analysis is given below (Table A14.1).

Table 14.1: Frequency Comparisons and Results of Chi-square Analyses by Years as Principal for Communication Activities with Parents

Item	Less than 5 years (n = 96)		5 to 10 years (n = 66)		More than 10 years (n = 59)		Total (n = 229)		χ^2 , df=2
	Yes	No	Yes	No	Yes	No	Yes	No	
16.1Orientation	92 (96)	4 (4)	62 (94)	4 (6)	54 (92)	5 (8)	216 (94)	13 (6)	1.23
16.2DailyCom	71 (74)	25 (26)	47 (71)	19 (29)	41 (69)	18 (31)	166 (72)	63 (28)	0.386
16.3WeeklCom	27 (28)	69 (72)	20 (30)	46 (70)	19 (32)	40 (68)	70 (31)	159 (69)	0.299
16.4ParentMtg	35 (36)	61 (64)	26 (39)	40 (61)	21 (36)	38 (64)	86 (38)	143 (62)	0.223
16.5Parentfdbk	60 (63)	36 (38)	49 (74)	17 (26)	41 (69)	18 (31)	155 (68)	74 (32)	2.57
16.6ParentEdn	45 (47)	51 (53)	39 (59)	27 (41)	31 (53)	28 (47)	118 (52)	111 (48)	2.347
16.7HealthDiet	15 (16)	81 (84)	12 (18)	54 (82)	13 (22)	46 (78)	43 (19)	186 (81)	1.013
16.8Newsletter	75 (78)	21 (22)	53 (80)	13 (20)	48 (81)	11 (19)	183 (80)	46 (20)	0.261
16.9Website	23 (24)	73 (76)	12 (18)	54 (82)	16 (27)	43 (73)	52 (23)	177 (77)	1.476
16.10OpenHse	39 (41)	57 (59)	23 (35)	43 (65)	22 (37)	37 (63)	88 (38)	141 (62)	0.572

Note. * = $p < .05$. Percentages are shown below frequencies in parentheses.

Comparison of involvement of parents (SQ17) by kindergarten type

For SQ17, participants in the survey were instructed to choose only 1 or 2 options. However, there were some participants who did not follow the instructions closely. Two dummy variables were created used to code the participants, 'Participants who did not deviate too much' (ticked 0 – 4 boxes, $n = 211$), and 'Participants who deviated markedly' (ticked 5 – 8 boxes, $n = 18$). However, as a comparison of the results using the total sample, and only the participants who did not deviate too much showed no significant difference, the analysis was eventually done with the total sample of 229.

Table A14.2: *Frequency Comparisons and Results of Chi-Square Analyses by Kindergarten Type for Types of Parent Involvement*

Item	Non-Funded ($n = 60$)		Funded ($n = 169$)		Total ($n = 229$)		χ^2 , $df=1$	Odds Ratio
	Yes	No	Yes	No	Yes	No		
17.1Collaborators	26	34	32	137	58	171	13.937***	3.27
	(43)	(57)	(19)	(81)	(25)	(75)		
17.2SpecialistsSup	28	32	39	130	67	162	11.905**	2.92
	(47)	(53)	(23)	(77)	(29)	(71)		
17.3Helper	33	27	108	61	141	88	1.484	
	(55)	(45)	(64)	(36)	(62)	(38)		
17.4Cheerleaders	17	43	29	140	46	183	3.444	
	(28)	(72)	(17)	(83)	(20)	(80)		
17.5Feedback	48	12	99	70	147	82	8.839**	2.83
	(80)	(20)	(59)	(41)	(64)	(36)		
17.6Uninvolved	16	44	50	119	66	163	0.184	
	(27)	(73)	(30)	(70)	(29)	(71)		
17.7Grandparents	13	47	62	107	75	154	4.535*	2.09
	(22)	(78)	(37)	(63)	(33)	(67)		
17.8DesignCurr	0	60	2	167	2	227	0.716	
	0	(100)	(1)	(99)	(1)	(99)		

Note. * = $p < .05$, ** = $p < .01$. Percentages are shown below frequencies in parentheses.

Parents from Non-Funded kindergartens were 3.27 times, 2.92 times, and 2.83 times as likely as parents from Funded kindergartens to respectively i) be partners and collaborators, ii) be volunteers, and iii) give feedback on programs. However, grandparents and domestic helpers were 2.09 more

likely to be the main contact point for Funded kindergartens than Non-Funded ones.

Appendix 15 - Quantitative data related to Research Question 4

Comparison of support structures for staff professional learning (SQ14) by participants' years of experience as teacher

For item 14.03 on 'budget for professional development of teachers', principals with more than 10 years of teaching experience were found to be significantly less likely to tick this item than principals with less than 5 years of teaching experience ($\chi^2 (2, N = 194) = 8.935, p = .011$, odds ratio = 2.97), and principals with 5 to 10 years of teaching experience (OR = 3.38). Please refer to Table A15.1 for statistics.

Table A15.1: Frequency Comparisons and Chi-square Analyses by Years of Teaching Experience for Support of Staff Professional Learning

	Less than 5 years		5 to 10 years		More than 10 years		Total		$\chi^2, df=2$
	(n = 70)		(n = 59)		(n = 65)		(n = 217)		
Item	Yes	No	Yes	No	Yes	No	Yes	No	
14.1 Sponsor	56 (80)	14 (20)	48 (81)	11 (19)	55 (85)	10 (15)	43 (19)	186 (81)	0.506
14.2 Subsidise	56 (80)	14 (20)	41 (69)	18 (31)	43 (66)	22 (34)	62 (27)	167 (73)	3.518
14.3 Budget	62 (89)	8 (11)	53 (90)	6 (10)	47 (72)	18 (28)	39 (17)	190 (83)	8.935*
14.4 Loans	12 (17)	58 (83)	7 (12)	52 (88)	10 (15)	55 (85)	196 (86)	33 (14)	0.716
14.5 TimeOff	50 (71)	20 (29)	41 (69)	18 (31)	46 (71)	19 (29)	66 (29)	163 (71)	0.059
14.6 ProfDisc	31 (44)	39 (56)	22 (37)	37 (63)	29 (45)	36 (55)	134 (59)	95 (42)	0.863
14.7 RTSystem	34 (49)	36 (51)	31 (53)	28 (47)	34 (52)	31 (48)	110 (48)	119 (52)	0.266
14.8 All30HrsTrg	27 (39)	43 (61)	25 (42)	34 (58)	26 (40)	39 (60)	137 (60)	92 (40)	0.194
14.9 LNA	48 (69)	22 (31)	32 (54)	27 (46)	33 (51)	32 (49)	95 (42)	134 (59)	4.953
14.10 PerfFeedbk	53 (76)	17 (24)	26 (44)	33 (56)	41 (63)	24 (37)	83 (36)	146 (64)	13.651**

Note. * = $p < .05$, ** = $p < .01$, *** = $p < .001$. Percentages are shown below frequencies in parentheses.

Comparison of importance of teacher professional development strategies (SQ10) by principals' years of experience as teacher

Table A15.2: Descriptive Statistics and Kruskal-Wallis Analyses by Years of Teaching Experience for Importance of Teacher Professional Development Strategies

(Mean and Median based on a Likert Scale of 1 to 4)

Years as Teacher	Less than 5 years				5 to 10 years				More than 10 years				χ^2
Item	<i>n</i>	<i>M</i>	<i>SD</i>	Medi an	<i>n</i>	<i>M</i>	<i>SD</i>	Medi an	<i>n</i>	<i>M</i>	<i>SD</i>	Medi an	
10.01ObsTeach	69	3.47	0.84	4	58	3.62	0.59	4	63	3.71	0.59	4	4.134
10.2PostOb	69	3.51	0.84	4	58	3.60	0.62	4	63	3.68	0.61	4	1.787
10.3PeerOb	57	2.93	1.20	3	52	2.79	1.18	3	60	2.73	1.04	3	2.595
10.4CurrDialogue	70	3.54	0.56	4	59	3.58	0.72	4	64	3.63	0.64	4	2.388
10.5PedagoDia	65	2.78	1.02	3	54	2.66	1.08	3	61	2.89	1.01	3	1.401
10.6TrReflect	61	2.92	1.07	3	57	2.92	1.07	3	63	3.02	1.09	3	0.592
10.7DisDevtNeeds	65	3.02	0.69	3	57	3.04	0.76	3	64	2.94	0.77	3	0.421
10.8SharedLdrR	65	3.17	0.72	3	56	2.98	0.82	3	62	3.06	0.79	3	1.628
10.9LrngJ	66	3.00	0.67	3	57	2.83	0.68	3	63	3.01	0.75	3	2.847
10.10MOESeminar	70	3.17	0.68	3	59	3.25	0.55	3	65	3.10	0.83	3	0.324
10.11ProfAssn	70	2.72	0.69	3	59	2.78	0.72	3	63	2.65	0.86	3	0.641
10.12Kbasedtrg	69	3.17	0.79	3	59	3.18	0.72	3	65	3.20	0.86	3	0.224
10.13CertCours	70	3.21	0.72	3	59	3.25	0.74	3	63	3.21	0.91	3	0.331
10.14JobRotate	64	2.60	0.77	2.5	58	2.41	0.85	2.5	59	2.49	0.84	2.5	0.920
10.15Coaching	70	3.14	0.85	3	58	3.19	0.68	3	64	3.38	0.94	4	7.684*

Note. * = $p < .05$.

Comparison of communication activities with parents (SQ16) by participants' years of experience as principal

The participants' years of experience as principal made no significant difference on communication with Parents (SQ16). The statistics for this analysis is at Appendix15, Table A15.3.

Table A15.3: Frequency Comparisons and Results of Chi-square Analyses by Years as principal for Communication Activities with Parents

Item	Less than 5 years (n = 96)		5 to 10 years (n = 66)		More than 10 years (n = 59)		Total (n = 229)		χ^2 , df=2
	Yes	No	Yes	No	Yes	No	Yes	No	
16.1Orientation	92 (96)	4 (4)	62 (94)	4 (6)	54 (92)	5 (8)	216 (94)	13 (6)	1.23
16.2DailyCom	71 (74)	25 (26)	47 (71)	19 (29)	41 (69)	18 (31)	166 (72)	63 (28)	0.386
16.3WeeklCom	27 (28)	69 (72)	20 (30)	46 (70)	19 (32)	40 (68)	70 (31)	159 (69)	0.299
16.4ParentMtg	35 (36)	61 (64)	26 (39)	40 (61)	21 (36)	38 (64)	86 (38)	143 (62)	0.223
16.5Parentfdbk	60 (63)	36 (38)	49 (74)	17 (26)	41 (69)	18 (31)	155 (68)	74 (32)	2.57
16.6ParentEdn	45 (47)	51 (53)	39 (59)	27 (41)	31 (53)	28 (47)	118 (52)	111 (48)	2.347
16.7HealthDiet	15 (16)	81 (84)	12 (18)	54 (82)	13 (22)	46 (78)	43 (19)	186 (81)	1.013
16.8Newsletter	75 (78)	21 (22)	53 (80)	13 (20)	48 (81)	11 (19)	183 (80)	46 (20)	0.261
16.9Website	23 (24)	73 (76)	12 (18)	54 (82)	16 (27)	43 (73)	52 (23)	177 (77)	1.476
16.10OpenHse	39 (41)	57 (59)	23 (35)	43 (65)	22 (37)	37 (63)	88 (38)	141 (62)	0.572

Note. * = $p < .05$. Percentages are shown below frequencies in parentheses.

Comparison of teacher professional development strategies (SQ10) by principals' qualification (Degree vs no degree)

Table A15.4a: *Descriptive Statistics and Mann-Whitney U Analyses by Qualification for Importance of Teacher Professional Development Strategies*

(Mean and Median based on a Likert Scale of 1 to 4)

Qualification	Degree				No degree				
Item	<i>n</i>	<i>M</i>	<i>SD</i>	Median	<i>n</i>	<i>M</i>	<i>SD</i>	Median	Mann-Whitney <i>U</i>
10.01ObsTeach	107	3.56	0.74	4	117	3.60	0.65	4	6103.5
10.2PostOb	107	3.56	0.76	4	118	3.61	0.64	4	6221.5
10.3PeerOb	99	2.70	1.29	3	103	2.94	0.98	3	4755.5
10.4CurrDialogue	109	3.61	0.62	4	119	3.56	0.64	4	6236
10.5PedagoDia	104	2.82	1.11	3	109	2.81	0.93	3	5410.5
10.6TrReflect	102	2.87	1.23	3	113	2.98	1.00	3	5735
10.7DisDevtNeeds	100	2.99	0.82	3	117	2.98	0.70	3	5656.5
10.8SharedLdrR	104	3.15	0.75	3	113	3.03	0.81	3	5352.5
10.9LmgJ	104	2.99	0.80	3	116	2.88	0.74	3	5407
10.10MOESemina	109	3.16	0.75	3	120	3.18	0.68	3	6448
10.11ProfAssn	109	2.78	0.79	3	118	2.66	0.72	3	5889
10.12Kbasedtrg	109	3.21	0.86	3	119	3.13	0.74	3	5922.5
10.13CertCours	109	3.25	0.84	3	118	3.23	0.72	3	6129.5
10.14JobRotate	100	2.53	0.82	2.5	114	2.52	0.80	2.5	5666
10.15Coaching	108	3.28	0.80	3	118	3.23	0.82	3	6205

Comparison of learning support structures (SQ14) by principals' qualification
(Government vs Non-Government)

Table A15.4b Frequency Comparisons and Chi-square Analyses by Institution Type of for Staff Learning Support

Item	Government Funded (n = 55)		Non Government Funded (n = 171)		Total (n = 217)		χ^2 , df=1	Odds Ratio
	Yes	No	Yes	No	Yes	No		
14.1 Sponsor	45 (82)	10 (18)	139 (81)	32 (19)	186 (81)	43 (19)	0.008	
14.2 Subsidise	45 (82)	10 (18)	121 (71)	50 (29)	167 (73)	62 (27)	2.609	
14.3 Budget	45 (82)	10 (18)	142 (83)	29 (17)	190 (83)	39 (17)	0.044	
14.4 Loans	8 (15)	47 (85)	25 (15)	146 (85)	33 (14)	196 (86)	0	
14.5 TimeOff	40 (73)	15 (27)	121 (71)	50 (29)	163 (71)	66 (29)	0.079	
14.6 ProfDisc	23 (42)	32 (58)	72 (42)	99 (58)	95 (42)	134 (59)	0.001	
14.7 RTSystem	18 (33)	37 (67)	101 (59)	70 (41)	119 (52)	110 (48)	11.579**	2.97
14.8 All30HrsTrg	17 (31)	38 (69)	73 (43)	98 (57)	92 (40)	137 (60)	2.41	
14.9 LNA	31 (56)	24 (44)	102 (60)	69 (40)	134 (59)	95 (42)	0.185	
14.10 PerfFeedbk	38 (69)	17 (31)	106 (62)	65 (38)	146 (64)	83 (36)	0.908	

Note. *= p < .05, **= p < .01, ***= p < .001. Percentages are shown below frequencies in parentheses.

Those who were trained in government institutions were 2.97 times more likely to have a system of relief teachers looking after the classes while teachers were attending training courses, as compared to principals trained in non-government institutions.

Comparison of communication activities with parents (SQ 16) by kindergarten pupil enrolment

Table A15.5: Frequency Comparisons and Results of Chi-square Analyses by Kindergarten Size for Communication Activities with Parents

Item	1- 99 students		100 - 199 students		200 and above students		Total		χ^2 , df=2
	(n = 26)		(n = 142)		(n = 61)		(n = 229)		
	Yes	No	Yes	No	Yes	No	Yes	No	
16.1Orientation	21	5	137	5	58	3	216	13	10.218**
	(81)	(19)	(96)	(4)	(95)	(5)	(94)	(6)	
16.2DailyCom	20	6	107	35	39	22	166	63	3.078
	(77)	(23)	(75)	(25)	(64)	(36)	(72)	(28)	
16.3WeeklCom	9	17	36	106	25	36	70	159	5.139
	(35)	(65)	(25)	(75)	(41)	(59)	(31)	(69)	
16.4ParentMtg	12	14	54	88	20	41	86	143	1.425
	(46)	(54)	(38)	(62)	(33)	(67)	(38)	(62)	
16.5Parentfdbk	15	11	101	41	39	22	155	74	2.348
	(58)	(42)	(71)	(29)	(64)	(36)	(68)	(32)	
16.6ParentEdn	10	16	74	68	34	27	118	111	2.23
	(38)	(62)	(52)	(48)	(56)	(44)	(52)	(48)	
16.7HealthDiet	2	24	29	113	12	49	43	186	2.379
	(8)	(92)	(20)	(80)	(20)	(80)	(19)	(81)	
16.8Newsletter	19	7	119	23	45	16	183	46	3.529
	(73)	(27)	(84)	(16)	(74)	(26)	(80)	(20)	
16.9Website	6	20	32	110	14	47	52	177	0.006
	(23)	(77)	(23)	(77)	(23)	(77)	(23)	(77)	
16.10OpenHse	12	14	55	87	21	40	88	141	1.074
	(46)	(54)	(39)	(61)	(34)	(66)	(38)	(62)	

Note. * = $p < .05$, ** = $p < .01$. Percentages are shown below frequencies in parentheses.

Appendix 16 – Analysis of open-ended questions in questionnaire

Summary of Analysis of SQ1

In SQ1, participants were asked to indicate three most important seasonal tasks that they had performed in their role as principal. They were also asked to indicate the roles of the people involved in these tasks.

This question served two purposes. The first was to gather input on major leadership functions that the participants considered seasonal and that have not been included as routine tasks, and the second, was to understand if staff and governing board members were involved in these tasks.

The responses were imported into NVivo as 2 datasets (A and B) in excel format. One set was on the key tasks, and the other set was on the people involved. Separate nodes were set up so that each dataset (source) could be analysed separately. Each dataset (source) was coded to different nodes, the first (Dataset A) was coded to nodes that denoted tasks, while the second (Dataset B) was coded to nodes that denoted the people involved.

Treatment of Dataset A

For the first dataset, the nodes were organised such that each Parent Node or key node represented a key area. The Parent Nodes were framed from the perspective of leadership for learning so that the analysed data could provide information organised in ways to support or refute arguments related to leadership for learning. The Parent Nodes were:

- Leadership functions
- Planning and controlling
- Coordination and staff supervision
- Human resource functions
- Administrative functions

- Functions supporting learning
- Professional development for teachers
- Leaders' self-learning
- Pupils' learning – monitoring of learning activities
- Pupils' activities-others (health and safety matters)
- Parent engagement activities
- Liaison with stakeholders other than parents

The Child Nodes (denoting sub-areas) were largely decided based on a bottom-up approach, that is, each time a new task/idea appeared, a new Child Node was named. Tasks which had been named earlier were added as counts to already named Child Nodes. The Child Nodes were then fitted into the Parent Nodes. It was not always straight forward to decide on which tasks was assigned to a Child Node and which Child Node should be assigned to which Parent Node. An example of a response that was not easy to code has been provided below.

Case number 200

Most important Seasonal Tasks	Roles of the people involved
1. Staff observation	Teachers
2.	
3.	

It is uncertain from this task if it was designed for professional development or supervision, and there were no hints in the response to ascertain this. A decision was made to code it under Child Node, 'Class Observation', rather than 'Teaching Observation with Feedback' as there was no elaboration that suggested the intent was one associated with professional development. The Child Node, 'Class Observation' was classified under the Parent Node, 'Coordination and Staff Supervision'. The decision to err on the side of Supervision was based on triangulation of information from other responses

wherein a highly judgemental tone was found. Hence, unless otherwise stated, all entries relating to observation of the class or teaching were coded as 'Class Observation'.

Treatment of Dataset B

The people involved for major seasonal tasks related to planning for professional learning, teaching and learning, pupil safety and health were examined. The rest were not examined as the purpose behind asking for the people involved was to ascertain the areas for which the participants had involved staff in planning and decision making.

Major tasks were seasonal tasks that had more than 5 entries from the first source document (Dataset A). Dataset B was cross-referenced to identify the people involved in these major tasks. Dataset B was coded to 5 levels of involvement, and these are given below:

- 1 = All teaching and support staff with the principal (and Business Administrator i.e. BA and)
- 2 = All teaching staff with principal (and BA and ...)
- 3 = Senior teachers or level heads with principal (and BA and)
- 4 = Principal (and BA and ...)
- 5 = Principal was not involved. Decision was made by level above principal.

Findings

Parent Nodes and their Child Nodes (*in italics in table below*) with more than 5 entries have been tabulated below. The total number of entries reflected in this table for each Parent Node has included entries for all Child Nodes, but only relevant Child Nodes with more than 5 entries have been included here. A Child Node such as 'Recruitment of pupils' and 'Renovation of the Centre' were not included in the table below. Hence, the figures for the Child Nodes do not always tally with the total reflected for the Parent node.

Parent Nodes and associated Child Nodes		Ref entries
Leadership functions		46
	<i>Vision, Mission, Values*</i>	4
	<i>Strategic planning*</i>	42
Planning and Controlling		536
	<i>Staff professional development planning*</i>	12
	<i>Budgeting*</i>	26
	<i>Action planning other than time-tabling*</i>	72
	<i>Time tabling*</i>	100
	<i>Planning the calendar of activities*</i>	17
	<i>Planning and reviewing of teaching resources*</i>	17
	<i>Planning and reviewing of events*</i>	29
	<i>Allocating pupils to classes*</i>	9
	<i>Curriculum review and planning other than that for teaching resources, events, class allocation*</i>	89
Coordination and staff supervision		46
	<i>Checking portfolios</i>	8
	<i>Class observation</i>	13
	<i>Drop-in class observation</i>	25
Human resource functions		293
	<i>Staff deployment</i>	17
	<i>Performance review</i>	272
Administrative functions		10
Functions supporting learning		4
Professional development for teachers		30
	<i>Teaching observation with feedback</i>	7
	<i>Coaching and Mentoring</i>	5
Pupil learning – monitoring of learning and activities		117
	<i>Pupil outings</i>	12
	<i>Registration of pupils</i>	26
	<i>Annual concert*</i>	25
	<i>Sports Day*</i>	9
	<i>Graduation ceremony</i>	21
	<i>Pupil orientation*</i>	11
	<i>Monitoring pupils' learning*</i>	9
Pupil activities-others (health and safety matters)*		7
Parent Engagement Activities		23
	<i>Parents' newsletter and written communication*</i>	6
	<i>Parents-teacher sessions on children's learning *</i>	7

	<i>Parent orientation *</i>	10
Liaison with stakeholders other than parents		10
TOTAL		1122

* Tasks which were cross-referenced with staff involved and summarised in the table below.

The most common task for 'planning and controlling' was time-tabling with 100 entries, while the most common task for HR related functions was performance review with 272 entries. Class observation to improve teaching and learning was not common, although drop-in class observations had 25 references.

There was a wide range of practices in the involvement of staff in planning of work directly related to teaching or work that had downstream impact on teaching and learning. In the vast majority of instances (375 out of 523 or 71.7% of instances), all teachers were involved in the planning and reviewing of professional work and planning that had downstream impact on teaching and learning. In about 28% of instances, only the senior staff or the principal and senior staff were involved in the decisions.

Staff professional development planning did not feature strongly. Only 12 participants indicated it as a seasonal task but in all these instances, teachers were involved in planning.

The people involved in major seasonal tasks are summarised below:

Parent and their child nodes		No. of coded references
Leadership-Vision, mission, Values (Sub-total)		(4)
	1 Principal with all teaching and support staff	2
	2 Principal and all teaching staff	2
	3 Principal with senior staff	0
	4 Principal (and Business administrator)	0
Leadership-Strategic planning (Sub-total)		(42)
	1	8
	2	29
	3	3
	4	2
HR Function – Coaching and Mentoring (Sub-total)		(5)
	3	3
	4	2
HR Function – Staff development planning (Sub-total)		(12)

	1	2
	2	10
	3	0
	4	0
HR Function – Staff deployment (Sub-total)		(17)
	2	5
	3	7
	4	5
Plan and review - Curriculum, learning activities, events (Sub-total) <i>(Included child nodes: Curriculum review and planning other than that for teaching resources, events, Teaching resources, Annual Concert, Sports Day, Pupil orientation, Monitoring of pupils' learning, Review of events)</i>		(189)
	1	12
	2	150
	3	19
	4	8
Plan and review – Parent engagement (Sub-total) <i>(Included child nodes: Parents' newsletter and written communication, Parents-teacher sessions on children's learning, Parent orientation)</i>		(23)
	1	9
	2	12
	3	1
	4	1
Plan and review – SOPs, fire drills, health and safety checks (Sub-total)		(7)
	1	3
	2	1
	3	1
	4	2
Plan and review – Class allocation (Sub-total)		(9)
	2	8
	3	1
	4	0
Plan and review – Calendar of activities (Sub-total)		(17)
	2	8
	3	5
	4	4
Plan and review – Time table (Sub-total)		(100)
	2	48
	3	21
	4	31
Plan and review – Action Plan (Sub-total)		(72)
	1	14
	2	48
	3	6
	4	4
Plan and review – Budget (Sub-total)		(26)
	2	4
	3	9
	4	10
	5 Decision made by level above principal	3
(Total)		(523)

Summary of Analysis of SQ 8

Question:

**What have you done to build a culture to support learning among staff?
(Please provide the 2 strategies that you think have been most useful, and write briefly on how they have been useful)**

Summary of codes

	Codes	No. of references*
	Strategy - admin procedures	2
	Strategy - affect	25
	Strategy – informal chit-chat	2
	Strategy – give teachers a voice at meetings	2
	Strategy – staff well-being, socialization	19
	Strategy – setting a common target to achieve	2
	Strategy – better communication, shared understanding	41
	Strategy – communication – frequent or open	33
	Strategy – engaging parents	6
	Strategy – making resources available though communication	2
	Strategy – culture	236
	Strategy – buddy system	4
	Strategy – sharing ideas and resources	130
	Strategy – peer sharing - class observation	49
	Strategy – give space for staff to innovate	4
	Strategy – attending training or professional development together	21
	Strategy – planning together	20
	Strategy – role modelling	6
	Strategy – gather feedback from staff	2
	Strategy – professional growth	125
	Strategy – staff reflection	5
	Strategy – encouraging attendance at courses	31
	Strategy – discussing development needs	19
	Strategy – encouraging reading of articles	9
	Strategy – class observation and follow-up	11
	Strategy – focusing on the curriculum	14
	Strategy – drop-ins	2
	Strategy – coaching and mentoring	34
	Strategy – designing ore re-designing job roles	18
	Strategy – Others	12
	Impact – affect	36

	Impact – same boat	3
	Impact – confidence	16
	Impact – inspire or compete or motivate	17
Impact – better communications, shared understanding		56
	Impact – shared understanding	10
	Impact – better communications	22
	Impact – improved coordination, planning and implementation	24
Impact – culture		56
	Impact – environment of continuous learning	4
	Impact – openness	6
	Impact – build relationships and trust	23
	Impact – ownership and empowerment	9
	Impact – team building	14
Impact – professional growth		206
	Impact – support and guidance	18
	Impact – translation of ideas to action	19
	Impact – development of professional knowledge and skills	69
	Impact – mutual learning	71
	Impact – fresh ideas	14
	Impact – teachers are more reflective	15
Impact – Others – not relevant to leadership		23
Impact – reason for or elaboration on strategy		117
* Counts for parent node include counts for child nodes		

Summary of Analysis of SQ15

Question:

What are the 3 most important actions that you have taken to improve teaching and learning at your kindergarten in the last 3 years? (For each important action, please write concisely but do provide sufficient information to help the reader understand what exactly you did and the impact that was felt)

Summary of codes

Nodes	No. of references
Actions – curriculum –assessment	14
Actions – curriculum - pedagogy	72
Actions – curriculum – range of topics, activities	23
Actions – protecting children’s well-being	3
Actions – nurturing culture	45
Actions – leadership – administrative, resource related	93
Actions – leadership – human resource management	52
Actions – leadership – planning	84
Actions – involving stakeholders - others	12
Actions – involving stakeholders – parents	28
Actions – building teacher competence	293
Actions – giving recognition	6
Total	725
Impact – improved child well-being	4
Impact – improved efficiency and effectiveness in operations	138
Impact – improved learning by children	95
Impact – improved parent satisfaction and engagement	36
Impact – improved staff competence	177
Impact – improved staff morale, motivation and engagement	71
Impact – improved stakeholder (other than parents) satisfaction	0
Impact – others - miscellaneous	54
Impact – others – rationale for action or expansion of action	134

Appendix 17 - Write-up of three cases – NF1, F2, and F6

Non-Funded Kindergarten 1 (NF1) (An Emerging Centre with High Average)

Background of the kindergarten

NF1 was a non-profit kindergarten belonging to a religious mission. The kindergarten had a purpose built facility and a pupil enrolment of about 500 at the time of the study. The children were organised into more than 20 classes from Nursery to K2 levels, and the classes were run in 2 sessions. Each session operated for 3 hours, and the same set of 26 teachers taught in both sessions. Despite the large pupil enrolment, the kindergarten environment appeared calm while the children and adults went about their pursuits purposefully and in an orderly manner.

The religious mission held the belief that children needed to be imbued with values such as love, respect, courtesy and kindness, and they need to develop self-confidence, independence, and a passion for learning. The kindergarten hence regarded its mission to be one of developing the children intellectually and morally, nurturing their confidence and instilling in them a sense of pride in their socio-cultural heritage and their identity as Singaporeans.

The kindergarten had won several centre-level awards and at least two teacher level awards issued by MOE and AECES²². The kindergarten was also among the first few validated by MOE as having met the emerging standards for SPARK (Singapore Accreditation System for Kindergartens).

²² AECES refers to the Association of Early Childhood Educators. MOE and AECES had jointly administered the outstanding teacher award and the centre innovation award.

Building teachers' knowledge, skills and dispositions

The principal had put in place structures for staff development and professional learning. There was a budget for professional development of teachers and this budget appeared to be sufficient. The principal did relate though that a few years back, before MOE provided grants for teaching and learning resources, and before the awards were put in place, there were limited funds for professional development of staff and for teaching and learning resources.

New teachers were assigned mentors and buddies to help them with their transition. Teacher mentors as well as their mentees spoke favourably about the value of this mentorship arrangement. Apart from the mentorship arrangement, class observation, formal and informal, were carried out by the principal and vice-principal and post-observation conversations were conducted to facilitate the learning of the teachers.

Teachers had to submit their personal reflections to the principal twice a term and these were read by the principal. The principal acknowledged that the reflections were mainly about logistical arrangements with little on the interaction between the teacher, the pupil, the content and the context, and she said that she was working hard to help the teachers reflect more critically.

Teachers undertook their individual learning needs analysis annually, and drew up learning plans based on the needs analysis. Teachers were encouraged to attend in-service courses and they were sponsored to attend these courses. Several teachers had the opportunity to go on learning journeys overseas as recipients of the Outstanding Kindergarten Teacher Award and they spoke enthusiastically about their learning from visits to China and New Zealand, and how they had learnt from each other. A new teacher who had joined the centre just nine months before spoke about the rich learning environment offered by the kindergarten, and she commented that she had learnt far more in the nine months that she had joined the

kindergarten than what she had learnt in the 17 years prior to joining the kindergarten.

The kindergarten took advantage of the possibilities afforded by a relatively large staff to create positions to cater for the professional development needs and career progression of teachers. Roles such as mentors, level coordinators, acting senior teachers had been created to allow experienced teachers to have exposure to different aspects of the work of the kindergarten.

Structures had also been put in place for staff to get together every fortnight to discuss kindergarten level matters including the curriculum. Major decisions for the centre, for example, whether to participate in SPARK, were discussed at these staff meetings and a majority vote was recorded before the kindergarten proceeded to apply for SPARK.

Staff professional sharing was also convened every fortnight, alternating with the staff meetings, and during these sessions, teachers gathered views from colleagues on new projects, shared insights with colleagues on innovations, and had dialogues on learning points gleaned from courses they had attended.

The teachers also met by level once a week to discuss the curriculum for the following week, and lesson plans had to be submitted to the principal for endorsement. There was evidence that the teachers used their learning from the delivery of earlier lessons in their subsequent planning. An example of this was the project on practical goal setting which had evolved from the 'sayings project'. Learning from the 'sayings project', the kindergarten had decided to include goal setting in the curriculum of all three levels. The children were taught to set goals such as 'learn how to use *hula hoop*' and draw up plans to achieve their goals.

Overall, there were provisions for professional learning at the individual, group and kindergarten levels.

A kindergarten-wide professional community

Teachers and parents appeared to share the principal's goals: the search for quality and a values education. These targets appeared to permeate the work of the kindergarten.

In the search for quality, teachers volunteered innovative ideas and formed teams to develop the ideas to fruition. Several teams had won MOE's Innovation Awards. Feeding on each other's success, the teachers had gone on to conceptualise more innovations. According to the principal, the attainment of the Innovation Awards was a turning point in building teamwork amongst teachers. She felt that such external affirmation gave the teachers a sense of having overcome a hurdle together, and was instrumental in bringing the teachers closer to one another. It is possible that The Core Theory of Success (Senge, 1990) was at play. With success in securing the Innovation Awards, trust was strengthened, and the quality of conversations improved. With improved conversations, the quality of planning and implementation improved, leading to success in securing more awards. In short, the success strengthened trust and engendered an upward spiral of improvements.

Although the principal was clearly way ahead of her staff in professional knowledge and skills, she had made a conscious effort to include her staff in decision making as she knew that staff engagement was important for quality improvement. As mentioned earlier in this section, the entire staff were involved in key decisions. There was also a formal organisation structure to include senior teachers in various roles such as mentors, level coordinators and senior teachers so that more teachers could partake in the decision making process on a day-to-day basis.

Teachers who were interviewed spoke about how their mentors, and colleagues had supported them. They also provided evidence on how the 'Kindergarten Manager', the principal and vice-principal, had been open and transparent. The teachers also acknowledged the principal's efforts in team building, and showed appreciation for the trust that the principal had in them.

They spoke about the support, the guidance as well as the space that the principal had given them to initiate and take ownership of projects. There was a palpable sense of connectedness amongst the staff and between the staff, management and parents.

The teachers felt that in this environment of trust and teamwork, they could constantly learn, and improve their skills as educators. They felt motivated to give their best and there was a sense of collective teacher efficacy or a feeling that with joint effort of their colleagues, they could achieve very much (Mulford and Silins, 2003; Bandura, 1977 in Goddard, Hoy and Hoy, 2000). One piece of evidence on collective teacher efficacy came from a teacher who related how her project group had started a project with little knowledge on how to proceed with the project but as she had faith in their colleagues, they put their heads together and brought the project to fruition.

Coherence in purpose, plans and actions

Consistent with the belief that children needed to have self-confidence, independence, and a passion for learning, the teachers' role was that of a facilitator of learning, a bearer of knowledge and methods, a role model for the children, a care-giver, a steward of the children's well-being and a significant adult in the life of the children. Teachers who were new to the kindergarten were told that their first task was to build strong relationships with the children and this could be illustrated with a quote from a teacher. NF1-Teacher 1 related that the principal had told her to *"build up chemistry with the children and miracles will happen"*.

Teachers were able to articulate the centre's key areas of focus and what was expected of them, and there was congruence between information in the written documents, information provided by teachers, parents and management regarding the curriculum.

The principal maintained oversight of the curriculum by checking the lesson plans, and endorsing changes to be made to the curriculum. There was a broad structure for the curriculum across classes in the same level, but there was also room for customisation of activities to meet individual needs.

The entire curriculum was planned and reviewed annually by teachers. As mentioned earlier, teachers also met in their level groups on a weekly basis to agree on adjustments to the learning activities, after taking into account the progress of the children. The teachers had to amend their lesson plans following their weekly Thursday level meetings, and then submit the amended lesson plans to the principal for approval on the same day. The principal would return the plans with comments to the teachers the next day. Children's individual learning needs were taken care of at the learning centres where learning resources had been set-up to help these children who needed extra time or specific help on key skills and concepts.

The curriculum was based on the MOE Curriculum Framework, covering all the learning areas and dispositions laid out in the framework. The learning areas were delivered through themes, selected based on the children's interest. A whole person approach was evident in the kindergarten's planned lessons, with literacy, social skills and values as focus areas.

In the area of literacy, reading was emphasised. Apart from interesting activity based, class based programmes, the kindergarten also worked with the National Library Board to have a regular supply of books that could be put on loan to the children. All parents were roped in to read to the children before bedtime. The children brought home at least one book every Friday so that parents could read to or with them, depending on where they were in their literacy skills. Parent seminars were run to guide parents in this role.

Values education and social skills development were the other outstanding features of the curriculum. There was evidence to suggest that values were taught subtly and not forced upon the children. For example, in the K2 classes (6 year olds), children dramatized stories which demonstrated the different values, and they were involved in designing simple props. Such activities also allowed values to be integrated with aesthetics, social and literacy skills.

The children were given important and visible roles to play in class and in kindergarten routines, for example at the assembly they took turns to call the

entire assembly to attention, while in class they played the role of monitors. The playing of roles provided opportunities for them to experience responsibilities and these experiences helped the children build confidence, something that parents spoke about approvingly. At the daily assembly, children wished one another and their teachers well, a routine that had been put in place to convey the need to have kind thoughts and to care for one another. Teachable moments were also drawn on in class to help the children develop discipline, respect and care for one another. These curricular examples also demonstrated that not only were the different learning areas and dispositions included in the daily programme, they were also organised and integrated.

There were also optional enrichment classes on classical Indian music, creative writing, speech and drama, computer literacy, to name a few. These enrichment classes were conducted on Saturdays and the children could enrol in these enrichment activities if they wished to.

The parent engagement strategies were illustrative of how the principal had used systems thinking in her leadership. The principal was mindful of the need to think beyond the programme that was offered in class if the children were to be well supported in their learning, and had recruited parents in supporting their children in their efforts. As mentioned previously, parents were encouraged to support reading. Parent Education Programmes were conducted so that parents knew the purpose of the various activities and were in a position to support the work of the kindergarten. Topics also included in parents' education were how to help the child develop a love for reading, registering for P1 and making the P1 transition.

Engagement of parents was an important feature at the kindergarten. At the interview, parents talked about the regular contact between teachers and parents, and expressed confidence that the teachers had the ability to provide for the needs of their children. One comment which summed up the level of trust that the parents had for the kindergarten was this,

NF1-Parent 1: "...the principal and teachers make the environment very special. If there is a primary section, my husband and I would definitely want our son to continue there".

Parents expressed great faith in the kindergarten. They spoke about the growth in their children, citing specific strategies like the reading a book over the weekend with parents, confidence building and values education as key contributors to the development of their children.

Contextual features affecting leadership efforts in capacity building

The fact that the kindergarten belonged to a religious mission with an explicit aim of doing good, and that the principal and several members of staff were devotees, probably explained in part the missionary zeal with which the principal and staff went about pursuing improvements to the services they were providing for the children. Hence, when MOE called for better standards through Innovation Awards and quality assurance measures, the kindergarten responded enthusiastically. In the words of the principal, the kindergarten was "*... just cruising along until the MOE Innovation Awards and SPARK came along*".

Being a Non-profit kindergarten with a mission to serve the disadvantaged, fees charged were low, and hence the centre had limited resources to pay the teachers well and to send the teachers for courses. As the awards came with funding and tokens for training, winning awards made possible the attendance at training courses by many more teachers. Vying for the Innovation Awards became a pursuit for the principal and staff. The winning of awards also helped in building staff teamwork and collective efficacy as the teachers had to work through their innovations together. However, the awards were also a double edged sword for the kindergarten. As more teachers acquired awards, teachers getting poached by better paying kindergartens became a trend.

The fact that the kindergarten had greater ethnic homogeneity, with children whose families originated from South Asia or who were new migrants from South Asia, and teachers of similar backgrounds, was probably helpful

towards building trust especially with parents. However, the lack of multi-ethnic composition in the student enrolment was a concern to MOE, given the importance to Singapore's racial harmony agenda of early exposure of children to different ethnic cultures. The fact that the majority of children came from middle income families with professional parents was probably another feature that had played a part in facilitating the building of a trusting community. Parents had expressed the sense of identification with the kindergarten and had spoken in support of the kindergarten's policies. Nevertheless, trust and teamwork was not taken for granted. Activities were organised regularly to build bonds amongst teachers and to strengthen teamwork.

The Principal's Leadership

The principal, in her late 50s, showed great comfort in mentoring her teachers. A trusted mentor to her staff and pupils, she had worked with the Centre Manager, her Vice- and teachers to create a dynamic learning environment for the staff, pupils and their parents.

The principal started her career as a human resources administrator in a multinational company where she acquired skills and knowledge in human resource management. A devotee herself, she embraced the beliefs of the mission and when she took on a teaching post and eventually became the principal of the kindergarten, she found herself living the values of the mission. A person with good communication skills, she had pursued her interests in speech and drama by attending courses in these areas after acquiring basic training in ECE and a master degree in ECE from the National Institute of Education, Singapore (NIE). The principal attributed her comfort in guiding teachers in the literacy area to her background in speech and drama, and her ability to "mobilise" teachers to her background in human resources.

The principal was clearly the instructional leader and the key driver for quality. To ensure that she played the role of a mentor effectively, she kept a

strict schedule in providing professional support and guidance for her teachers. Her daily routines included the following:

- Individual or group guidance on curriculum (from 7.30 - 8.30 am and from 3.30-4.30 pm): Teachers streamed into her office individually or in small groups to have conversations with her on curricular matters.
- Class visitation and co-teaching with teachers: she demonstrated lessons, co-taught lessons, hand-held weak or inexperienced teachers in their classroom practice and observed the teachers facilitating learning.

She had put in place structures for teachers to learn and work in groups. She chaired both meetings, the fortnightly staff meeting and the fortnightly professional sharing of teachers. She also reviewed the lesson plans that teachers submitted every Thursday to ensure that their lesson plans provided sufficient scaffolding for the children's learning.

While doing all these, she recognised that the teachers had individual strengths and just needed some affirmation or encouragement to move on and to give of their best. On the drive for improvement, one teacher had this to say,

NF1 – Teacher 2: “there is a push to do better all the time, but we are all given our space to do it at our pace”.

Summing up their experience, one new teacher said this,

NF1 – Teacher 1: “when I came here, I learnt that it is not how much you deliver but the quality that you deliver that is important”.

The principal also recognised the opportunities in the environment and capitalised on them to rally the teachers and develop the kindergarten. When MOE and AECES set up the joint Innovation Awards, she saw in these awards the opportunity to rally the teachers to work towards a common target that they could be proud of.

The kindergarten environment was indicative of an artful principal at work. The principal had adopted a strategy of gently pushing the teachers to improve their professional practice while scaffolding the drive for professionalism with strong personal mentoring and effective role modelling. Maintaining the drive for professionalism together with a consultative approach in decision making, she received signals from the teachers on how they were coping, made adjustments to her timeline for change and level of support to the teachers, and ensured that she was driving change at a pace that the teachers could cope with.

Funded Kindergarten 2 (F2) (An Emerging Centre with High Average)

Background of the kindergarten

Kindergarten F2 belonged to a non-profit government-funded kindergarten chain. The kindergarten had moved from an old government housing²³ block in the same neighbourhood to a much sought after new government housing complex just four years before the study. The move gave the kindergarten a new lease of life with a new catchment from which to recruit pupils and access to safe outdoor facilities. In fact, the majority of its 172 pupils came from families in the housing complex while a small number were from the older estates surrounding the complex.

The kindergarten offered daily 4-hour, 3-hour and 2-hour programmes for K1 and K2, nursery and pre-nursery children respectively. The kindergarten also offered a range of optional enrichment programmes for which parents could enrol their children at a charge. The kindergarten was SPARK²⁴ certified in 2012.

44% of the mothers were graduates²⁵ and about 10% of the children were non-Singaporeans. Although many children had middle income parents, there was some diversity in the expectations and demands of parents. One major group of parents preferred an academic focus, another major group preferred the holistic development of the children, and a third and smaller group went along with whatever the kindergarten could offer. There was a

²³ 85% of Singaporeans live in government housing. The gross monthly income ceiling for a family applying for government housing cannot exceed \$15,000 (7,500 pounds).

²⁴ SPARK is the short form for Singapore Pre-school Accreditation Framework. In the language of MOE Singapore and the kindergarten staff, a kindergarten is SPARK certified when it has been validated by MOE as having met minimally the emerging standards spelled out in the accreditation instrument.

²⁵ The proportion of university graduates among residents aged 25-34 was 47% in 2010 (2011, Singapore Department of Statistics)

handful of children (7%) who depended on financial assistance to pay the kindergarten fees.

Given the profile of the children, the principal had decided to adopt a project-based curriculum, a rare deviation that the headquarters had allowed. The principal decided to design their own curriculum programme based on the MOE Kindergarten Curriculum Guidelines (KCG), taking reference from the suggested themes in the guidelines and the interests of the children.

Overall, there was a high level of congruency in the information provided by different stakeholders interviewed.

Building teachers' knowledge, skills and dispositions

The centre had seven teachers, and only two of the seven had three or more years of experience. Given the lack of experience of the teachers, the principal placed a high premium on providing staff guidance and professional development. She paid great attention in particular to on-the-job training through conducting weekly reflection and planning sessions using 'lesson study' (an enquiry approach) to develop her teachers' professional skills. The lesson study approach fitted well with a project-based curriculum where the lessons had to be designed (Fernandez et al., 2002; Lewis, 2000) to build on the progress of the children.

Teachers for the same level would meet with the principal to discuss and plan the lessons for the following week. One teacher would teach the lesson with the others observing or filming part or the entire lesson. After that, the group would come together to review the recorded lesson, identify the strengths and the areas for improvement, and analyse why it worked (Teng, 2013). In the principal's words, "*It is like taking a magnifying glass and looking into each lesson to study what works*". The lesson study approach was along the lines of enquiry described by Schulz (2010), where teachers participated in study groups:

"... documenting and analysing practices, sharing and critiquing these with colleagues, as a way of learning from and with others ... going beyond discussion of 'what works' to understanding 'why' it works, and then extending the discussion to

examine and question the values and assumptions that underpin our practices.”
(Schulz, 2010:606)

The lesson study sessions provided a platform for the principal to influence lesson planning and build a community of practice amongst teachers. F2-Teacher 2 described the weekly reflection with the principal as follows:

F2-Teacher 2: “Over the table, we would do our reflection. And then we’d say, okay, ‘Monday we did this, MSD (motor skills development) and so on and ... this is my activity. What went well was that the children could read this. But what I observed and what I think I did not manage to do was this’. So sometimes we’ll share some other plans that we have come up with or maybe we can ask, ‘so how do you think I can sustain this activity to capture the children’s attention?’ ”

The triangulated information from different stakeholders suggested that the group reflection and planning arrangement was important from the perspective of confidence building for the individual teacher, and community building for the staff as a whole. The group sessions also allowed competing views to surface, peer influence and pressure to come into play, creating a demand for improvement (Lewis, 2000). The principal cited the following as an example of how group learning was important,

F2-Principal: “The last round we had lesson study, we were counting hands, thinking about how we could get all children involved. Some children would put up their hands again and again while others would not put them up at all. So when we talked about it, and I showed them how to do it, they (the teachers) became more aware. They even talked about it among themselves and the strategy spread. We try to use the ripple effect. Sometimes, the ripple effect may not start with me but can also start with Alice and spread to the younger staff”.

The principal occasionally had to provide skeletal lesson plans, while the teachers planned the details based on the skeletal plan using a template for lesson planning which included lesson objectives, activities to be executed, prompting questions which the teachers planned to ask. Besides meeting the teachers on a weekly basis, the principal also co-taught some classes with the teachers as a way of role modelling.

In this arrangement, staff professional development was set in the natural workplace environment (Larry, 2013; Lewis, 2000; Lovett, 2011) where the

problems of transfer of learning could be brought to a minimum. The social aspects of learning had also been taken care of (Liebermann, 2008) and the teachers were as described by Schulz (2010: 605), “*learning for teaching as well as learning from teaching*”. The teachers themselves took comfort in this arrangement as they were among trusted colleagues with whom they could share ideas and from whom they received affirmation.

Teachers interviewed talked about systematically identifying learning needs, attending courses and also reading articles identified by the principal.

On organisational learning, there was evidence that the principal and staff had instituted changes to the curriculum upon finding gaps in the learning of the children. For example:

- i) extending the daily Mother Tongue Language time for the children when they realised that the children were behind their age peers in learning their Mother Tongue Language;
- ii) developing a checklist as a tool for checking that the lesson plans had included all the knowledge, competencies, dispositions which had been stated in the MOE curriculum guide upon learning that there were gaps in the children’s learning.

The findings suggested a strong focus on learning, both for the teachers and children. There was individual learning, group learning, and even some degree of organisational learning, although organisational learning and systems thinking may not have been applied to matters outside of the curriculum.

A kindergarten-wide professional community

As a strategy to give space for the teachers to learn, the principal had informed the parents that the teachers were young and had to be given time to learn. This was only possible because the kindergarten had already developed a trusting relationship with parents.

F2-Principal: “Yes, parents also come in (she meant that parents also played a part). I will tell parents to give them (referring to the teachers) some time. All

experienced teachers would have started from inexperience too. The teachers work very hard to make up for their lack of experience. Parents also tell me that, yes, I have very young teachers but they are very hard working. So, very close guidance ... I will walk around the class, informally, and I will point things out to them, slowly, one bit at a time”.

Although the principal still made the key decisions, she would discuss work areas that pertain to the teaching and learning whenever a decision was to be made. One example given was in the planning of the Duck Tour (a tour to various tourist attractions using an amphibious vehicle) as a learning project for the children. Apparently the principal brainstormed with the teachers on possible sub-topics, and set some broad parameters on safety. Decisions on the sub-topics, for example the tourist destinations in Singapore, the different transport means in Singapore, the sector of society using each transport means, cost associated with transport, characteristics and examples of amphibians, and decisions on the outings were left to the teachers, but the principal supported them by going through their plans to ensure that two important aspects of the tour were taken care of well, that there were sufficient scaffolds for learning and adequate safety measures.

For the approach of staff guidance to work effectively, the principal had to be able to assess the right amount of space to give to each teacher, so that each would feel that they had the space to put their own ideas into practice and each could experience success. She also had to make herself accessible to her staff for consultation at a time convenient to the staff, to enable maximum support. Apart from work, the principal also made an effort to reach out to the teachers socially and, in the principals' words, “capture their hearts”. She attempted to use their language and provided them with a work environment that was equipped with tools that young teachers were comfortable with.

It was therefore not surprising that there was great ownership amongst teachers on what went on at the kindergarten. On the day of the scheduled research visit to the kindergarten, the principal was on urgent compassionate leave, but gave assurances that the visit could go ahead as the teachers would be able to stand in. The absence of the principal gave an opportunity

for me to gain insight into how leadership was shared with the teachers. The level of ownership of the teachers was striking as was their desire to carry themselves as professionals. The teachers were cheerful and forthcoming in articulating their views, they took pride in their work, and were also sufficiently confident to acknowledge their lack of knowledge or experience.

Teamwork was evident among the teachers and they had confidence that their colleagues support them in their work – this might be referred to as ‘collective teacher efficacy’ (Goddard et.al, 2000). In the interview with F2-Teacher 2, a question was posed on staff relationships - the teacher gave an example of how colleagues had supported her:

F2-Teacher 2: “Like yesterday when I was busy attending to something, they (the other teachers) actually helped me with the communication book. Actually I would have to print it (weekly information sheet for parents) out and staple it onto the communication book. So it’s really the bonding that we have, that makes me want to stay on.”

There was a hint that the journey they were taking was not straightforward, but the strong bonds built among colleagues had helped to make the journey easier. The teachers stated that overall they enjoyed the work at the kindergarten, and understandably so as their needs for seeking competence, autonomy, and relatedness had been met (Deci and Ryan, 1989).

The weekly communication with parents, by way of a note providing information on the learning activities and concepts that were introduced during the week, was symbolic of the willingness of the kindergarten staff to be transparent with the parents. In insisting that this was done regularly, the principal was setting the tone of transparency and openness - ingredients necessary for building the parents’ trust for the kindergarten.

Coherence in purpose, plans, actions

Although the principal had to totally re-design the learning programme to one that was project based, this change contributed towards the congruency in the following aspects in the kindergarten:

- the programme and the expectations of parents
- the principal's philosophy and the programme design
- the programme design and the desired outcomes of education
- the principal's strategy for the guidance of teachers and the professional needs of the teachers

Congruency between the programme and the expectations of parents. As mentioned earlier, the project approach satisfied the needs of all three groups of parents. Each project could take from two weeks to a month depending on the interest level of the children and the topic selected. An example of a project, the Duck Tour, has been described earlier. Another example was the history of the community, which culminated in the children interviewing the Member of Parliament for that community.

F2-Parent 2, a Malaysian-trained teacher whose daughter was in K2, when asked if the kindergarten had met her expectations, stated:

F2-Parent 2: "I think so far they're doing an excellent job with my daughter ... she can be quite obstinate at times. So I think the teachers are doing an excellent job. The syllabus is good. I like that they have themes every week and they do projects based on the themes. They (the children) have homework, at least they get used to having homework. I meant once they go to P1 (Primary 1) they are going to have some homework. In K1 (Kindergarten 1) they initially did not have work ... it's not too tough there. But now every Friday they bring back homework. So that's good. I'm quite happy with the way teachers communicate with the parents. There's no hesitation on their side to tell you upfront ... and that ... I think is a good learning environment."

The parents interviewed were very happy with the kindergarten and they believed the kindergarten project approach provided holistic education for their children.

Congruency between the principal's philosophy and the programme design. The principal's philosophy for the curriculum was that the children must be active learners. She believed that curiosity and active learning were closely related, and that it was important to allow the children to find answers to their own questions. Projects would give the children opportunities to steer their

own learning. To her, the worst thing that could happen in her kindergarten was when teachers did things to dampen the curiosity of the children.

The teacher-pupil relationship was taken into account by the kindergarten in adopting the project-based curriculum. The principal believed that in order to allow children to explore their own interests, teachers had to move from being the authority on the content to being a partner in and role model in learning. This, she felt, was difficult for teachers who were more used to a didactic approach and who believed in having a more authoritative relationship with the children. A number of teachers with such beliefs had to be replaced.

Congruency between programme design and the desired outcomes of education. The six learning areas in the MOE curriculum guide - aesthetics and creative expression, discovery of the world, language and literacy, motor skills development, numeracy, social and emotional development (MOE Singapore, 2012:28) - had been weaved into each theme and project.

The project approach allowed exposure time for mother tongue language to be increased. Increased exposure time for mother tongue language (MTL) was necessary at this kindergarten as most children were from homes where English was the main language used. The increased exposure time for MTL was important in the lead up to Primary 1 as MTL is a compulsory subject in primary schools. The content of the main programme and mother tongue were coordinated so that resources could be shared, as some content overlapped.

The children's progress was closely monitored. Checklists on skills and knowledge that the children were expected to acquire had been prepared and these were based on the MOE curriculum guide. These checklists were included in the children's portfolios. The kindergarten also gave the information on what the children were learning to the parents in a timely manner, and this was much appreciated by parents.

Congruency between the principal's strategy for the guidance of teachers and the professional needs of the teachers. This has been discussed in the

previous section on facilitating the continuous professional learning of teachers.

Contextual features affecting leadership efforts in capacity building

The change in the 'clientele' appeared to have shaped the curriculum, and the approach which the principal had adopted to lead her staff. The fact that a good proportion of the children came from middle income families and that their parents had aspirations for broader based learning prompted the principal to consider a different approach to the delivery of education. However, allowing projects to form the backbone of learning for the children without a well conceptualised philosophy, especially without experienced and skilful facilitation, is a risky endeavour. To mitigate the risk and to ensure that age appropriate skills, knowledge and dispositions were acquired by the children when they transited into primary schools, the principal and teachers developed the checklist for literacy and numeracy based on the Kindergarten Curriculum Guide developed by MOE and weaved the requisite skills, knowledge and dispositions into the projects.

The fact that the parents were better qualified than the teachers, and the lack of experience of the teachers, created dynamics in the kindergarten which the principal had to deal with. She provided the buffer between the teachers and the parents by being very visible and by adopting an open-minded approach towards parents' suggestions. The weekly written communication from the teachers to the parents was substantive and meaningful and served as a check for the kindergarten. The consistency in the communication was important in securing the trust of parents. Parents who felt uneasy with any activity which had been executed and those who had noticed the impact of the activities on the children could seek clarification from or give feedback to the kindergarten in a timely manner, thus preventing any miscommunication or other problems from developing.

By appealing to the parents for their understanding that the teachers needed time to develop their skills while maintaining a transparent and responsive stance with parents, the principal had effectively projected an honest and

trustworthy image. This strategy 'bought' her teachers some protected time to grow and develop professionally. She had put in place structures to ensure that there were sufficient formal and informal platforms for the parents to interact with the teachers and had also coached teachers on how to relate with parents.

Two parents interviewed spoke at length about the openness of the staff. F2-Parent 3 had this to say when the researcher asked her if she was satisfied with the kindergarten she had chosen for her child,

F2-Parent 3: "Yeah, they're (referring to the teachers) very passionate ... and I think so far they are like very open to suggestions and also ... the feedback ... um and I find that one thing that's quite good is that every week they would tell you what they have been doing that week and I found out that not all kindergartens do that ... and this is very good".

F2-Parent 2 also spoke about the willingness of the principal and staff to communicate with the parents.

F2-Parent 2: "Every Tuesday and Friday the English teachers would be outside. The other days it would be the Chinese teachers so if there are any issues I would just ask the teachers. And the principal, almost every day she's like walking and meeting parents ... she communicates with parents. She is very, very hands on. So that's in the mornings. After the semester ends, we have the parent-teacher meeting, which is actually this coming Thursday. So that's good because I get to see what's in the programme ... what work she (her child) has done, so that's like a half an hour or so meeting with the teachers ... So that's good"

The principal's leadership

Pierre Bourdieu (in Lingard and Christie 2003) asserted that the unconsciously internalised understanding of the different social contexts which individuals have been part of predisposes the individual to respond in particular ways. On what shaped her leadership, the principal said that she thought two phases in her life had the greatest impact on her leadership style. The first was her experience as a 'Cadet Officer' in the National Police Cadet Corp as a student, and the second was her experience as a Precision Tool Designer. As a Cadet Officer, she learnt how to get along with people. She credited her confidence in enquiry to her experience as a Precision Tool

Designer where she had to systematically use design protocols in iterative cycles.

On her philosophy for leadership, she explained that she was much influenced by her cluster principal²⁶ who had propagated servant leadership. She tried to role model the behaviour of a servant leader, which to her meant getting to the level of her teachers and working with them shoulder to shoulder including putting on her shorts to fix the racks, allowing her own lack of expertise to be seen, and learning with the teachers. She explained that guiding her teachers was no different from flying a kite, giving space where she had assessed that the teacher could handle a task independently, and providing coaching and closer monitoring where the teacher did not have the capability to act on the task independently (Ellinger, 2011; Clutterbuck, 2012).

Overall, the principal, who was then in her seventh year as principal, had confidence in her own ability to negotiate through the less trodden path and to handle parents. She was also willing to apply herself, sacrifice personal time, and role model learning.

The principal had shaped a community wherein trust existed between herself and the staff, and between herself and the parents. Her consistency in meeting the teachers on a weekly basis and providing support to them had helped to build the trust among teachers. She had put in place structures and processes which supported the learning of the children. These included the weekly level meetings of teachers, the weekly reports which teachers prepared and sent to parents, the template with the necessary headings for lesson planning and the checklist to monitor the learning of the children. She had also shared leadership of the centre with teachers, a strategy which she believed was important in shaping staff engagement and team work amongst teachers. There was a sense of collective teacher efficacy and generally a culture of learning among teachers.

²⁶ The headquarters of this chain had organised the kindergartens into clusters and assigned a mentor called the cluster principal to the principals of each cluster.

Parents felt that the principal was very visible, as she was always at the walkway outside the kindergarten to welcome the children and mingle with parents every morning and to say good bye to the children and their parents at dismissal time every evening. Parents could register concerns with her or with the teachers, and they were responsive to the needs of the parents and children. By appealing to the parents for their understanding that the teachers were young while maintaining a transparent and responsive stance towards parents, the principal had effectively projected an honest and trustworthy image.

Although there were still many imperfections, the leadership provided by the principal had nevertheless set the stage for building the learning capacity of the centre. There was evidence to show that the three important dimensions in building the learning capacity of the centre were emerging: the teachers' skills, knowledge and disposition were developing; a strong school-wide professional community was emerging; some programme coherence was seen.

Funded Kindergarten 6 (F6) (A Below Emerging Centre)

Background of the kindergarten

The centre belonged to a non-profit government funded kindergarten chain. It was located in a relatively old Housing Development Board (HDB²⁷) estate and had a pupil enrolment of about 100. The majority of children came from low income families in the neighbourhood. More than a third of the children were recipients of financial-assistance and only a handful of children came from middle income families.

The principal volunteered to take part in the case study but appeared to have changed her mind in giving her support to the study after our initial meeting. The initial interview was postponed, and the principal appeared flustered at the rescheduled interview. She explained that she had just received a list from her headquarters documenting the names of children whose fees were not successfully deducted from their parents' bank accounts and she had to deal with the cases immediately. This created a one-hour delay before the interview could be started, and it was subsequently interrupted twice by personal phone calls. The principal also failed to attend an earlier agreed follow up interview.

The three teachers were interviewed in a group. The kindergarten had suggested that the parents be interviewed by telephone as the parents were always at work, having to take multiple jobs to make ends meet. However, when the parents were phoned they either did not pick up the phone or declined to be interviewed.

²⁷ 85% of Singaporeans live in HDB housing, and this includes middle income families with joint family income of not more than S\$12,000 (approximately £6,000) a month.

Building teachers' knowledge, skills, dispositions

The principal's responses to questions on professional development were not congruent with how she had articulated her role as a principal - that of helping the teachers grow professionally. She spoke of the importance of nurturing the teachers professionally, yet she had delegated professional leadership to the senior teacher. Her involvement in curricular matters was remote.

For individual professional development, teachers were required by the headquarters to provide their training plans on a template. Teachers spoke of having to carry out an analysis of their professional development needs but stated that they were not properly guided on how to draw up plans for their training.

F6 – Teacher 3 (senior teacher): "The principal just give us the paper, I just tell them (the teachers) that they need to fill up which word from the prospectus; I just did it with 2 other teachers".

It appeared that teachers did attend professional training courses on an ad hoc basis as two of the three teachers interviewed remembered that they had attended courses and were able to talk about the courses.

A new teacher spoke about the mentoring provided to her by the senior teacher (F6- Teacher 3) but two of the three teachers interviewed, including the senior teacher herself, spoke about not having anyone to turn to when they needed guidance on professional matters.

F6 – Teacher 3: "We really need the support from the principal but she doesn't have the time..... I think the presence of the principal is very important. It actually also helps to bring up the spirit of the teachers, knowing that the principal is there to support them".

The principal concurred that she did not carry out class observations formally but she said that she did drop-in visits to classes whenever she had time. She also shared that she got teachers to read articles, including political speeches, as a way of broadening their perspective. Teachers interviewed spoke about there being a plan for professional discussions to take place

regularly but that these plans gave way to more urgent matters time and again.

F6 – Teacher 3: “Maybe today the 2 teachers not here, the principal not here... I mean the key person should be the principal right?”

The principal on the other hand commented that teachers were not willing to stay beyond working hours as their pay was very low.

The senior teacher to whom the principal had delegated the role of providing curriculum leadership said that she was thrown into the deep end of the pool and that she was trying to keep her head afloat. Indeed, the examples she gave me did suggest the possibility that she was not professionally ready to play this role. She bemoaned that the principal had no time for her to consult.

On the whole, it appeared that the teachers were neither given guidance by the principal nor the senior teacher. Evidence pointed to a situation where professional learning opportunities, whether at individual, group or collective, were ad hoc, and few and far in between.

A kindergarten-wide professional community

There was no understanding of a shared mission or vision between the principal and the teachers, whether at the broad level or operational level. The principal acknowledged the importance of the curriculum but said that unfortunately she had insufficient time to work on it. She had apparently expressed her wish for more activities to be included in the curriculum as the children needed more opportunities for authentic learning, but the teachers were not able to deliver what she had suggested. When asked about her ideas of authentic learning, the principal provided examples. These included getting the children to observe changes in mandarin orange peel as it got exposed to weather, telling stories related to mandarin oranges, and learning about what oranges symbolise to Chinese people during the Chinese New Year. She also talked about using old envelopes to teach children to the textures of different types of paper. She said that unfortunately the teachers did not pick up her ideas and attributed their disinterest to put in extra effort

because of poor remuneration and conditions of service, dismissing the possibility that there could be obstacles which needed to be addressed.

The teachers did not seem to share the concerns of the principal. When interviewed, the teachers did not speak about including activities or about authentic learning. Instead they spoke about a central curriculum which gave little room for customisation. The teachers were concerned with how they could deliver the central curriculum within the given time frame or how to seek permission from the Headquarters to leave out some activities. The principal and her staff had not come to a shared understanding on what should be included in the programme of learning for the children.

Planning for learning did not seem to have centred around the children or to have been differentiated to meet the children's individual needs. The senior teacher related how she had dealt with a young parent who was very unhappy that his daughter was being taught to count 1 to 5 when she could already count up to 100. This was raised in the context of how parents had been difficult, suggesting that she thought this particular parent was difficult. The fact that the kindergarten had rather unfavourable teacher-children ratios may have affected this decision, but to have dismissed the concern of the parent and to have missed the point that the child's learning had been compromised, suggested that as the person overseeing curriculum matters, she was not sensitive to the need to cater to the learning needs of the children. The implication is that catering to the needs of the children was likely not to be central in the planning of the curriculum.

There was little evidence of teamwork although there were attempts by the principal to facilitate social interaction among staff. In fact, the senior teacher appeared frustrated with the situation and was even critical of the principal, as illustrated by the exchange below. Whenever I offered a positive comment on the principal she turned the positive comment into a question.

Interviewer: "Do you do team building? "

F6 – Teacher 2: "No"

Interviewer: "Lunchtime? Is that not teambuilding?"

F6 – Teacher 3 (senior teacher): “Is it?”

(Teacher broke out in laughter)

The principal responded to teacher feedback that she had not been spending enough time with them by instituting a daily lunch gathering. The teachers gathered to have lunch daily and at times they would go out to the food courts in the neighbourhood for lunch. One of these lunch gatherings was observed during which the principal tried to make conversation with the teachers by enquiring about their well-being, however the teachers were not forthcoming in their responses. It was evident that professional dialogue was not a topic at these lunch meetings.

There was also no evidence of shared decision making. The principal had delegated curriculum leadership to the senior teacher so that someone else was looking after the curriculum and she could concentrate on administrative matters, and not necessarily to share decision making with her.

As mentioned above, the senior teacher was not ready for her role, and many decisions on the curriculum were left unattended, as illustrated by the example given by the teachers on whether certain activities in the central curriculum could be left out.

Routines on curriculum planning, implementation, monitoring and review had not been established. The extract below is illustrative of this observation.

Interviewer: “So what do you all write in your reflection?”

F6 – Teacher 1: “How we feel, I mean how, whether the teacher has achieved what she is supposed to teach, whether the children can do it, can or cannot do it. So ... ”

Interviewer: “I see, okay. So that is submitted once a week? Who reads it?”

F6 – Teacher 1: “(Name of senior teacher) reads it ‘okay everybody, pass me your evaluations, I am going to check and read it’”.

Interviewer: “Reflections or evaluations?”

F6 – Teacher 3: “Evaluation, they haven’t done the reflection yet! [laughter] They are confused”

Interviewer: “Oh that was the evaluation?”

F6 – Teacher 3: “Yeah, they haven’t done the reflections yet”.

In summary, based on the evidence gathered, it was clear that a shared vision had not been established. Although class schedules for teachers and children to go their classes provided some structure for teaching and learning, the learning needs of the children were not carefully considered in the planning of the curriculum. Reviewing and monitoring of the curriculum was loose and professional issues were left unresolved. The principal appeared to have left curriculum leadership to a senior teacher who was not ready for the role. In fact, the senior teacher appeared to be quite critical of the principal. The teachers were not working as a team, and there appeared to be communication issues between the principal and the teachers.

Coherence in purpose, plans and actions

That the majority of parents were not able to give the kindergarten support in the learning of the children, as evidenced by the many failed attempts at arranging interviews with the those identified by the principal. The parents as a group also did not have a strong enough voice to advocate for the needs of their children or give feedback to the kindergarten on the services they were providing. This could have contributed towards the situation at the kindergarten where the needs of the children did not take the central place in the planning of the curriculum.

The learning of the children did not appear to be the core interest of the principal, nor the focus of planning at the kindergarten. It was clear that the staff at the kindergarten did not have a shared mission nor vision. Even though there may have been individuals who were trying to give their best, these efforts were not coordinated. The kindergarten had done little to reach out to the parents and to understand their aspirations and the home learning environment that they were providing for the children. As there was little consideration for the learning needs of the children, and no systematic learning needs analysis for the teachers, congruency of staff professional training with the needs of the curriculum if present would have been incidental.

Contextual features affecting leadership efforts in capacity building

As have been mentioned in the previous section, the absence of a parental voice was not helpful towards alerting the kindergarten of the need to improve its services for the children.

The new administrative procedures imposed by the Headquarters and funding bodies on the application for financial assistance and fee collection added administrative load to the kindergarten. The proportion of financial assistance and unsuccessful fee deduction cases was relatively high at this kindergarten, although not necessarily in absolute numbers than in some larger centres, and the impact of these administrative tasks was felt very much. Although the kindergarten had the services of a part-time clerical officer, the quick turnover of the clerical officer(s) added to the administrative problems of the kindergarten and served as a further distraction for the principal.

In the absence of consistent leadership from the principal on curriculum matters, the senior teacher played the role of mentor to a new teacher, but she had neither assumed full leadership of the curriculum nor been fully accepted by her colleagues as their leader. The impact of her work was minimal. Given the circumstances, the central curriculum and other structures imposed by the headquarters ensured some degree of normality of operations at the centre.

The principal's leadership

The principal was a veteran kindergarten practitioner with more than 20 years of prior experience. She had been a principal for 11 years although she had been posted to the centre only two years earlier. She also held a Masters degree in early childhood education and care.

There were several possible reasons for the principal's lack of involvement in providing curriculum leadership. One possible reason was her view regarding principal's role. The principal considered herself to be a middle manager at

the kindergarten, reporting to a 'Business Administrator' and a committee headed by an 'Advisor', and therefore having limited power to make curricular and administrative decisions. When she was asked whether her role had changed when her title was changed from 'Supervisor' to 'Principal' four years prior to the study, she said that it had changed only in title. It is possible that the space given to her for decisions was limited. It is also possible that she had carried over a dated view of the principal's role, and she had not adjusted her mindset and practice to lead effectively in an environment of higher expectations. However, based on information from the principal herself, it appeared that between the two possibilities, the latter was the more likely reason. The principal volunteered information on problems she had had with a previous senior teacher who had undermined her authority and disregarded her advice on the curriculum. She also spoke about problems with a clerk who left the job with a backlog of work for her to follow up on. A third possibility is that the administrative and managerial roles of a principal had taken up so much of her time that she just did not have time left to lead her staff in the core business of teaching and learning. Other than the financial assistance cases and non-successful fee deduction cases, she also spoke about a host of other issues unrelated to the learning of the children. These included having to do a thorough clean-up of the centre physically (to get rid of white-ant infestation) and spiritually (to get rid of 'friends' flowing through the windows) upon taking over the centre. The interruptions coming from her husband's telephone calls during our interview suggested that she was really distracted. A fourth possible reason was the principal's morale and motivation. Her initial enthusiasm and subsequent withdrawal suggested that she was looking for help but hesitant to face the truth. A fifth possibility was a combination of some or all of the reasons discussed above.

Throughout our various conversations, except for the initial positive response to my invitation to participate in the case study, the principal used a language of powerlessness. As mentioned, she had also changed meeting dates and absented herself from meetings.

Appendix 18 - Summary of NF2, F1, F3 and F5

Building teachers' knowledge, skills, dispositions

	Structures for individual learning				Structures for group learning		Structures for Organizational Learning		Other points
	Teacher Learning Plan and attendance of courses	Mentoring / Buddy System	Feedback on classroom practices	Personal reflection	Regular (e.g. fortnightly) meetings to coordinate and reflect on children's learning	Site-based workshops, community of practice	Linking review findings to subsequent planning	Structures to support translation of lessons learned	
NF2	Teachers drew up individual learning plans. On the average each teacher attended 2 in-service professional development courses every year.	Teachers worked in level teams. The principal played the role of mentor to teachers.	The principal visited classes daily and gave feedback to teachers based on her observations almost immediately. She paid particular attention to the tone of voice of teachers. She also conducted a work review with each teacher annually.	Teachers were expected to complete their personal reflections and submit them to the principal. However, these were not monitored closely.	Small group meetings were convened for different groups of teachers every week and brief notes of these meetings were circulated to all teachers. The entire staff got together about once a month during which administrative and logistical matters were discussed. Whole day staff meetings were held during term breaks and the curriculum would be reviewed then.	There was no time set aside for staff professional sharing during the term. The principal explained that they have had difficulty finding a common time slot for the entire staff to come together since they extended the kindergarten programme to 4 hours per session.	There were examples of changes made learning from past experience. For example, the staff felt that time was not well used in annotating the children's portfolios and had decided to send the work of the children home in plastic bags without annotations. In place of providing a portfolio as evidence of the children's development, the teachers completed a checklist on the development of the children, and used this as a basis to provide information to parents.	The principal appeared to be the key person documenting the work, maintaining the structures and processes.	

	Teacher Learning Plan and attendance of courses	Mentoring / Buddy System	Feedback on classroom practices	Personal reflection	Regular (e.g. fortnightly) meetings to coordinate and reflect on children's learning	Site-based workshops, community of practice	Linking review findings to subsequent planning	Structures to support translation of lessons learned	
F1	Yes, teachers attended courses based on individual and programme needs.	Each new teacher was assigned a senior teacher as buddy. Some mentors would plan lessons with new teachers and also co-teach with new teachers while others would plan and brief the new teachers on what had been planned, allowing the new teacher to play a supporting role.	The principal walked through the classes daily to look at the work of the children posted on the walls. She would pay particular attention to the responses of the children during these visits and would identify where further scaffolding of learning was needed. She would point these out to the teachers immediately or at the coordination meeting held every morning.	The teachers evaluated and documented their lessons daily. The evaluation included a reflection of what the children had successfully grasped and what needed follow-up.	The principal met with the teachers for about 15 mins every morning to agree on the focus of the day and to have conversations on follow-up actions that might be needed in the lessons conducted the day before. For example, if the principal had noticed that the children had missed out important aspects of a theme that they were exploring, she would discuss with the teachers during these sessions.	Termly meetings were held to reflect on the curriculum and to agree on what to tweak in the coming term. Through these sessions the teachers collectively decided that there should be opportunities for one-to-one reading with the K1 children.	The teachers got together daily to act on gaps, weaknesses, and new ideas. They also reviewed their plans once a term and addressed gaps that had appeared.	Class portfolios were prepared, and gaps were acted on. However, there was no evidence that soft or hard structures had been put in place to ensure that the learning on administrative or management matters became institutional memory.	
F3	Individual learning plans were drawn up. Teachers attending certifiable courses were given early release.	The principal was the main coach and critical friend to the teachers. She demonstrated lessons, co-taught with	The principal formally observe classes twice a year and gave feedback to the teachers after each session. She also walked through classes	Staff were required to carry out reflection and submit the reflections to the principal on a weekly	Termly curriculum review sessions instituted by the headquarters were executed. The teachers also gathered every last Friday of the month to discuss the	Teachers spoke about site-based workshops on reading, and time set aside for them to set up learning centres for the	There was no evidence of systematic gathering of data for review of work, but as there was good working relationships amongst teachers, feedback was given informally when they had lunch together. One example of such informal	There was no evidence of structures having been put in place to institutionalise learning of individuals within the	

	Teacher Learning Plan and attendance of courses	Mentoring / Buddy System	Feedback on classroom practices	Personal reflection	Regular (e.g. fortnightly) meetings to coordinate and reflect on children's learning	Site-based workshops, community of practice	Linking review findings to subsequent planning	Structures to support translation of lessons learned	
	Teachers were well informed of available courses and they spoke about their in-service courses with enthusiasm	teachers and took over classes when teachers were on medical leave.	on a daily basis to monitor the learning of the children as well as the delivery of lessons by the teachers.	basis, but the reflections were generally superficial, with little value for professional learning.	curriculum and share their learning.	children.	feedback was with regard to the setting up of the learning centres, where teachers' informal feedback of teachers led to the institution of a review process. Another example involved the decision to strengthen the reading programme arising from feedback from primary schools.	centre. Changes were made as necessary but on an ad hoc basis.	
F5	Individual learning plans were drawn up but were not adhered to. One of four teachers interviewed could not recall any courses attended, and another said that she had not attended courses and was getting "dry" with ideas.	There was no evidence of mentoring but one teacher did speak about the principal giving her guidance on how to interact with parents.	There was no evidence that the principal had observed teaching.	Although the teachers were required to reflect on their lessons, there was no strict requirement for them to submit the reflections within a given time frame, and subsequently there was no follow up on the reflections.	There was no evidence that the principal had discussed teaching and learning matters with the teachers on a regular basis other than during the quarterly curriculum planning session that the headquarters had instituted.	Learning journeys to other kindergartens were organised for the staff to learn from peers.	The teachers spoke about efforts made to improve the quality of work at the kindergarten. However, there were no substantive examples of how the centre had learnt from past lessons.	There was no evidence of structures having been in place to facilitate organizational learning.	The teachers came to the interview with notes written on slips of paper and they were referring to their notes during the initial part of the interview.

A kindergarten-wide professional community

	Evidence of shared mission/vision	Evidence of trust	Evidence of teamwork / connectedness (collaborations)	Evidence of Collective Teacher Efficacy	Evidence of distributed leadership / teachers exerting influence over their work	Evidence of teachers seeking to raise their competence	Evidence of a focus on learning
NF2	The principal had the intent of developing the curriculum in stages. She said that she had 'tightened' the curriculum and was working on differentiating the curriculum so that children at both ends of the ability and development spectrum could learn at their own pace. Teachers appeared to share her vision of providing a holistic programme for the children.	The teachers and parents appeared to trust the principal. The teachers conveyed that the principal was the bearer of standards, and that she would point out what they had not done well. They also looked to her for guidance and mentorship. The parents noted that the principal has been decisive in addressing concerns of parents.	The teachers said that staff relationships was good; they would have meals together. However, there was little evidence of teamwork actually taking place even though the operations of the kindergarten went smoothly. Teacher 1, who was the main teacher for K1, said that she did not involve the teacher assistant (a practitioner with qualifications of a full-fledged teacher) in the planning of lessons as the role of the assistant teacher was just to help prepare teaching resources and conduct group activities.	The teachers appeared to have faith in the principal. They felt that she would somehow be able to solve their problems. However, there was little evidence of Collective Teacher Efficacy or confidence that colleagues other than the principal could together solve problems.	The principal appeared to have shared leadership with the key teachers for each of the 4 levels. Two of the teachers interviewed said that they had a lot of space to try out new ideas in their teaching. They were tasked to develop the curriculum for their respective levels.	Although there were teachers seeking higher qualifications, they seemed reluctant to go beyond their comfort zone to try new ideas. The teachers would prefer to repeat the same tasks, and try to improve these tasks rather than venture into work they are not familiar with.	The principal guarded the curriculum time, facilitated the work of teachers and provided guidance to teachers to ensure that a decent programme was delivered. She was also mindful of the need to protect the teachers' private time so that there was work-life balance. High standards were promoted. A parent described the extent to which a Chinese language teacher went to support the parents in playing a part in the rehearsals of the year end concert. The Chinese teacher had apparently duplicated tapes and provided individualised coaching to parents so that they could in turn help their children rehearse the dance steps at home. However, while there appeared to be a focus on learning, the principal appeared to be the key steward of learning.
F1	The principal and senior teachers had shared vision, mission and	There was some degree of trust amongst the staff and	The daily routines required the teachers to work quite collaboratively with one	There was clearly collective efficacy between the principal and	The curriculum model adopted by this kindergarten was one where the	One senior teacher spoke about her efforts to be gentler	The focus on the children's learning was clear. There was also evidence of teachers' individual and group learning but less evidence of organizational

	Evidence of shared mission/vision	Evidence of trust	Evidence of teamwork / connectedness (collaborations)	Evidence of Collective Teacher Efficacy	Evidence of distributed leadership / teachers exerting influence over their work	Evidence of teachers seeking to raise their competence	Evidence of a focus on learning
	philosophy. Other teachers were learning to operate within the mission and philosophy.	between the staff and principal. The teachers appeared to be quite comfortable having the principal walk round their classes.	another. Between the two senior teachers, there appeared to be some teamwork. The principal spoke about the staff coming together to decide on a word list to ensure that the children would have acquired the literacy skills expected at kindergarten level.	the two senior teachers. The newer teachers spoke about their dependency on senior colleagues when it came to parent-teacher meetings, showing faith in their senior colleagues.	teacher needed to navigate and negotiate with the children on the subject of study. This child-centred approach gave teachers the space to influence their children. Teachers acknowledged that they had been given autonomy to carry out the lessons.	with children. Another teacher spoke about how she had benefitted from mentoring provided by the two senior teachers and how she was seeking to improve the scaffolding she was providing for the children's learning.	learning.
F3	The principal appeared to have a vision and direction for the centre. She wanted her children to be equipped with the foundations of learning when they entered primary one, and had decided to focus on improving the literacy learning at her Centre. The teachers appeared to support the	The majority of teachers had been working together for at least 10 years. They felt comfortable with one another.	Teachers spoke about how they would stay back to support colleagues who were busy. The teachers also set up the learning corners together. Teamwork was promoted through social activities. Birthdays and achievements of teacher and the centre were celebrated. It was evident that the staff	The principal appeared to have found the right strategies to motivate the staff and get them onto a spiral of success in tandem with calls to improve quality nationally.	The principal spoke at length about getting buy-in from teachers whenever she wanted to make changes. Teachers were assigned different levels to look after. The teachers participated in the design and setting up of the learning centres.	There were clear efforts by the teachers to improve their professional skills. They spoke enthusiastically about the courses they had attended and how they participated in each others' assignments.	The principal had great personal commitment to provide quality education at the centre and her personal involvement in the curriculum was helpful towards developing quality at the centre. Learning was valued at the centre, and much effort had gone into the design of activities to broaden the learning of the children, for example, the reading programmes, additional activities like baking, setting up of a motor skills room. Parents also spoke at length on efforts of the teachers and principal to provide quality learning. They also attested to the growth of their children and attributed

	Evidence of shared mission/vision	Evidence of trust	Evidence of teamwork / connectedness (collaborations)	Evidence of Collective Teacher Efficacy	Evidence of distributed leadership / teachers exerting influence over their work	Evidence of teachers seeking to raise their competence	Evidence of a focus on learning
	principal's vision.		were with the principal.				these to efforts of the teachers and principal.
F5	The principal spoke about wanting to improve the curriculum but did not seem to have concrete ideas on how to improve the curriculum. She was able to talk about operational changes, and macro level programme changes, for example, implementing enrichment programmes and increased contact hours for MTL (2 hours daily), but appeared detached from the actual teaching in the classrooms.	The teachers appeared to be comfortable with each other at a social level. They spoke about having meals together. Two out of four teachers interviewed were quite willing to speak about their own fears and unhappiness in the midst of their colleagues after the initial awkwardness.	There was some coordination in scheduling of events and learning journeys. Other than these, it appeared that teachers worked rather independently from one level to another even though there were termly curriculum planning sessions. In fact, one teacher said that another had left many gaps for her to fill when she received the children from the latter.	The teachers appeared to know each other rather well, as they could point out each other's strengths. There was some friendly bantering at the interview but there appeared to be some tensions as well. As the work arrangement did not require teachers to work together, there was little evidence of team work. Collective teacher efficacy did not feature.	The teachers were assigned to take care of levels. At least 2 of the 4 teachers interviewed appeared to show commitment to their work although this did not always translate into high quality work.	One teacher spoke about not having had opportunities to improve her professional skills through courses and that she had been visiting bookshops to scout for ideas. Seeking self and professional improvement did not seem to be a culture among the staff.	The evidence suggests that the principal made attempts to improve the kindergarten's programme of learning. However, her involvement was limited to the management level. There was no evidence of her involvement in classroom practice, where help was badly needed. The principal appeared to be well informed of what went on at the centre, and she had established a good working relationship with staff and parents. There was some order in the environment but the environment could not be described as dynamic. Parents spoke about their satisfaction with the enrichment programmes offered by the centre and at least one parent had sent a second child to the centre. However, while there may have been some structures for learning, lesson planning was not strong. In one class visited, the children were left idle when the teacher had to attend to a bottle neck in the learning activity. Another class observed was rather didactic and uninteresting.

Coherence in purpose, plans and actions

	Alignment between programmes and philosophy of centre	Alignment between programmes and needs of children	Alignment between professional development of staff and programme needs	Alignment between enacted programme and programme needs
NF2	<p>The centre's purpose was primarily to serve the parish. The Centre had thus provided a programme where Christian values were taught. However, as it existed within multi-religious Singapore, the Centre provided an inclusive and secular programme while teaching these values.</p> <p>In line with Christian values, the centre employed only Christian teachers, though not necessarily from the same denomination. Being caring and respectful were values propagated at the kindergarten, and teachers were expected to role model how to be respectful and caring.</p>	<p>Most parents were professionals. None of the children needed financial assistance.</p> <p>Parents were critical and had very high expectations. As such, the teachers worked to provide the highest level of service.</p> <p>As most parents were also members of the church, they generally supported the work of the kindergarten. Parents played the role of chaperone for outings. Parenting talks were organised.</p>	<p>The centre had 7 teachers, and 3 assistant teachers. Teachers attended training courses according to their individual training needs as well as programme needs. The principal had identified personal effectiveness as an area that teachers needed apart from pedagogical skills and one teacher interviewed spoke about having attended a course related to personal effectiveness. Another teacher interviewed had attended a course on creativity and mentoring, in line with the centre's aspiration to provide a curriculum that would encourage creativity.</p>	<p>Some structures have been put in place for planning. The entire staff met for 3 days in December to plan the curriculum for the year. Thereafter, curriculum was reviewed on a termly basis, and refined if necessary upon discussion at the monthly level meeting of teachers.</p> <p>Teachers and parents gave examples of alignments and misalignments. Two parents commented that the principal was quick to act on problems and service recovery whenever lapses occurred.</p> <p>The principal had some experience in process analysis and was aware that work processes supported productivity.</p>
F1	<p>The centre had decided to adopt the Reggio Emilia Approach and adapt it to the local context as they saw the need for services where the children's curiosity for learning could be tapped.</p>	<p>The principal had taken into account the expectation of parents and the needs of the children, for example, the centre had adopted measures to ensure that the children were not behind their age peers in pre-literacy skills when they entered primary one upon receiving feedback from parents that some children did not pick up enough pre-literacy skills.</p> <p>Parents interviewed had high expectations of the programme. Warm working relationships that existed between parents and teachers suggested that there was healthy</p>	<p>Both off-site and site-based professional development opportunities were made available to teachers. In fact, the processes for site-based learning were strong. The principal would visit classes daily and point out to teachers where scaffolding for the learning of the children could be better provided. She met the teachers every morning for updates on the teaching programme for the day.</p> <p>Teachers had attended courses on</p>	<p>The Reggio model had a set of coherent practices aligned with the Reggio philosophy. The principal had been trained at Reggio Emilia and was still receiving coaching from her Reggio coaches. Some teachers had also been 'trained to facilitate learning the Reggio way'. Hence, there was some coherence between the enacted programme and the programme intent.</p>

	Alignment between programmes and philosophy of centre	Alignment between programmes and needs of children	Alignment between professional development of staff and programme needs	Alignment between enacted programme and programme needs
		communication between them.	aesthetics, motor skills development and questioning techniques.	
F3	There appeared to be congruency in the principals philosophy and the improvements that she was seeking. She believed that literacy was a foundation for learning and acted to improve the literacy programme when she realised that the children did not cope well with language when they went on to primary one.	All three parents interviewed spoke about how their children had grown. There was effort put into exposing children to more literacy related activities as it was perceived that not all children had those opportunities. Activities to expose the children to different aspects of home and community life were also given attention to address the lack of home support for learning.	There was alignment of the professional development of the teachers with programmes for the children, for example, training of teachers in reading to prepare for the implementation of the "Reading Alive" programme.	There was some alignment between the planned and enacted programmes especially in the area of literacy for which professional skills of the teachers have been upgraded and for which specialist help had been sought. However, it was also evident that the pedagogical skills and content knowledge of teachers were inadequate, for example, aesthetics and motor skills.
F5	The teachers and principal could not articulate clearly the purpose of the enrichment programme and if the enrichment programme was so important, why it had not been included in the main programme for all children. The provision of enrichment to stretch the children who were faster in learning, seemed a practical solution for meeting the wide range of learning needs at the centre but appeared to have contravened the espoused purpose of this operator which was to help the poor level up. The programme plans did not seem to be anchored on a clear pedagogical philosophy, with the enrichment delivered partially by vendors.	Two of the three parents interviewed were able to articulate why they were very happy with the programme offered by the kindergarten, a point to note though was that both spoke about the enrichment programmes, and not about the core curriculum. Parents were invited to play the role of chaperones for outings, and speakers for parent talks.	The teachers appeared to have accepted that change was necessary and their professional upgrading was important. However, lessons observed suggested that lesson planning had not been looked at closely for proper scaffolding of the learning and engagement of the children. Teachers commented that they have not had opportunities to attend courses. Professional development planning and execution were not congruent. Site-based professional development opportunities had not been capitalised on for teachers to improve their skills.	There were efforts to coordinate at a macro level but there was no evidence that this was done at a more detailed level. The teachers talked about getting together during the term break to discuss the curriculum. They spoke about ensuring that there were no overlaps between the EL and MTL programmes. However, teachers also spoke about learning gaps between one level and the next. There was also little evidence that lesson evaluations were carried out carefully or that the learning of the children were monitored.

Contextual features affecting principals' efforts to build the capacity for learning

	Background information on enrolment and SES of children	Key issues and how these might be associated with the context
NF2	<p>The kindergarten was located within the church. The kindergarten had a pupil enrolment of 150 children in 4 levels from pre-nursery to K2. There were 7 teachers, 3 assistant teachers and 2 part-time teachers.</p> <p>The parents were mainly members of the parish. They held professional jobs and had high expectations of the centre. While they might not necessarily confrontational when they disagreed with decisions of the centre, they were certainly forthcoming in giving feedback to the centre, and this had been unnerving for the teachers.</p>	<p>1. The teachers appeared to be always looking to the principal for decisions. One possible explanation for their reliance on the principal is their perception of the power distance between themselves and the parents. Hence, they hid behind the principal and allowed themselves to be perceived as lacking in commitment or motivation rather than make an effort and still be not meet the parents' expectations. Indeed, one qualified teacher decided to play the role of an assistant teacher and be paid accordingly as this role was perceived to be less stressful. The principal, however, conveyed that the church as well as the management committee was very supportive of the needs of the kindergarten. So, it could be a situation where the teachers just did not feel confident enough to face the parents because of the differences in skills between the parents and them.</p> <p>2. Although not bare in appearance, the centre did not have learning centres for the children to be engaged in during their free time nor a rich display of the children's work in their classroom. This may be explained largely by the fact that the kindergarten shared their classrooms with the Sunday school and teachers had to take down all the displays on Friday evenings and put them up again on Monday mornings. Although the teachers did not speak about this arrangement as a problem, there were certainly trade-offs to this arrangement.</p> <p>3. As the vast majority of the children came from the parish and from professional homes, the centre could not offer an environment that would be representative of the social environment in Singapore.</p>
F1	<p>The kindergarten served about 100 children from nursery to K2. The centre operated 2 sessions, with teachers teaching both sessions.</p> <p>Only 3-4 children at the centre (3-4%) received financial assistance, the majority came had parents who held professional jobs.</p>	<p>1. The clarity of the programme philosophy and the coherence of the programme components may have facilitated the leadership efforts of the principal. The Reggio programme came with clear guidelines on the approach to the engagement of the children and the professional development of teachers. Following the advocated practices of the Reggio model, the principal had successfully put in place a learning focus for both staff and children.</p> <p>2. The Reggio inspired way adopted by the centre required the teachers to negotiate the direction of the projects with the children and not have a clear end-point. Some teachers are uncomfortable with the open-endedness of the projects. Associated with the open-endedness of projects, the centre has had difficulty recruiting suitable teachers.</p>
F3	<p>The centre had 120 children spread over 3 levels, K1, K2 and Nursery. About 40% of the children were recipients of financial assistance and many mothers had only basic education or were foreigners who lacked local knowledge.</p>	<p>1. Despite good intentions and much effort on the part of teachers, the quality of the programmes could only be described as mediocre even though the tone for learning at the centre was evident. The mediocre quality of the programme could be associated with the teachers' limitation in knowledge and skills. Little funding was given to the much needed professional development and teaching resources until minimum standards of operation were explicated in the SPARK instrument, and this legitimised funding for principal and her staff to have on-going professional development. This was so as the local committee overseeing the kindergarten's budget was constituted by non-educators who had little understanding of the work of the kindergarten. Even so, the runway that the teachers have had to improve their knowledge and skills had been relatively short, and this may explain in part the quality of the programmes. Given the family backgrounds of the children,</p>

	Background information on enrolment and SES of children	Key issues and how these might be associated with the context
		<p>the centre had neither the support of parents to extend the learning of the children at home nor the benefit of having feedback and pressure from parents to raise its quality.</p> <p>2. The principal was extremely hardworking. Although she had to handle a large number of financial assistance cases, she was teaching a nursery class as the centre could not find a teacher to replace the nursery teacher who left. However, the principal may have overstretched herself in doing so and the effects of this may appear later on.</p>
F5	<p>The centre had about 125 children in 2 sessions. The size of the kindergarten was about the same as most other kindergartens in this chain. However, the children of this kindergarten came from a wider socio-economic range as compared to those in other centres. While about a third of the children were recipients of financial assistance, there was also a sizeable group from private housing in the neighbourhood.</p>	<p>1. A couple of teachers did not have the proficiency to teach at K2 level and the principal had instituted a system where teachers did not follow the children from one level to the next to cope with this constraint. This was not a good arrangement especially in a setting where a good number of children came from very disadvantaged homes.</p> <p>2. To cope with staff constraints, the centre had given much attention to strengthening their enrichment programmes as a means to cater for the diverse needs of the children. While this may be a good short-term measure to address the diverse needs, it may inadvertently widen the learning gap between the children from the high and low SES homes as enrichment programmes were outside of the main curriculum and were not compulsory.</p> <p>3. The principal spoke about the lack of support from the local committee overseeing the work of centre in the past and how their lack of instincts for education had hindered the work of the teachers. She also related how she began to feel more empowered under the nurturing mentorship of the cluster principal. Although the centre had adopted a curriculum developed by the chain headquarters, the teachers spoke about the curriculum as one that they could shape and customise for their children.</p>

Appendix 19 – Interviews with Funded chain headquarter staff

Selected questions posed and responses to these questions

Interviewer: What were some targets that the funding body had set for the kindergarten chain?

CP2: “....we have to ensure that XX % of kindergartens get SPARK certification by [year]and we have to give teachers CPD (continuous professional development), so we”

Interviewer: What did you do to support the centres?

CP1: “We did a lot... we taught the principals It was too slow..... no choice..... we just have to make some things compulsory. Each centre has their own problems, but certain things are just too important to be left to chance. So we standardised some procedures. Some principals are quite compliant. They will do but maybe they don't do it properly. Still, slowly, slowly they will get it. Maybe many years from now they will appreciate why we make them do these. There are some good one [principals]... they want to move ahead, so they ask why and they make minor adjustments ... we are okay.”

Interviewer: What is your role as an Executive Principal?

EP1: “... mentor principals.... and help them to up the skills of teachers, [funding body] expect a certain percent of teachers to go for courses”.

Interviewer: Why do principals need to be coached on things that are basic to leadership?

EP2: “Principals generally attend leadership training on a part-time basis and often they do so long before they are ready to take on leadership positions. ... They do not get to practice how to lead and apply what they learn in theory [while they undergo training]. The organization structure within kindergartens usually offer no opportunity for someone undergoing the DECCE (L) to practise leading also no good role models.”

Interviewer: I noticed that principals generally do not involve the teachers in making decisions. What might be some reasons for their reluctance to involve the teachers in decision making?

CP4: "Principals are afraid that parents will complain. But you can't blame them for this... some teachers, you know, can't... It is risky.. and principals may end up having to deal with more complaints later on.Some teachers are very weak, they may not even have a single 'O' level subject [pass]. ..."

Appendix 20 - Summary of findings

	Quantitative Findings	Qualitative Findings
Principals' own learning and development	Principals' participation in professional development activity over the last 3 years	
	<p>Most common professional development activity for principals from both Funded and Non-Funded kindergartens was the category labelled "MOE conferences/seminars".</p> <p>A significantly higher percentage of principals from Funded kindergartens (98.2%) compared to principals from Non-Funded kindergartens (90%) participated in professional development.</p> <p>Principals from Funded kindergartens participated in a significantly greater number of categories of training and professional activities; Principals from Funded kindergartens were significantly more likely to have attended:</p> <ul style="list-style-type: none"> • leadership courses, • conferences/seminars organised by non-MOE agencies, • local learning journeys, • overseas learning journeys, • induction programmes, • mentoring or coaching from others <p>Principals from Funded kindergartens were also more likely to have had performance feedback from supervisors than their Non-Funded counterparts.</p> <p>Participants from Non-Funded kindergartens were significantly more likely to have pursued academic study/qualifications than their Funded counterparts.</p>	<p>Funding enabled the Funded chain to provide every cluster of 10-15 principals with a cluster principal or mentor.</p> <p>Principals from the Funded chain spoke about how their understanding of their role and how their leadership skills had grown through mentoring by the cluster principals. More specifically, the cluster principals impressed upon them the following:</p> <ul style="list-style-type: none"> • That the work of kindergartens contributed towards the building of a strong foundation for learning (an acknowledgement of their contributions); • That principals had a professional role and thus it was important for principals to guide their teachers especially in their classroom work; • That kindergartens had to be service oriented and be willing to accommodate the different needs of children given the varied learning trajectories of children; • That parents were their partners, hence active engagement of parents was important; • That principals had to solve problems, not just address them superficially. <p>Most importantly, there was the feeling that the cluster principals stood behind them, and were "always there for them to consult".</p>
Building teachers' knowledge, skills and disposit	Key areas for teachers' training	
	<p>Top ranked:</p> <ul style="list-style-type: none"> • SPARK • curriculum development • motor skills • literacy • aesthetics <p>Lowest ranked:</p> <ul style="list-style-type: none"> • project management • special education • self and social skills <p>Teachers from</p> <ul style="list-style-type: none"> • Funded kindergartens were 2.21 	<p>Principals said that they took cognizance of the macro environment in deciding on the training of their teachers. As SPARK was introduced only the year before, the principals wanted their teachers to be familiar with the system and had therefore sent teachers for SPARK training.</p> <p>Realising that motor skills development, literacy and aesthetics were all part of SPARK requirements, they had sent the teachers for training in these areas.</p>

	Quantitative Findings	Qualitative Findings
	<p>times as likely to participate in 'motor skills development',</p> <ul style="list-style-type: none"> • Non-Funded kindergartens were 2.03 times as likely to participate in 'innovation' related training, and • Non-Funded kindergartens were 3.88 times as likely to participate in 'teacher leadership training' as teachers from Funded kindergartens. 	
	Strategies for teachers' professional development	
	<p>Top ranked</p> <ul style="list-style-type: none"> • observing teaching • convening post observation discussions with teachers • termly dialogues on the curriculum <p>Lowest ranked strategies</p> <ul style="list-style-type: none"> • job rotation <p>Funded kindergartens rated peer observation and weekly teacher self-reflection as significantly more important strategies for teacher professional development than Non-Funded kindergartens</p>	<p>Teaching observation (once or twice a year) was carried out consistently as part of teacher performance appraisal in Emerging Centres with High Averages and Emerging Centres. Principals gave feedback on the perceived strengths and weaknesses, with little or no provision for teacher reflection or professional dialogue.</p> <p>Principals of Emerging Centres with High Averages and Emerging Centres also did drop-in visits to classes daily and role modelled teaching strategies.</p> <p>A gradation of induction arrangements for new teachers was seen with the Emerging Centres with High Averages having tight structures for induction and the Below Emerging Centres having loose structures or no structure for induction.</p> <p>Observing teaching, convening post observation discussions with teachers, having termly dialogues on curriculum, and weekly self reflections have become routines in the Funded kindergarten chain.</p> <p>Overall, professional learning strategies for individuals were favoured over those for groups. This phenomenon could be associated with (1) the difficulty in finding time to meet, (2) the presence of a performance management routines concomittant with the absence of group learning routines.</p>
	Structures to support teachers' learning - Learning Needs Analysis	
	<p>59% of participants did learning needs analysis with staff.</p> <p>Funded kindergartens were 3.39 times as likely to have a training needs analysis for teachers compared to Non-Funded kindergartens.</p>	<p>At the Emerging Centres with High Averages (F1, F2, NF1, NF2) and the Emerging Centre (F3), learning needs analysis involved one or more conversations between the teacher and their supervisor/mentor; at one Below Emerging Centre (F5) the analysis was carried out solely by the teachers with no input from the supervisor or mentor; at the other Below Emerging Centre (F6), learning needs analysis was not done.</p> <p>At the Emerging Centres with High Averages, the courses identified for the teachers to attend were aligned with the learning needs of the teachers while such</p>

	Quantitative Findings	Qualitative Findings
		alignment was not found at the Below Emerging centres.
	Other structures to support teachers' learning	
	<p>40% had a system of providing more than 30 hours (4.25 man-days) of professional development for teachers. Funded kindergartens were 2.82 times as likely to have such policy commitment.</p> <p>Funding arrangements for teacher professional learning enabled:</p> <ul style="list-style-type: none"> • 81% to fully sponsor course fees • 73% to provide subsidies for degree and certification courses • 71% to give time off for attendance at courses • 52% to have a system of relief teachers to cover duties while teachers were attending training courses • 42% to have protected time for staff to discuss professional matters. <p>Funded kindergartens rated peer observation and weekly teacher self-reflection as a significantly more important strategy for professional development than their counterparts in Non-Funded kindergartens.</p>	<p>Emerging kindergartens with High Averages had protected time for professional conversations ranging from short daily meetings as in F2 to fortnightly meetings as in NF1. There were no platforms for professional conversations in Below Emerging Kindergartens.</p> <p>One difficulty surfaced was not having common free slots among teachers for meetings to be arranged. Interviewees had associated this difficulty with the fact that kindergartens typically operated 2 sessions, with two sets of students but the same set of teachers.</p> <p>All centres required teachers to submit their reflections and lesson evaluations, but these were read by supervisors only at NF1, NF2, and F1. At centre F2, instead of reading the teachers' reflections, the principal conducted weekly sessions using the Lesson Study Approach. Teachers were also required to submit their reflections and lesson evaluations at F3, F5 and F6 but the principals were not consistent in reading them. The reflections were cursory in nature, often documenting only the responses of the children and not the interactions of the teacher with the children.</p> <p>Principal of a Non-Funded and non-profit centre such as NF1 expressed difficulty in securing funds to send her teachers for training courses. The absence of funding may also explain why some centres did not carry out learning needs analysis - as there was the expectation that teachers would attend courses related to the learning needs identified. In the absence of funding, this was not going to happen, hence there was no need to carry out learning needs analysis.</p> <p>Funding could also be associated with the absence of some infrastructures to support professional learning. For example, most centres had a few regular relief teachers they could engage on an ad hoc basis when teachers were on medical leave, however, in most instances the same relief teachers could not be engaged to take the place of teachers attending courses as there was no budget set aside for this purpose.</p>
	Group learning	
	<p>Ranking of group learning strategies:</p> <ul style="list-style-type: none"> • Termly curriculum dialogue – received 2nd (joint) highest rating in ranking of strategies for 	<p>Group learning in the form of planning for the curriculum, lesson study, sharing sessions, site-based learning were scheduled in Emerging Centres with High</p>

	Quantitative Findings	Qualitative Findings
	professional development of teachers <ul style="list-style-type: none"> • Training for entire staff – received 6th highest rating 	Averages. Difficulty in finding common time for meetings was cited as an obstacle for group learning activities.
	Organisational learning	
		In Emerging kindergartens with High Averages, there was some evidence that principals had invested on creation of collective memories and enactment of refinements arising from organisational learning. There was also some evidence of longer term planning and planning that took into account the macro environment. Organisational learning was seen where the principal had played an active role in teaching and learning.
Nurturing a kindergarten-wide professional community	Shared goals for student learning	
		Only a handful of participants viewed visiting the values, mission and vision with staff as an important seasonal task. Principals of Emerging Centres with High Averages had either a clear vision for the learning of the children and/or a clear philosophy on the approach to achieve this vision. Teachers of these centres shared the actionable goals translated from the vision with the principals.
	Meaningful collaboration among staff	
		Trust, teamwork and a sense of being connected to one another was palpable at centres NF1 and F2, and meaningful collaboration among staff was also found in these centres. Conversely, at the Below Emerging Centres, there was neither trust, teamwork, staff connectedness nor collaborations among staff. Meaningful collaborations among staff required the Principals' constant effort to broker them.
	Opportunities for teachers to exert influence over their work	
	The role of Level Coordinator was common. As this title suggests, Level Coordinators played the coordinating role with decision making still resting with the principal even for daily lesson planning. The participants involved teachers in planning for a range of reasons: <ul style="list-style-type: none"> • multiple perspectives, hence better planning and problem solving. • lend support for and learn from one another • happier teachers The main reason for the principals to hold	

	Quantitative Findings	Qualitative Findings
		<p>back decision making for lesson planning appeared to be the capability of the teachers.</p> <p>Power difference between teachers and parents and the confidence level of the teachers appeared to have mediated their willingness to take up opportunities to exert influence over their work</p> <p>Involvement of staff in the professional development planning was uncommon.</p>
	Routines	
		<p>At the Funded chain, planning processes and human resource management processes have been formalised and routinised. These routines required by the chain headquarters include:</p> <ul style="list-style-type: none"> • staff members to carry out individual learning needs analysis • teachers to submit reflections to the principal every week • principals to carry out at least two class supervision sessions per teacher annually as part of staff performance appraisal • staff to meet on quarterly basis to discuss curriculum • staff to use centrally planned curriculum packages • centres to have daily instructional schedules for the children, and a system of relief teachers • centres to send portfolios of the children home to parents at least once every semester • centres to establish a communication system between the teachers and parents • centres to have at least one parent teacher meeting every semester <p>Even with routines, some variations on staff learning, programme review, communication with parents and innovation were found across centres.</p> <p>Routines provided structure to ensure minimum standards of operation at the centres.</p>
Fostering coherence in purpose, plans and actions	Alignment of programme approach with the macro level changes / needs of children	
	<p>Correspondence between focus in training of teachers and changes in the macro environment was found. SPARK, curriculum development, motor skills, literacy and aesthetics were top ranked among topics for training of teachers. These suggested an intent to align with changes in the macro environment.</p>	<p>Adjustments to the curriculum/programmes to cater to needs of children were seen in Emerging Centres with High Averages.</p> <p>To manage the diverse needs of the children within F5, the principal had engaged service partners to conduct enrichment activities for the more able children. However, as these activities were fee charging, the cost may have kept some children from attending these activities even though financial assistance was available</p>

	Quantitative Findings	Qualitative Findings
		<p>even for enrichment programmes. This is because parents often would not seek financial help for these classes as they have been positioned as enrichment.</p> <p>Teachers at Centre F6 did not seem to think that children who were more able should be allowed to have a different pace of learning. In fact, a parent who requested for some customisation of the programme for his daughter was deemed difficult.</p>
Alignment of staff development with programme needs		
		<p>Adjustments of staff training programmes to meet centre needs was seen, for example, training on how to engage the children in reading (F3), facilitating aesthetics development (F1).</p>
Efforts to plan and coordinate		
	<p>Regular meetings have been put in place to review the curriculum. 39% indicated explicitly that they reviewed and planned the curriculum.</p> <p>Principals spent about 40% of their time on Core Teaching and Learning Activities (activities directly related to teaching and learning - monitoring of teaching, observing classes and coaching teachers on pedagogy, communicating with staff on teaching and learning, counselling staff) and 20% of their time on Support Activities (administrative activities in support of teaching and learning, for example, planning field trips).</p> <p>Principals from Non-Funded kindergartens spend significantly more time on Core and Support activities than principals from Funded kindergartens</p>	<p>The review of curriculum was done with different levels of thoroughness:</p> <ul style="list-style-type: none"> • review of the entire learning programme, • review of themes and events only, • review of outings and special activities only , • review of lesson plans only. <p>Responses to the open-ended questions in the survey as well as those received at interviews in the multi-case study suggested that termly reviews were limited in scope. A thorough review typically took place only once a year, at the end of the year, with changes targetting the following year.</p>
Efforts to work with parents		
	<p>Time spent working directly with parents was about 4.2 hours per week (7.95% of work week)</p> <p>The most common strategies for parent engagement were "Orientation" (94%), "Newsletter" (80%) and "Daily communication" (72%).</p> <p>Principals who had a degree were 1.8 times as likely to have at least two dialogue sessions with parents annually compared to principals without a degree.</p> <p>The participants' years of experience as principal made no significant difference to the strategies they deployed to communicate with Parents.</p>	<p>Reasons for parents to serve as volunteers at centre were associated with:</p> <ul style="list-style-type: none"> • their membership to the religious mission to which the Centre belonged • services they could offer • their personal schedules. <p>Factors mediating parents' participation in parenting programmes include</p> <ul style="list-style-type: none"> • timing – "it coincides with enrichment programmes for the children" • relevance of programme to children's learning at the kindergarten. <p>Parents appreciated the centres' efforts to inform them of what went on in class regularly and/or efforts by centres to create take home activities that involved them – parents of NF1, NF2, F1, F2, and F3.</p> <p>There were some differences between</p>

	Quantitative Findings	Qualitative Findings
		Funded and Non-Funded centres in the patterns of engagement of parents. These will be summarised under “contextual features-organisation’s background”.
	Awareness of coherence in purpose, plans and actions	
		There was little evidence to suggest that coherence in purpose, plans and actions were pursued actively. Having a clear philosophy and mission as in F1 was helpful towards fostering coherence in purpose, plans and actions.
Contextual features affecting efforts to build capacity for learning	Principals’ background	
	(a) <u>Years of experience as teacher</u> Principals with more than 10 years of teaching experience were significantly less likely to have “Budget for professional development of teachers” than principals with less than 5 years or 5 to 10 years of teaching experience. Principals with more than 10 years of experience rated “Coaching/Mentoring” as a significantly more important strategy for teacher professional development than principals with less than 5 years or 5 – 10 years of experience.	
	(b) <u>Experience as principal</u> Principals with 11 years or more experience in this role were significantly more likely to rate “customising activities for students with teachers” as “Urgent and Important” compared to principals with less than 5 years of experience.	
	(c) <u>Qualification of principals</u> Principals with a degree were 1.889 times more likely to guide teachers in their work for more than 10 hours a week than principals without a degree. Principals who had degrees were 1.8 times as likely to have at least two dialogue sessions with parents per year as compared to principals without degrees. Those who were trained in government operated institutions were 2.97 times more likely to have a system of relief teachers	
	(d) <u>Prior work experience</u> 70% of principals had work experience outside of the early childhood sector, with 79% (a significantly higher percentage) from Non-Funded centres having external work experience as compared to 67% from the Funded sector.	The principals’ prior experience was brought into her work as a leader in most cases in the multi-case study.

	Quantitative Findings	Qualitative Findings
	Children's background	
	<p>Parents of the children from Non-Funded kindergartens were found to be</p> <ul style="list-style-type: none"> • 3.27 times as likely as parents from Funded kindergartens to be partners and collaborators • 2.92 times as likely as parents from Funded kindergartens to be volunteers, and • 2.83 times as likely as parents from Funded kindergartens to give feedback on programs. <p>Grandparents and domestic helpers of were 2.09 more likely to be the main contact point for Funded kindergartens.</p>	<p>The Emerging Centres with High Averages and Emerging Centres in the multi-case study had taken in the needs of the children when they designed learning programmes for the children.</p> <p>The children's home background may explain some of the differences in the interaction between centres and parents. Although there was no attempt to verify the social economic backgrounds of the children, the basis for funding the Funded chain was that it was serving children from lower income families.</p> <p>The dynamics between the parents and teachers (the highly confident and forceful parents versus far less confident teachers) which was the reason given for why teachers did not want to be involved in many day-to-day classroom decisions at NF2, suggested that this could be a mediating factor for teachers' willingness to influence their work.</p> <p>The administrative work associated with seeking financial assistance for the children was an administrative burden on the principals especially for centres where there was a large percentage of children requiring such support.</p>
	Teachers' background	
	<p>(a) <u>Teachers' qualification</u></p> <p>Although principals with a lower (0-10) % of degree level teachers spent less time (M=17.77 hours; SD = 8.95) on Core activities vs principals with a higher (>10%) % of degree holders (M=19 hours SD = 11.20), this difference was not significant.</p>	
	<p>(b) <u>Teachers' experience</u></p>	<p>Experienced teachers may become entrenched in a more didactic approach and have difficulty adjusting to a more facilitative role.</p>
	Organisation's background	
	<p>(a) <u>Funding and its association with building professional expertise</u></p> <p>Principals from Funded kindergartens were significantly more likely to have</p> <ul style="list-style-type: none"> • taken part in a professional development • been involved in a significantly greater number of categories of training and professional development activities • a policy commitment to providing at least 30 hours of training for each teacher • done training needs analysis 	<p>The Funded chain had funding which enabled the setting up of a cluster system with each cluster of kindergartens headed by a cluster principal who played mentor to the principals in the cluster. The principals of the Funded kindergartens spoke of how their leadership skills had grown through the mentoring provided by their cluster principals.</p> <p>In fact, several differences in leadership practices between Funded and Non-Funded kindergartens appear to be associated with funding. Apart from having mentors, Funded centres</p>

	Quantitative Findings	Qualitative Findings
	<ul style="list-style-type: none"> rated peer observation as an important strategy rated weekly self reflection as an important strategy 	<ul style="list-style-type: none"> provided their principals and teachers with a wider range of opportunities for professional development, had policies committing to a minimum number of hours of professional learning for teachers had some routines associated with the professional learning of teachers. <p>These better conditions were set out as the MOE's requirements for funding the chain.</p> <p>The Funded chain had younger principals with fewer years of classroom experience and fewer years of experience as principal. One explanation for this difference between the Funded and Non-Funded centres is that the Funded chain released many teachers and principals who did not meet the higher entry requirement made effective from 2013. The better professional development conditions became a compensating factor for the lack of experience of the principals.</p>
	<p><u>(b) Profile of parents and different patterns of engagement</u></p> <p>Non-Funded kindergartens were</p> <ul style="list-style-type: none"> 2.92 times as likely to have weekly two-way communication with parents 1.92 times as likely to have talks for parents 2.4 times as likely to use a regularly updated website to communicate with parents <p>as Funded kindergartens.</p>	<p>The difference in patterns of engagement with parents could be explained in part by the profile of the parents as well as the profile of the principals.</p> <p>With regard to the parents' profile, it was evident that at least 3 out of 5 Funded kindergartens in the multi-case study had between 30-40% financial assistance cases, whereas the parents of the Non-Funded centres were mainly technicians and professionals.</p> <p>On the principals' qualification, a significantly higher percentage of principals in Non-Funded centres compared to those in Funded centres had degree level qualifications. The empirical data also suggested that principals with degrees were more likely to have half yealy dialogue with parents. Thus contributing to difference in patterns of interaction with parents.</p>
	<p><u>© Size of kindegrarten -Pupil enrolment</u></p> <p>Principals from kindergartens with 1 to 99 children were significantly less likely to have used orientation for parents and children than principals from kindergartens with 100 to 199 children. There were few differences associated with pupil enrolment.</p>	
	Marco environment	
	<p><u>(a) MOE initiatives</u></p> <p>The responses on areas for professional development of teachers corresponded with the introduction of MOE initiatives such as SPARK.</p>	<p>SPARK played a part in the kindergartens' journey. SPARK</p> <ul style="list-style-type: none"> signalled the importance of quality provided standard to guide the centres on how to improve, for example, the need for a certain number of hours for

	Quantitative Findings	Qualitative Findings
		<p>staff professional development</p> <p>Receiving SPARK certification boosted the confidence of their staff and motivated them to strive for greater heights.</p> <p>Teaching and Learning Resources Grant enabled the non-profit among the Non-Funded kindergartens to acquire a few much needed teaching resources.</p>
	(b) The Funded headquarters	<p>Policies of the Funded headquarters have cascaded to the centres and impacted their operations. These policies provided the foundation for the routines at the Centre.</p> <p>The Funded headquarters had also provided a curriculum which could be adopted fully or adapted for use.</p>