Teacher Leadership in Singapore and Its Potential

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Abstract

Teacher leadership in the Singapore education has grown in importance over the last decade, and its significance has recently been given a boost by the education minister. Furthermore, greater clarity has also been given to role of teacher leaders especially the formal roles such as Senior Teachers (STs), Lead Teachers (LTs), Master Teachers (MTTs) and Principle Master Teachers (PMTs). Essentially four main roles have been identified by the education ministry: (1) teaching and learning, (2) mentoring, (3) professional conversations, and (4) professional ethos. Besides these formal teacher leadership roles, there are also informal teacher leadership roles such as Subject Reps, Level Reps and Level Coordinators. The growing interest in teacher leaders, at least in the local context, however does not commensurate with the studies that seek to corroborate or validate its significance in terms of the specificities of its practice and impact. Narrowing this gap would thus be vital to further understand the teacher leadership concept or construct. It would be of interest to understand the scope of teacher leaders' direct and indirect impact on school improvement processes and outcomes. The findings presented in this paper show that teacher leadership practices do have potential impact on student learning outcomes. Nevertheless, potential challenges are briefly proposed.

Introduction

The introduction of a major policy initiative in the Singapore education system – 'Teach Less, Learn More' (TLLM) (Tharman, 2005) in 2005 signals a critical shift in emphasis from academic achievement to holistic student outcomes. Nevertheless, schools have to pursue holistic outcomes of education without diluting the longstanding academic rigour that schools in Singapore have consistently maintained (Hairon & Dimmock, 2012). The TLLM policy initiative also signals the growing recognition that schools need to be given increasing autonomy in matters of school curriculum so as to satisfy specific education policies. This is help schools implement education policies according to their priorities. Currently, Singapore schools are strongly encouraged to adopt two forms of school niches - Learning for Life Programme (LLP) and Applied Learning Programme (ALP). These are to encourage schools provide learning experiences beyond the obsession with academic achievements. However, autonomy at the school level must reach down to the level of teachers teaching in classroom as they are the final implementers of education policies. The importance of teachers being the final link between education policies and students was explicitly expressed by the then education minister (Tharman, 2005).

The need for greater autonomy at the school level is increasingly seen as important due to the growing complexity in education contexts in terms of it begin characterized by growing intensity, rapidity, fluidity and uncertainty. Schools are expected to satisfy needs of multiple school stakeholders, which are increasingly getting more demanding and complex - outside and within the school. School leaders thus have to mobilize and optimize physical and human resources towards shared organizational goals in increasingly complex educational contexts. In such environment, more and more decision-making power has been to school leaders and their teachers to respond to day-to-day demands in a quick and appropriate manner.

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The increasing complexity in the education contexts is consistent with the broader and more universal phenomenon of globalisation, which is now becoming more volatile, disruptive and even treacherous (e.g., computer hacking, or terror threats).

There are two possible reasons for the rising complexity in education contexts. First, the general weakening of classifications in social relationships and boundaries, and the second, the departure from organized social structure to network culture (Hartley, 2007). It has been observed that contemporary reforms in the public service demand greater 'joined-up' or 'network' regime of governance – a societal culture wherein all categories and classifications are weakened and rendered increasingly permeable (a flexible 'liquid modern' view of space and time), and the new work order consistent with the knowledge economy (where individuals work and learn beyond bureaucratic enclosures using their loose spatial and temporal codes) (Hartley, 2007). Technological advances in communications have also aided significantly in the weakening of classifications in social structure and growth of the network culture (Castells, 1996). The idea of the rising complexity in society is not new, but has been a focus of study by complexity theorists (e.g., Bar-Yam, 1997). The history of human civilization has been said to reflect a progressive increase in complexity. Bar-Yam (1997) avers that when complexity of collective behaviours increases beyond that of an individual human being then hierarchical controls become ineffective, and must then yield to networked systems. It is also argued that the magnitude of networked systems will grow to become large scale network systems due to human societies having increasing resources to support large scale complexities so as to satisfy ever growing needs of societies in globalised nation states. The movement towards complexity in human societies is therefore inevitable.

It is therefore understandable that contemporary school leaders resort to distributed forms of leadership where decisions are delegated and shared to other staff members. In the Singapore context, delegation or sharing of leadership decisions to

middle managers such as department heads (HODs) or subject heads (SHs) has been a common place for more than two decades, especially that pertaining to instruction. In this sense, distributed leadership is closely tied to instructional leadership insofar as distributed leadership affords instructional leadership practices to be delegated, dispersed, shared or distributed to other staff members beyond the school principals or vice-principals. The link between instructional leadership and distributed leadership has in fact been well observed (Lieberman & Miller, 2011; Spillane & Louis, 2002; Timperley, 2005; Lee, Hallinger, & Walker, 2012). In this sense, instructional leadership practices become more dispersed across the school organization, making it more effective to bring about enhancements in teaching and learning.

However, over the last decade, leadership decisions pertaining to instruction have been further distributed to teacher leaders - formal and informal. This is a result of the growing demands placed on schools so much so that administrative decisions have to be passed on from senior to middle leaders, which result to middle leaders distributing their decisions on instructional matters to teacher leaders. In schools, these teacher leaders include formal ones such as Senior Teachers (STs) and Lead Teachers (LTs), and informal ones such as Subject and Level Representatives/ Coordinators, and Professional Learning Community (PLC) Team Leaders – all of which are involved in making leadership decisions on instruction. While formal teacher leaders have designations that are formally given by the education ministry and are pegged to specific substantive salary grades, informal leaders are designations given informally by the respective schools and are not pegged to specific substantive salary grades. The formal teacher leadership positions are also located within the 'Teaching' career track, or Teaching Track for short, whereby a teacher can progress to higher positions – ST, LT, Master Teacher (MMT) and Principal Master Teacher (PMTT). This stands in contrast to the Leadership track (e.g., Subject Heads, Heads of Department, Vice-Principal, Principal) and Senior Specialist track, who are curriculum specialists in the respect subject domains.

(Refer to *https://www.moe.gov.sg/careers/teach/career-information*).

The recent boost to strengthen the Teaching track by increasing the pool of teacher leaders (Heng, 2014) only attests to the need to effectively address the growing demands placed on schools to provide more diverse teaching approaches and learning outcomes. STs, LTs, MTTs, and PMTTs have grown to be recognized as pedagogical leaders who can potentially aid in the effective translation of educational policies to classroom teaching and learning. They therefore play a crucial role in supporting the respective department heads in the effective delivery of the curriculum, and the growing demands placed on schools to implement teaching strategies that meet the 21st century learning needs of students. The effectiveness of distributed leadership to enhance instruction is therefore dependent on how well instructional leadership is distributed to middle leaders and teacher leaders.

From Instructional to Distributed to Teacher Leadership

The links between leadership and successful schools, or successful organization or institution, has been well established, and has been claimed to be second only to classroom teaching as an influence on student learning (Leithwood, Day, Sammons, Harris, & Hopkins, 2006). School leadership comes in second because school leaders' effects in supporting classroom teaching is all encompassing (e.g., teaching resources, physical spaces and school climate or culture). It is therefore understandable that Leithwood et al. (2006) assert that school leaders improve teaching and learning indirectly and most powerfully through their influence on staff motivation, commitment and working conditions. As the main business of schools remain to be on teaching and learning, leadership that supports teaching and learning will remain to be salient. It is thus understandable that the importance of instructional leadership for school effectiveness and improvement had never waned over the decades since 1970s (Hallinger, 2005).

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Among others, instructional leadership has been expounded to have three broad aspects of leadership practices (e.g., Hallinger & McCary, 1990; Hallinger & Murphy, 1985). These include: 1) defining the school mission, 2) managing the instructional program, and 3) promoting the school climate. Building on these ideas, Hallinger and Heck (1998, pp. 162-163) explored the relationship between leadership and student achievement, and developed a three-fold classification of principal effects of instructional leadership:

1. **Direct effects** – where the principal's action influence school outcomes.

2. **Mediated effects** – where principal actions affect outcomes indirectly through other variables (such as teacher commitment, instructional practices or school culture).

3. **Reciprocal effects** – where the principal affects teachers and teachers affect the principal and through these processes outcomes are affected.

Among the three, Hallinger and Heck (1998) concluded that the mediated effects yielded more consistent findings stating that principals exercise "a measurable, though indirect effect on school effectiveness and student achievement" (p. 186). The indirect instructional leadership practices by school principals suggest that the more direct instructional leadership practices are distributed to other school staff members such as middle leaders (e.g., department heads) and teacher leaders (e.g., senior teachers). It is therefore not surprising that distributed leadership has been proposed to have four key practices (Hairon & Goh, 2015). First, relinquishing of authority to staff members but within certain bounded limits (*bounded empowerment*). Second, develop leadership in staff members to make appropriate decisions that positively impact on student learning outcomes (*developing leadership*). Third, share decisions on instruction and curriculum with staff members (*shared decisions*). Fourth, promote collective engagement among staff members

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(*collective engagement*). It makes sense therefore to closely tie instructional leadership to distributed leadership whether obliquely or directly - as in using the term 'distributed instructional leadership' (Lieberman & Miller, 2011; Spillane & Louis, 2002; Timperley, 2005; Klar, 2012a, 2012b; Blitze & Modeste, 2015; Halverson & Clifford, 2013; Ng & Ho; 2012; David, 2009; Halverson, Kelley & Shaw, 2014; Brauckmann, Geißler, Feldhoff, & Pashiardis, 2016). Nevertheless, empirical studies supporting this link has still lots of room for further theory building.

The rise in distributed leadership has also resulted to a rise in teacher leadership. A key operationalization of distributed leadership is the relinquishing of decision-making power to others (Hairon & Goh, 2015). Besides distributing instructional leadership practices to middle leaders (e.g., department heads), there is a further need to distribute instructional leadership practices to teachers who can lead closer to the ground level (e.g., senior teachers). Middle leaders are increasingly taking on more administrative tasks so much so that some key instructional leadership tasks need to be distributed further down to teachers who can lead others in matters of instruction. As defined by York-Barr and Duke (2004), teacher leadership is the "process by which teachers, individually or collectively, influence their colleagues, principals, and other members of school communities to improve teaching and learning practices with the aim of increased student learning and achievement" (pp. 287–288). Hairon et al. (2015) defined teacher leadership as the enactment of influence by teachers, individually or collectively, on school stakeholders but primarily fellow teachers towards shared goals pertaining to improvements in teaching and learning. From these two definitions, one distinct feature of teacher leaders is that they are first and foremost teachers, and secondly, leading fellow teachers. What defines the identity of teachers is not the given job title, rather the day-to-day practices of what teachers are preoccupied with. Hairon et al. (2015) further highlighted three teacher leadership practice dimensions:

(1) building collegial and collaborative culture, (2) promoting teacher development and learning, and (3) enabling change in teachers' teaching practices.

As the demands on schools in terms of student learning outcomes increase and the complexity of education contexts continues to be on the rise, the role of teacher leaders will set to grow. It is therefore important to study its effects on school improvement and outcomes. This paper reports on findings from a study comprising a survey involving 28 primary schools investigating the potential impact of teacher leadership practices on student learning outcomes along with the attendant potential challenges.

Method

The preliminary findings were based a survey involving 28 primary schools who have volunteered to participate in the study out of 190 involving 28 principals, 30 vice-principals, 225 middle leaders (e.g., department heads, subject heads and year heads), 468 teachers, 93 Math teachers, and 1778 primary 5 students. Educators' participation involved the completion of an Online questionnaire requiring key demographical data (e.g., teaching experience, school type, school level, etc), and contains instruments measuring core leadership constructs: instructional leadership, distributed leadership, teacher leadership, and collective learning. The data was taken at one time at the end of the school calendar year. Each of the four core leadership constructs contains sub-constructs which were termed as dimensions. Each dimension contains a minimum of eight items each to the 5-Likert scale response (Strongly Disagree, Disagree, Neutral, Agree and Strongly Agree). The distributed leadership construct contains four dimensions: bounded empowerment, developing leadership, shared decisions, and collective engagement. The teacher leadership construct contains three dimensions: collegial and collaborative relations, teacher learning and development, and change in teachers' teaching practices. The

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collective learning construct contains five dimensions: sharing knowledge, reflecting knowledge, interrogating knowledge, applying knowledge, and innovating knowledge. The data collected from the 5-Likert raw scores were converted to Rasch measures – that is, logits. Using Rasch analysis, each dimension from each of the leadership construct gives a measure for each person responding to the questionnaire.

Students' participation involved the completion of an Online questionnaire requiring key demographical data (e.g., gender, and tuition, etc), and the completion of three Online mathematics diagnostic tests, measuring mathematical problem-solving ability, to be taken within one calendar year. Each diagnostic test comprises 20 multiple choice questions on mathematical word problems. Apart from Test 1, each of the three subsequent tests contained eight repeated questions from previous tests to perform the test equating.

Findings and Discussion

We used Hierarchal Linear Modelling (HLM) (Raudenbush & Bryk, 2002), to account for the nested nature of students within schools. We conducted two-level HLM analyses to model and examine the effect of perceptions of teachers on the four leadership constructs in predicting students' growth in learning Math. Students' data is the level-1 unit of analysis in our HLM model. The outcome variable at level-1 was students' growth in mathematical problem-solving ability which is the increase in Rasch measures from Test 1 to Test 3. Educators' perceptions on leadership constructs are the level-2 unit of analysis. Both teachers' demographics and perception measures at level-2 and students' demographics at level-1 are used simultaneously to explain the student growth in the model.

Table 1 below illustrates how xxx have effects on students' growth in Mathematical problem solving ability.

Table 1: HLM analysis predicting Primary 5 students' growth in Mathematical problem solving ability

Fixed Effect	Coefficient	Standard Error
For L1- Intercept, β_0		
L2- Intercept, γ_{00}	0.517***	(.045)
IL Leading Curriculum and Teaching γ_{01}	-0.485***	(.113)
IL Developing Positive Climate for Teaching and Learning, γ_{02}	0.148**	(.049)
DL Bounded Empowerment, γ_{03}	0.132*	(.061)
DL Developing Leadership, γ_{04}	0.027***	(.005)
DL Collective Engagement, γ_{05}	-0.142*	(.005)
TL Promoting Teacher Professional Learning and Development, γ_{06}	-0.158*	(.006)
TL Enabling Change in Teachers' Teaching Practice, γ_{07}	0.219**	(.068)
CL Reflecting Knowledge, γ_{08}	-0.269*	(0.010)
CL Interrogating Knowledge, γ_{09}	0.221	(0.141)
CL Applying Knowledge, γ_{10}	0.197*	(0.077)
CL Innovating Knowledge, γ_{11}	-0.128*	(0.056)
TO Curriculum Content Competency, γ_{12}	0.096*	(0.044)
TO Pedagogical Competency, γ_{13}	0.101*	(0.039)
For L1- slope, β_1 for Students' Gender		
L2- Intercept, γ_{10}	-0.087	(.055)

Note: *$p \leq .05$; **$p \leq .01$; ***$p \leq .001$.

The results showed that two out of the three teacher leadership dimensions have potential impact on the students' growth in mathematical problem-solving ability – teacher leadership practices that pertain to promoting teacher learning and development, and enabling change in their colleagues' teaching practices. The latter, however, has a stronger potential impact than the former. This is understandable bearing the latter is more directly connected to classroom teaching, while the former is more indirect. While the former invests in the development of the teachers so that they could impact on their classroom teaching, the latter has immediate impact on classroom teaching. It would thus seems to indicate that the closer instructional leadership is to the classroom, the stronger the impact – as attested to by Robinson et al. (2008). In this regard, the instructional leadership practices that relate to impacting classroom teaching and learning has indeed been transferred from senior leaders to teacher leaders. This concurs with the results showing that principals' distributed leadership practices of bounded empowerment and developing leadership, and that the distributed practices of developing leadership competencies in staff members contributes to the development of teacher leaders. The results from the predictors of distributed leadership and teacher leadership make sense insofar as the development of the former would inevitably work hand-in-hand in the development of the latter.

The results also show that the distributed leadership practice of collective engagement where school leaders encourage staff members to work in collaboration with one another work alongside three collective learning practices: reflecting knowledge, applying knowledge and innovating knowledge. In other words, school leaders' efforts in supporting teachers to work collaboratively with one another work positively towards encouraging teachers to collectively reflect with one another on matters on teaching and learning, apply what they learn from one another to their respective own classroom teaching, and innovate on their teaching practices.

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In sum, the results are encouraging insofar it speaks of the distributed nature of leadership practices – that is, engaging teacher leaders as an extension to school leaders' instructional leadership role. As the work and demands of schooling widen and deepen quantitatively and qualitatively, it would seem to suggest that such distribution is necessary. This, however, does not imply that school leaders become non-instructional at all. Despite the growth in distributed leadership, school leaders still hold certain instructional leadership roles. The results show that school leaders' instructional leadership roles of leading teaching and learning, and providing a positive climate for teaching and learning are still essential. They would more likely do it more indirectly than teacher leaders. In other words, leaders for instruction have truly been distributed across the entire school organization with every level of leaders – senior, middle and teacher leaders – sharing specific instructional leadership roles. What is most crucial is how these roles can be synergized in ways that are meaning and productive. Indeed, Leithwood et al. (2006) were right to say that what matters in the work of future research is understanding the patterns of distribution that are effective than others.

Conclusion

This study has shown that distributed leadership does exist in Singapore schools, and that it truly has potential to impact student learning. This is encouraging insofar as the increasing complexity and demands placed on schools and schooling requires increase capacity building. Besides the investment placed on teacher development to cope with these demands, there need to be an equal investment in leadership development. Distributed leadership is perhaps one significant means of coping with the increasing complexity and demands of schooling. The challenge ahead is truly in recruiting, selecting and developing teacher leaders in the education systems. This, however, is not without challenges. One of the major roadblocks to this is the role clarity of teacher leaders – or specifically, the lack of it. First, the current roles given

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by the education ministry are broad, which include the following: teaching and learning, professional conversations, mentoring, and role-modelling. Second, the implementation of the teacher leaders' roles may vary across schools depending on interpretations and school's priorities. Third, some roles may overlap with middle leaders' roles, and the onus is on school senior and middle leaders to untangle them. These areas of clarity would have significant impact on recruitment, selection, development and appraisal. Nonetheless, the education ministry has made the right move to invest in the development of teacher leadership in the education system as a whole. It has right catch one of the 'next waves' of school improvement agenda.

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