1. Introduction

School leadership is second only to classroom instruction in effecting student learning (Leithwood *et al.*, 2004). Among school-related leadership factors, principal behavior is viewed as a critical factor in school improvement. The literature on educational leadership and administration has long recognized principal leadership as a critical factor in educational reform and school instructional improvement (Hallinger and Heck, 1996; Leithwood *et al*., 2004; Day *et al*., 2009; Louis *et al*., 2010). Coupled with the increased accountability of schools in an outcome-based era, research on instructional leadership has experienced a marked growth over the last three recent decades. Sebastian and Allensworth (2012) categorized three overlapping trends of scrutiny on instructional leadership, namely, leadership practices, leadership styles, and leadership process. However, most of the literature on instructional leadership has been based on data drawn from a pre-dominantly Anglo-American context. They do not take into account contextual and cultural conditions that may influence the efficacy of instructional leadership in many subtle ways. This gap has triggered an emerging interest in seeing how and with what effects school leaders in other national and cultural systems exercise instructional leadership, and to compare these leadership practices and effects with those of their Anglo-American counterparts.

Singapore education is widely recognized as a robust system that produces one of the highest levels of student achievement in international studies such as TIMMS, PIRLS and PISA. However, a recent review of the extant literature on educational leadership in Singapore has revealed a dearth of empirical research on principalship in general and on principal instructional leadership in particular.[1] This quantitative study seeks to advance the understanding of Singapore principals' instructional leadership practices. Findings form this study would also help to enrich the comparative literature on instructional leadership.

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[1] Ng, D.F.S., **Nguyen, T.D**., Wong, B., & Choy, W. (IN-PRESS). Singapore Principals' Leadership Qualities, Styles, and Roles: A Review of the Literature. *Journal of Educational Administration **,(**), **.

2. Singapore – A Coherent and High-Performing Education System

The current education system of Singapore comprises six years of primary education, and four to five years of secondary education. After secondary school, students can be selected to attend junior college, polytechnic, or the Institute of Technical Education. According to McKinsey Report 2010, Singapore is identified as one of the best performing school system in the world. This success is arguably the product of continual endeavors in developing an integrated and coherent educational system with a strong emphasis on academic achievement. Two factors contribute to the success of the system: (1) close cooperation between policy makers, researchers, and educators and (2) selecting, training and developing a high-quality workforce (Darling-Hammond et al., 2007; Darling-Hammond *et al*., 2010; Darling-Hammond and Rothman, 2011; OECD, 2010; OECD, 2011).

Close cooperation between policy makers, researchers, and educators

The Singapore educational system is characterized by a tight tripartite relationship between the Ministry of Education (MOE), the National Institute of Education (NIE, the only institution in Singapore for the training of teachers), and schools. In other words, the key leaders of the MOE, the NIE, and the schools share responsibility and accountability. Specifically, the MOE is accountable for formulating and developing policies (often in consultation with school leaders), while the NIE functions as a research and training center. The NIE informs the MOE in terms of policy development through its research. NIE professors are frequently consulted in the policy discussions and engaged in the MOE decisions. Besides, there is a strong alignment between policies and their implementation. When a policy or initiative is developed or modified, all the major stakeholders from ministry officials to school principals as well as teachers pay a great deal of attention to the details of implementation. Therefore, there is much less gap between policymaking and implementation in Singapore than in many other countries (OECD, 2010).

Selecting, training and developing high-quality workforce

In the 1990s, Singapore formulated policies to develop a high-quality workforce in the school system. First, these policies put in place an effective mechanism for teacher selection. Teachers in Singapore are centrally hired by the Ministry of Education (MOE). Teacher candidates are carefully selected from the top one-third of each cohort either for a one-year graduate program or, a four-year undergraduate teacher education program. A selected few are granted scholarships to pursue their first degrees at prestigious overseas universities. All candidates have to go through an interview with a panel of education officers that includes principals. On their admission to the graduate training program candidates are paid a monthly stipend comparable to the pay of entry-level officers at other ministries. The undergraduates, on the other hand, receive a generous scholarship. All prospective teachers receive their teacher training at the NIE. These candidates learn to teach in the same way they will be asked to teach.

Second, a yearly budget is set aside by the MOE for the continuing professional learning of teachers and school leaders. For example, in-service teachers are entitled to one hundred paid hours of professional development each year. Teachers can participate in a wide variety of professional development courses and conferences that are offered each year. Recently teachers have been further encouraged to participate in Professional Learning Communities (PLC) to collaborate with each other in reviewing and improving their instructional practices.

Third, Singapore offers teachers various opportunities for occupational development by establishing a three-track system to identify and nurture talents within the education sector. This three-track system comprises (1) teaching track, (2) leadership track, and (3) senior specialist track, as shown in the Figure 1. After three years of service, teachers are assessed to see which of these three tracks would best suit them. Each path brings recognition and salary increment. Teacher performance is evaluated based on a competency-based assessment system called the Enhanced Performance Management System (EPMS). This management system was instituted in 2005 and considered as an accountability instrument for appraising the performances of teachers, leaders and administrators throughout the MOE. All educational officers are subjected to this assessment on a yearly basis, and the assessment also determines their yearly bonus.
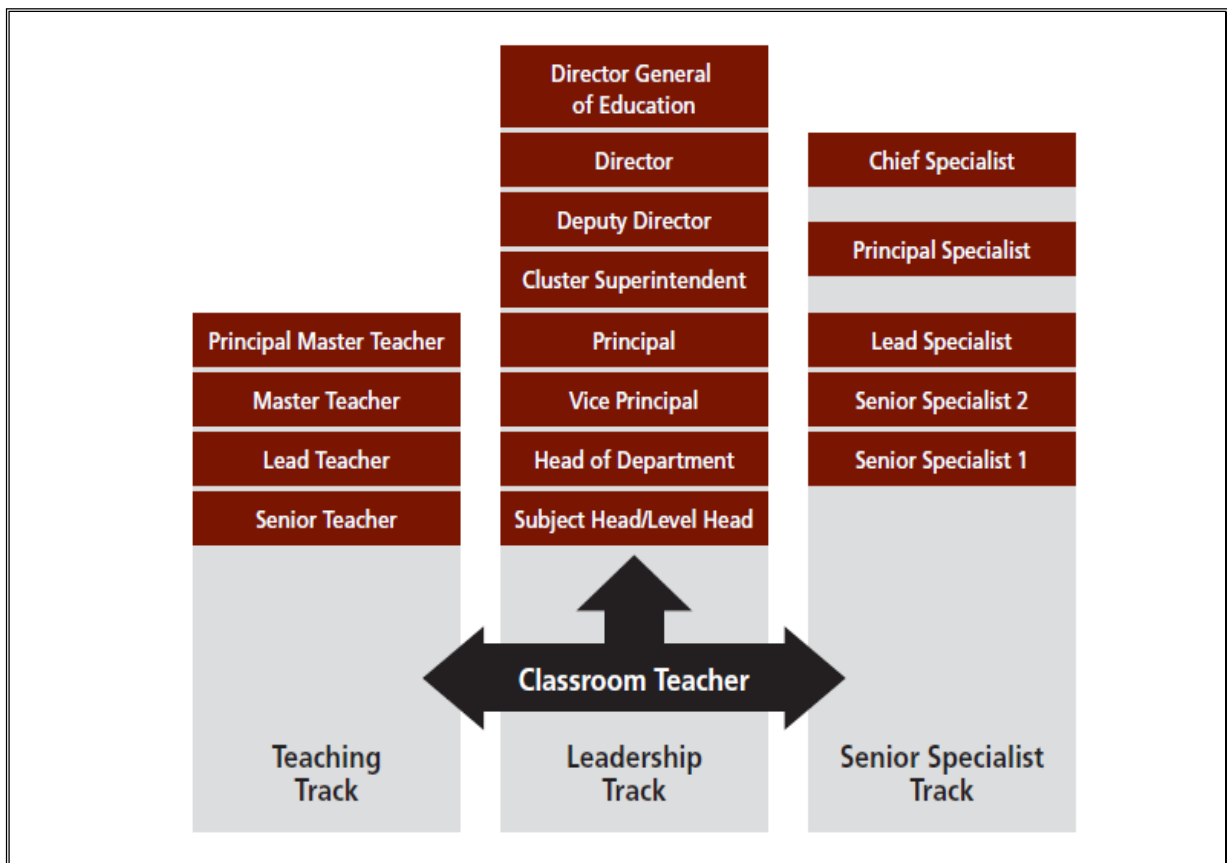
Figure 1: Career Tracks for Teachers
(Source: Ministry of Education, Singapore)

Teachers with leadership potential are first promoted to middle management level, comprising subject heads, level heads, and heads of department. These middle managers are then sent for a full time four-month milestone programme known as the *Management and Leadership in Schools Programme* (MLS) at the NIE. Middle managers together with senior teachers and lead teachers are usually grouped together as Key Personnel, one of whose responsibilities is to aid the top management in evaluating subject teachers and in setting school policies. Middle managers subsequently have opportunities to become vice principals and principals if they pass a series of interviews with top MOE officers and a leadership test called the Leadership Situational Exercise. Vice-principals with potential for the principalship attend a full-time six-month *Leaders in Education Program* (LEP) at the NIE. Participants continue to receive their salaries throughout the program. The LEP exposes potential principals to challenging leadership situations within and beyond the educational context. Moreover, this program is designed to shape the participants' personal and professional qualities for effective leadership and prepare them to meet the increasing demands of schools, families, and the public. Effective principals with strong leadership abilities have opportunities to be promoted to the level of cluster superintendent or even higher.

3. Instructional Leadership

The roles of a principal have changed much over time: from a "values broker" in the 1920s to a "democratic leader" in the 1940s and a "bureaucratic executive" in the 1960s (Beck and Murphy, 1993). The 1980s experienced an unprecedented interest in the increased responsibilities of principals in instructional matters. The concept "instructional leadership" therefore appeared with increasing frequency in the discourse of educational management and leadership (Hallinger, 2009; Chase and Kane, 1983). Despite the emergence of other forms of leadership in the past decades such as shared leadership, distributed leadership, and teacher leadership, instructional leadership

theory continues to maintain its popularity as a prominent model of leadership (Hallinger, 2003). The stable interest in instructional leadership has been attributed to the global emphasis on the accountability of schools (Hallinger, 2005).

Instructional leadership might be defined narrowly or broadly (Sheppard, 1996). Narrow forms encompass leadership actions directly related to teaching and learning such as conducting classroom observations. Conceived broadly, instructional leadership focuses on all functions that contribute to student learning such as managerial behaviors and organizational culture.

Principals are expected to assume both direct and indirect roles. Direct instructional leadership roles make a difference in improving student learning, but indirect leadership is of greater importance in the long run (Sergiovanni, 2009). Researchers have drawn a number of frameworks on instructional leadership illustrating the roles and responsibilities of school principals. Glickman (1985) delineated the primary tasks of instructional leadership into six dimensions; namely, direct assistance to teachers, group development, staff development, professional development, curriculum development, and action research. Glickman also stressed that these instructional tasks should be exercised inclusively, but exclusively. Andrews and Soder (1987, p.9) highlighted four broad roles of principals: as resource provider (e.g. coordinating human and material resources), instructional resource provider (e.g. setting expectations for school development and engaging in staff development), communicator (e.g. articulating a vision of instructional leadership), and visible presence (e.g. visiting classrooms and doing walkabouts).

Hallinger and Murphy (1985) proposed an influential model of instructional leadership that has three dimensions: (1) Defining the school's mission, (2) Managing the instructional program, and (3) Promoting a positive school learning climate. The first dimension comprising two main tasks (framing the school's goals and communicating the school's goals) focuses on the principal's role in defining and articulating the central purposes of the school. The second

dimension concerns the coordination and supervision of curriculum and instruction. Principals are expected to be actively involved in stimulating, supervising and monitoring teaching and learning activities of the school. This dimension incorporates three leadership tasks: supervising and evaluating instruction, coordinating the curriculum, and monitoring student progress. The last dimension consists of six sub-dimensions (protecting instructional time, promoting professional development, maintaining high visibility, providing incentives for teachers, developing high expectations and standards, and providing incentives for learning). This dimension conforms to the role of principals in establishing a collaborative climate and setting high expectations for teachers and students with the aim of enhancing the learning of students. The model by Hallinger and Murphy is believed to be the most fully tested model of instructional leadership (Southworth, 2002).

More recently, the 2008 meta-analysis review of Robinson revealed five main instructional leadership dimensions: (1) establishing goals and expectations; (2) strategic resourcing; (3) planning and evaluating teaching and the curriculum; (4) promoting and participating in teacher learning and development; and (5) ensuring an orderly and supportive environment. The effect sizes on student outcomes of these dimensions are identified as follows: – (i) small effects – ensuring an orderly and supportive environment, and establishing goals and expectations, and strategic resourcing; (ii) moderately large effects – planning, coordinating and evaluating teaching and the curriculum; and (iii) large effects – promoting and participating in teacher learning and development.

In summary, there are similarities with regards to identifying the roles and practices of principals despite the variety of published models on instructional leadership. More specifically, principals as instructional leaders are expected to take an active role in setting school vision and aligning teaching to school vision, coordinating school curriculum, supervising instruction, monitoring student progress, developing human resources and creating a supportive working environment. Drawing on these findings this empirical study sought to

scrutinize instructional practices of Singapore principals, using four broad dimensions of instructional leadership, namely: (1) Aligning teaching practices to school vision; (2) Leading teaching and learning; (3) Developing conducive environments for teaching and learning; and (4) Promoting professional development. Although these four dimensions may not guarantee a comprehensive account of instructional leadership, they provide a useful picture of instructional leadership in practice in Singapore. These four dimensions are elaborated in the following section.

4. Methodology

Research Question

The present paper sought to answer the broad question: *How do primary school principals in Singapore conceive and enact their role as instructional leaders?*

The rationale for a generic look at instructional leadership practices in Singapore is that we would like to examine practices of Instructional Leadership in Singapore principals that is not limited to Hallinger and Murphy's model alone.

Research Design

This project seeks to contribute to the development of the knowledge base on school leadership in Singapore with a particular focus on principal instructional leadership. The research will be conducted in overlapping stages using research methods that explore the exercise of instructional leadership from 'indigenous perspectives' (see Bajunid, 1996). These stages of the research can be summarized as follows:

- Literature reviews and meta-analysis of the Instructional Leadership literature in Singapore

- A qualitative research design that employs open-ended and semi-structured interviews with a sample of 30 principals,

- A case study research design that employs intensive observations/interviews and event sampling of leadership practices of school principals with a sample of 5 primary school principals in Singapore.

These methods will enable the team to generate hypotheses that can be employed in building theory (Glazer & Strauss, 1967) about how instructional leadership is exercised within Singapore. Thus, the project will both establish the boundaries of the existing knowledge base in Singapore.

Research Implementation Schedule

Phase 1: Literature Review and meta-analysis of the findings on Instructional Leadership in Singapore (6 months)

The project has reviewed existing literatures and conducted a meta-analysis of the Instructional Leadership findings in Singapore.

Phase 2: Qualitative Interviews (10 months)

Mid-way through the literature review phase, the qualitative interviews was implemented. The design for the empirical research in this project is modeled on a seminal study conducted by Bossert and colleagues (Bossert et al., 1982; Dwyer et al., 1983) at the Far West Lab for R & D in the USA during the early 1980s. Their approach sought to uncover fundamental perspectives, beliefs, and behaviors underlying the practice of instructional leadership. We began with a preliminary

qualitative study in which we conducted open-ended interviews with 30 primary school principals in Singapore. The sampling procedure in selecting the primary school principals is based on the Ministry of Education list of achievements and awards.

The interviews employed open-ended and semi-structured questions that offered principals the opportunity to express how they view their role and that of others in enacting instructional leadership (see Denzin, 2001; Glazer & Strauss, 1967; Rubin, 2005; Silverman, 2005; Smith, 1979). The interviews have specific questions that take into consideration Singapore's educational context. The purpose of the interviews was to establish the principals' individual views of their work and work places. Their prior professional and personal experiences were explored in relation to Singapore's context and their current positions and leadership styles. The interviewers also sought in-depth descriptions that enabled the team to generate preliminary propositions concerning how instructional leadership practices are enacted in specific organizational and socio-cultural contexts (Bajunid, 1996; Belchetz & Leithwood, 2007; Dwyer et al., 1983; Hallinger & Murphy, 1986).

The interview data was analyzed by the researchers using open coding.

Phase 3: Case Studies (10 months)

We built on Phase 2's interviews study by selecting five consenting principals for the in-depth case studies in Phase 3. This allowed us to further explore propositions that arose from the literature review and interview research. Moreover, using lower inference methods of observation, reflective interviewing and event sampling, we were able to advance our understanding of how leadership practices were enacted and contextualized within schools in Singapore.

These multi-method case studies combined shadowing, reflective interviews (Dwyer et al., 1983; Yin, 1994) and event sampling (Scollon, Kim-Prieto, & Diener, 2003; Zohar, Tzischinski, & Epstein, 2003. The principals were "shadowed" over the course of five working days in an 8 week period in order to develop an in-depth picture of their instructional leadership practice. The researchers observed in an unobtrusive manner the practices of the principal as s/he interacted with staff, teachers, parents, and students (Dwyer et al., 1983; Lofland, 2006; Spradley, 1979). Descriptive field notes were kept of their activities. Each shadowing day took 6 to 8 hours of observation.

On the day following each observation, the researchers returned and interviewed the principal about the previous day's activities and interactions (Dwyer et al., 1983; Denzin, 2001; Lofland, 2006). Principals were asked to clarify actions when the intent was not clear, encouraged to reflect on their decisions and activities, and to place them in an overall design, scheme, or plan.

In addition to the interviews and shadow observations, the researcher spent several days in each school observing classes, recesses and lunch periods, and talking informally with teachers and students about their work and the school. Critical documents – school plans, test score reports, descriptions of special programs, and evaluation forms – were collected and entered into the descriptive and narrative record that accrues for each principal and school.

5. Findings

This section highlights the early findings in the study. Two key categories are discussed: Singapore school principals' vision development and implementation and an emerging category of how Singapore school principals care for teachers in order to provide a conducive working environment for teachers. The following figure provides a visual view of the process of how Vision is developed and implemented.
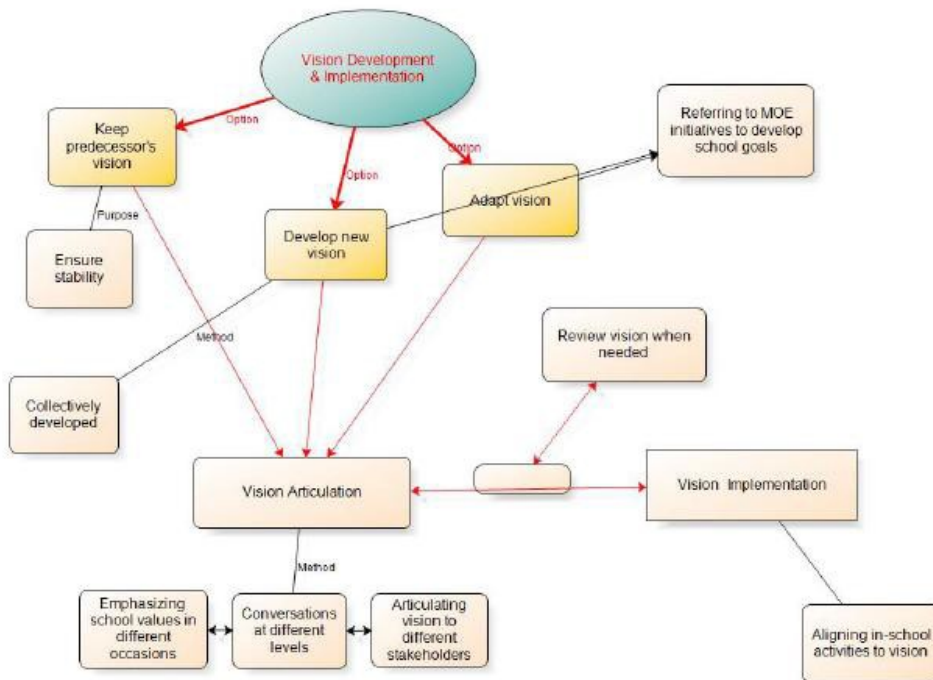

Figure 2: Vision Development and Implementation

Finding 1: Vision Development and Implementation

The tasks of framing the school's goals and communicating the school's goals in this dimension are two key tasks linking vision to teaching practices. These two leadership practices emphasize the principal's role in establishing and articulating a clear school vision with the focus on enhanced student learning. This dimension is developed to reflect the principal's responsibility for collaboratively building an appropriately context-based vision; ensuring it is widely known by other school stakeholders; and ascertaining that teaching and learning processes are aligned with the vision. It is important to understand the context in Singapore where the school vision is intricately linked. Context typically refers to the initiatives implemented by the MOE for all schools in Singapore. In the past decade, the Ministry of Education Singapore has implemented three major educational initiatives; Thinking Schools and Learning Nation in 1997, Innovation and Enterprise in

2004 and Teach Less, Learn More in 2006. These initiatives have expectations on how teachers redefine teaching and learning to move progressively toward student-centric learning. The initiative of "Teach Less Learn More" for example would require teachers to take upon leadership roles to redesign the curriculum, pedagogical practices and redefine "classrooms": as learning spaces which may be beyond the four walls. The importance of a coherent and context-based school vision is not only for school leaders but also for individual teachers that serve as an important focal point to understand and act on achieving excellence in teaching and learning for all students. This reality is easily overlooked when inquiry focuses on one classroom at a time, describing its teaching practice and student thinking and learning in detail.

Analysis of data indicated that Singapore principals have three options when it comes to vision development: Keep predecessor's vision, Develop a new vision and Adapt the current vision.

Keep predecessor's vision

An important finding in the study regarding the development/implementation of school vision is the principals' endorsement of their predecessors' vision. Principals in Singapore are 'rotated' to another school every six to eight years, a process that impacts on the durability and sustainability of the school's vision. For example, one of the interviewed principals mentioned that upon taking on her role as principal of that school, she asked teachers about the school philosophy and realized that they seemed uncertain of the vision established by her predecessor, possibly due to its vagueness. The interviewed principal then worked with the teachers and other staff to modify and clarify the existing school vision. The main purpose established from the interviews affirmed that Singapore principals see the need for stability especially when he/she takes over the school. Continuity and stability has its purpose and function for high performing schools. In this regard, all schools in Singapore are performing at a high level because there is no failing school. As Fullan (2006) asserted, frequent change without establishing practices would amount to nothing in the end.

Develop new vision

The other option that Singapore principals practiced when being posted to another school is to develop an entirely new vision for the school. This is typically done in the second year of the tenure of the principal. The impetus to develop a new vision is driven by two contextual factors; new MOE initiatives and the need for new direction for the school. The first contextual factor tends to be a more compelling force for the principal to develop a new vision for the school. It is more compelling because MOE new initiatives such as PERI (Primary Education Review and Implementation), SERI (Secondary Education Review and Implementation), 21st CC (21st Century Competencies), and ICT (Information and Communications Technology) Masterplans are introduced into the school system within a span of three to five years. These new initiatives could overshadow the school's vision in relation to performance evaluation. In other words, the criteria for teaching performance evaluation could be more skewed toward fulfilling national initiatives rather than local school indicators in certain cases.

Adapt the current vision

Singapore school principals are perceived to be very strong in aligning school activities including teaching practices and professional development schemes with the school vision. This reflects Singapore principals' emphasis on putting the school vision into actual practice. The findings of this study also allow an inference that the vision in Singapore schools is not rigid at all. Instead, principals were perceived to be active in reviewing the vision to ascertain its relevance to the teaching and learning needs of the school.

The practice of vision implementation is similar for all the three options above. Singapore school principals pay great attention to emphasize school values and vision goals. They do this through many and diverse platforms. They initiate conversations at the whole school level (through school assembly), meetings at the Department level, Grade level, Subject area, at the school support staff levels, students level, 'meet the parent sessions' and school board meetings. In fact the principals ensure that all stakeholders are 'reached' and 'engaged' in the understanding the school's direction, values and goals. One example of how principals engaged students at their levels is to get teachers to organize specific activities for students related to the school vision – for example in the form of competitions, drawings, speeches, drama and writing essays.
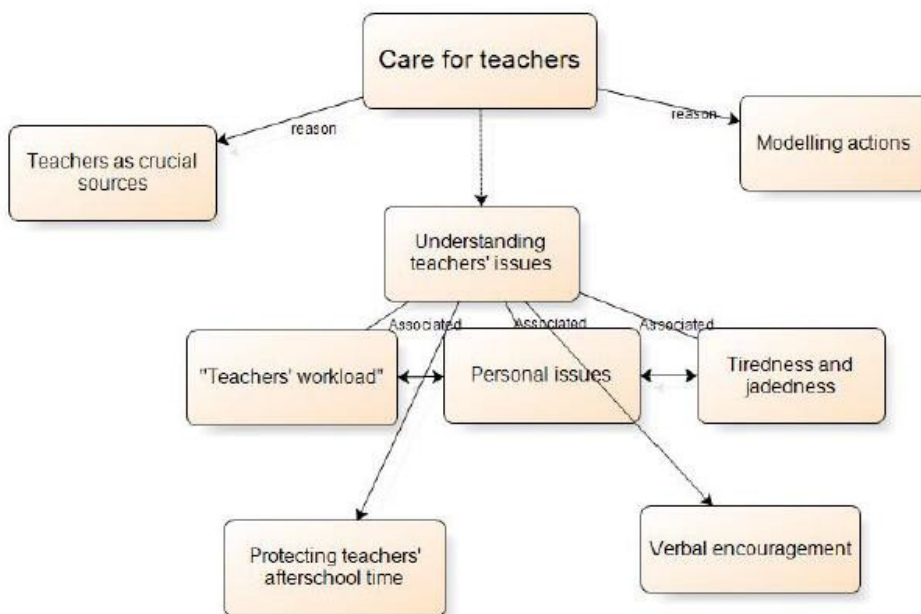
Finding 2: Care for teachers

Figure 3: Care for Teachers

This emerging category is interesting because it shows the attention given by Singapore principals to teachers as individuals and at the personal level. The principals consistently expressed the importance of teachers to the success of the students. The common phrase articulated among the principals is that teachers are the most 'crucial source' to determine whether students succeed or fail. They ventured to say that when 'you take good care of teachers, they will care for students.'

During the shadowing phase of the study, all five principals consistently practiced different ways of how they showed care for the teachers. Whenever teachers seek to talk to the principal about a need, or problem, the principals spent considerable time in trying to understand how the teacher framed the need or problem. When asked why they are willing to spend so much time talking to the teachers, the replied consistently would be 'you have to practice listening instead of directing because when you listen, you can hear the teacher's emotion, reason, and perspective.' The importance of understanding the teacher's 'real' need or issue is seen from the following practices.

Teachers' workload

When it comes to discussion on teachers' workload, Singapore principals emphasized the need for a fair distribution of teachers' workload. They expressed their concern to the Head of Department when some teachers inevitably get a heavier workload as compared to others. The principals wanted to make sure that these teachers are 'willing' to take on the heavier workload. Their care for teachers in their work is extended to ensuring that Heads of Department pay attention to structuring teachers' time in order to avoid possible causes leading to teacher exhaustion. Structuring teachers' time involved ensuring that teachers have adequate time to rest between classes and between assignments.

Perhaps the most affirmative care shown by Singapore principals to teachers at the personal level is directed at teachers who are young parents. These teachers are always considered carefully in the timetabled time because the principals stated that 'they need to take care of their young child and have the peace of mind to teach, otherwise, I would have a teacher present physically but absent in spirit.' Work-family balance is the often used phrase by these principals when they talked about how they work with these teachers.

Personal issues

The principals in the study did not divulge teachers' personal issues but the conversation consistently emphasized the need to see and understand teachers as individuals. The principals would add that 'because we are all different, our problems though similar are also different because how one react to the same problem depends on the individual…therefore I need to listen carefully from each teacher and treat each teacher as an individual…" This level of care at the individual level is consistently practiced by all five principals during the shadowing phase. When probed further, all five principals expressed that 'you do not want a jaded teacher or a tired teacher all the time…what's the use of a teacher who go through the motion of teaching but could not motivate or fulfill the responsibilities of caring for students?" In fact, a consistent observation in all the five schools is the present of 'relaxation activities' provided for teachers. These relaxation activities include weekly yoga sessions, dance sessions and provision of massage chairs in teachers' lounge.

Protecting teachers' after school time

This specific area of care is expressed by the principals in the form of not contacting teachers about work after school time. The principals periodically reminded the Heads of Department that they do not send emails to teachers after school time. The reason given by the principals is that 'we need to respect teachers' family time.'

Summary and Conclusion

Summary

The analysis from the findings affirmed that Singapore principals are perceived to be strong instructional leaders in the vision development and implementation category. This reflects Singapore principals' emphasis on putting the school vision into actual practice. The findings of this study also allow an inference that the vision in Singapore schools is not rigid at all. Instead, principals were perceived to be active in reviewing the vision to ascertain its relevance to the teaching and learning needs of the school. This practiced of vision development and implementation further confirms the great influence of state and district policies on instructional approaches of school leaders.

An emerging category is the endeavors of Singapore principals in showing and practicing care for teachers at the individual level. The importance of teachers seen as 'crucial source' for student well being and success is emphasized. Singapore school principals practiced care for teachers by spending time understanding teachers' issues related to their work assignment, personal issues, ensuring that teachers' work-family balance is achieved and to minimize 'tiredness and jadedness' among teachers.

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Table 1: Key Personnel's perceptions of Principals' IL

Demographic	Test	Components with significant differences	T-test/ANOVA Post-hoc Result Summary	Effect size
School Level	**ANOVA**	Aligning teaching practices to school vision	Primary > Secondary	F= 4.411 P= 0.004 Partial eta squared = 0.019 (small effect)
		Teaching and learning	Primary > Secondary Primary > Junior College	F= 6.768 P= 0.000 Partial eta squared = 0.029 (small effect)
		Professional development	Primary > Secondary	F= 3.397 P= 0.018 Partial eta squared = 0.015 (small effect)

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2015

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