The social organization of knowledge in eleven South African primary schools

by

Shelly Anna Wilburn

Thesis presented for the degree of

DOCTOR OF PHILOSOPHY

School of Education
Graduate School of Humanities
University of Cape Town

Supervised by Associate Professor Ursula Hoadley and Professor Johan Muller

December 2016

Plagiarism Declaratio

"This thesis/dissertation has been submitted to the Turnitin module (or equivalent similarity and originality checking software) and I confirm that my supervisor has seen my report and any concerns revealed by such have been resolved with my supervisor."

Name: Shelly Anna Wilburn

Student number: WLBSHE001

Signature: Signed by candidate

Signature Removed

Date: 09/09/16

Acknowledgements

Associate Professor Ursula Hoadley and Emeritus Professor Johan Muller, of the School of Education, University of Cape Town, supervised this dissertation with unwavering support. As my academic advisors for six years, Drs. Hoadley and Muller enabled my development as a scholar of sociology of education in distinct ways. I am deeply grateful to Dr. Hoadley, who has shown me what it means to adopt rigor, logic, and a critical eye in the conduct of research as a specialized practice. To Dr. Muller, who introduced me to the virtues of theory and who holds a remarkable understanding of the field of education, I am sincerely thankful. I regard their intellectual contributions to this thesis a special privilege.

I am greatly indebted to the participants of this research project. The teachers and principals of eleven primary schools in the Western Cape of South Africa gave of their time and shared their personal beliefs and experiences with me. Their patience, openness, and willingness to participate made this dissertation possible.

From countless conversations with Kaylianne Aploon-Zokufa and Jaamia Galant during the early days of this research, and especially during the fieldwork stage, I was able to sharpen my focus for this project. I am sincerely grateful for their unique insights on education, for their camaraderie, and for their assistance in translating the data from the Afrikaans schools.

My family and friends, both in South Africa and in the United States, provided tremendous motivation and encouragement to complete this thesis. I hold the utmost appreciation for them. I am wholeheartedly grateful to my husband, Gerd Wojatschek, who always offered an open ear and consistently reminded me of my purpose and my capabilities. My parents, Kenneth and Carolyn Wilburn, and brother, Kenny, have always supported and encouraged my endeavor to gain a global perspective on life and on education. I would not have reached the beautiful shores of Cape Town, South Africa if not for them.

To my godparents, Drs. Donald and Jo Ann Parkerson, who have always encouraged my work in education as a teacher in North Carolina as well as a scholar, I am truly thankful. Their insights have been invaluable in helping to frame my understanding of education research from a global perspective.

I am especially grateful to Carolyn Wilburn for her time, energy, and exceptionally keen eye in the proofreading of this work.

I would like to express my gratitude to the University of Cape Town and the SPADE project (Schools Performing Above Demographic Expectations). Both provided financial assistance to carry out my doctoral research. This study is based on work conducted within the SPADE research project, which is sponsored by the Department of Higher Education and Training and the Department of Basic Education through the European Union Primary Education Sector Policy Support Program. Any opinions, findings, conclusions or recommendations expressed in this material are my own and do not necessarily reflect the views of the sponsors.

Finally, I acknowledge my former teaching colleagues and students both in North Carolina and in South Africa, to whom I dedicate this thesis.

Abstract

The social organization of knowledge in eleven South African primary schools

This dissertation is motivated by systemic disparities in student academic achievement and teacher knowledge along lines of socio-economic status. From an investigation of eleven differentially performing primary schools located in contexts of poverty, the study shows how knowledge is 'unlocked' or maximized through forms of instructional communication between teachers and with school managers. Knowledge is foregrounded as a critical resource to teachers and as the means by which the purpose of the school is achieved.

To investigate how knowledge circulates, the study recruits conceptual resources from Bernstein (1971; 1975; 2000), Douglas (1996), Durkheim (1933), and Weber (1947) and draws empirical tools from the fields of school organization, leadership and management, and teacher professional community. Two key dimensions frame the study of the school in which meanings, and potentially knowledge, are circulated and shaped. These are the *specialization of communication*, which organizes, classifies, and differentiates 'what' forms of knowledge circulate, and the *form of teachers' relations*, which structures communication and controls 'how' knowledge circulates. These two axes of variation – the 'what' and 'how' of communication – are used to describe and classify the *instructional order* of each school.

From qualitative analyses of interview data obtained from grade 3 teachers, Heads of Department, and principals at each school over three years, significant differences emerge along lines of academic performance. Between teachers, a *professional* mode of instructional order is found to facilitate the circulation of knowledge in schools performing better than expected, where relations are open, differences in expertise are recognized, and teachers share and/or develop pedagogic strategies. Between teachers and school managers, the circulation of knowledge is made possible through either the professional or the *bureaucratic* mode based upon formal status *and* expertise, also associated with relatively better academic outcomes. Where communication is weakly specialized through routinized processes based upon status only, findings suggest the circulation of knowledge is impeded by the displacement of expertise, which manifests in schools performing lower than expected.

Findings imply that the tipping point in the achievement of higher academic outcomes lies in the establishment of an instructional order that *maintains* organizational stability based upon status and that *develops* pedagogic strategies through expertise. The study shows how communication, as a central organizational process, serves as a medium for control and a potential agent of educational change.

Table of Contents

Chapter 3:
Framing the study: A sociological theory for the organization of knowledge

Chapter 4:
Research methodology and design

Chapter 5:
Specialization of instructional communication: Time, practice, and discourse

Chapter 6:
The form of teachers' communication relations

Chapter 7:
The instructional order of the school

Chapter 8:
Conclusion

Tables

Figures

Appendices

Chapter 1

Introduction

1.1 Motivation for the research

The phenomenon of disparity in the academic achievement of students, particularly along lines of socio-economic status, social class, and ethnicity, has long been a global issue in the field of education. If education is a 'great equalizer' or a 'powerful weapon' with the potential to enable social mobility and change, then understanding how schools may exacerbate or interrupt disparate patterns of achievement is paramount. This concern came to light for me personally nearly eight years ago as a middle school teacher. My experiences in North Carolina, USA and in South Africa, working with children who had not reached their academic potential in terms of underdeveloped literacy skills, brought issues of inequality clearly to the fore.

In understanding the issue of inequality in education, my first attempt was through a master's thesis at the University of Cape Town (Wilburn, 2012). I investigated teachers' academic expectations in two higher performing primary schools located in poor communities, one urban, one rural, in the Western Cape of South Africa. The study showed how two schools were able to interrupt the pattern of underperformance through higher expectations and individualizing perceptions of pedagogy, though this interruption occurred in different ways due to context. My findings suggested that teachers in these schools collectively shared an orientation to teaching that shaped the way they thought about their practice. I therefore began to more deeply consider the teacher, her relationship to others, the broader context in which her work was embedded, and ultimately, the purpose of the school.

In 2012, I worked on the Schools Performing Above Demographic Expectations (SPADE) project based in the School of Education at UCT. As a researcher and fieldworker on the project, I observed different aspects of fourteen primary schools over two years. Situated in poverty-stricken communities across the Western Cape, these schools were achieving relatively better academic outcomes compared to similar schools in similar contexts. Given

my sustained involvement in the project[1], this dissertation formally evolved from a series of preliminary analyses (e.g. Wilburn, 2014). It also gained part of its impetus through inductively derived observations from within the schools pertaining to *teachers' social relationships*. This study selected eleven of the SPADE schools to better understand teachers' relations and how schools in poor communities achieve better than expected academic outcomes despite heavy demographic odds.

At a systemic level, the South African education sector has been in a state of crisis due to various binding constraints (Fleisch, 2008; Taylor, Muller, and Vinjevold, 2003), stemming from the legacy of a highly unequal society under apartheid and the perpetuation of poverty through low quality schooling (Van der Berg *et al*, 2011). Over the past two decades following South Africa's democratic transition, a significant body of research has shown that a primary constraint on the education system is teachers' weak content knowledge and pedagogical skill (Van der Berg *et al*, 2016). If "the quality of an education system cannot exceed the quality of its teachers," (Barber and Mourshed, 2007: 16) then *knowledge* is a crucial variable potentially exacerbating the disparate patterns of academic achievement in South Africa.

Specialized knowledge is arguably the most important resource on which teaching and learning depend and the acquisition thereof a primary purpose of the schooling system (Young and Muller, 2016). This study confronts the problem of knowledge and foregrounds teachers' relationships to investigate organizational conditions in schools that facilitate (or impede) teachers' access to knowledge as a resource. It is hypothesized that schools achieving better than expected outcomes situated in contexts of poverty make the most of their available knowledge resources. The thesis therefore discerns how specialized knowledge is socially organized and circulated through certain forms of communication and social relationships. To locate the problem of knowledge precisely in the context from which it is derived, the following section depicts relevant shifts in South African education policy and broader patterns of academic outcome at a systemic level.

[1] The SPADE project explored through a mixed methods design, forms of school management and leadership, teachers' classroom pedagogy, and parental relations. The design of the research allowed for a nuanced investigation of the 'tipping point' through which higher academic outcomes are achieved by schools in poor communities. The project was funded in part by the European Union and the South African Department of Basic Education with the aim to strengthen the knowledge base to improve primary teacher education in South Africa.

1.2 Schooling inequality in South Africa

1.2.1 Education under apartheid (pre-1994)

Education under apartheid institutionalized a segregated schooling system, traces of which remain today. Following the *Bantu Education Act* of 1953, the system was differentiated into various education departments. Each department controlled the curriculum and funding of schooling for different population groups based on racial classification. For instance, the Department of Education and Training (DET) administered schools for Black African children while the House of Representatives (HOR) oversaw schools for Coloured children. Separate departments were also set up for Indian and White children and for the self-governing homelands and territories. In this way, separate systems of education reproduced inequality through differential funding schemes and diluted curricula for Indian, Coloured, and African students.

The schooling system also necessitated a racially stratified teacher education system in terms of whether, where, and how teachers were trained (Sayed, 2004). Separate training colleges were created for different racial groupings that trained teachers for specific types of schools, generating an educational "system of systems" (*ibid*: 247). Though the quality of teacher education was generally of a low standard, these training colleges offered a viable route to higher education (*ibid*). The curriculum was underpinned by a traditionalist philosophy of Christian National Education and 'fundamental pedagogics'. This took the form of an authoritarian teacher-centered pedagogy with stringent prescriptions of content, sequencing, and scope (Hoadley, 2011). As a result of this ideology and the poor quality of teacher training, the pedagogy in the majority of schools exhibited rote memorization, drill and practice, group chorusing, and few learner initiations (Chick, 1996).

Following the Soweto uprising in 1976, opposition to apartheid legislation was manifest through a resistance struggle of protests and boycotts that occurred inside schools and communities across the country. Schools came to be seen as instruments of political control, rather than sources of intellectual liberation. The resistance struggle, which emphasized liberation *before* education, delegitimized the school, ensuing a contestation of authority and thus a breakdown of the 'culture' of teaching and learning (Christie, 1998). The schooling system produced a low quality education for most, entrenching poverty and producing high levels of illiteracy and school dysfunctionality (Chisholm, 2005). The majority of schools

experienced sporadic attendance by students and teachers; low morale; low performance results; poor school facilities and provisioning; vandalism and violence; and disputed authority relations between learners, teachers, and principals (Christie, 1998). The managerial capacity of many schools had been compromised.

1.2.2 Educational reform for a democratic state (post-1994)

At the dawn of democracy in 1994, the schooling system required a radical transformation and a new philosophy of education that was capable of addressing past inequities. A new national curriculum, that fostered democratic ideals, human rights, and equality, was seen as a key lever in transforming the schooling system (Hoadley, 2011). Though the political project of curriculum reform has currently reached a point of relative stability, it saw a series of major revisions in a relatively short period of time, each signaling a revised conception of the teacher role, pedagogy, and knowledge. The first reform saw the implementation of an outcomes-based curriculum in 1998, termed *Curriculum 2005*. To avoid an unequal distribution of knowledge between schools, the new curriculum emphasized generic outcomes and omitted subject-specific contents. In this way, knowledge was silenced through a learner-centered pedagogy that emphasized relevancy and local context (*ibid*).

Curriculum 2005 ultimately failed in its attempt to address inequality. A political need to mark the democratic shift took precedence, rather than a true conception of the state of the schooling system (Jansen, 2001). Given the substandard quality of teacher education under apartheid, and of the schooling system itself, a severe shortage of the necessary knowledge and expertise required by teachers constrained teaching and learning in schools (Nykiel-Herbert, 2004; Taylor and Vinjevold, 1999). Inadvertently, the outcomes-based curriculum deprived teachers and children who were previously disadvantaged of the specialized knowledge necessary for social and economic prosperity. Following a series of critical reviews, two curricular reforms occurred in 2002 and 2012, termed the *National Curriculum Statement* followed by the *Curriculum and Assessment Policy Statement*. Each demonstrated an epistemological shift from ‘knowing’ and ‘knowers’ toward a curriculum that ‘reclaimed’ knowledge by clearly specifying what is to be learnt and how (Hoadley, 2011; Muller, 2000).

To address the inequitable distribution of resources, the structure of the schooling system has undergone considerable reform. The administration of districts and schools now sits at a

provincial level, with national education funds for non-personnel expenditure being directed at the poorest schools via a quintile system (Van der Berg *et al*, 2011). Public schools are now classified on the basis of census data for a school's catchment area, such as income level and literacy rate (Hall and Giese, 2009), with Quintile 1 schools being the poorest and Quintile 5 schools the wealthiest. Because the majority of schools in South Africa are situated in contexts of poverty, quintiles are not equally sized, with Quintile 5 containing the fewest learners. Despite some miscalculation due to limited information, quintile groupings broadly reflect the socio-economic status of schools and their communities (Van der Berg, 2015). From 2006, the poorest three quintiles have been classified as 'no fee schools'.

Teacher education underwent a structural transformation, occurring alongside other reforms of the 1990's. Nearly 130 education institutions were integrated into the higher education system, indicating a shift in quality and accreditation as well as the value of knowledge and research (Sayed, 2004). Although universities are now the primary providers of teacher education and training, and in-service training has been offered through diplomas, advanced certificates, and workshops, there has been very little change at a systemic level in the quality of learning (Bertram, 2011), notwithstanding a greater share of financial resources allocated to poorer schools.

1.2.3 Systemic patterns of academic outcome

At a systemic level, stark inequalities in schooling have been put on display through large-scale analyses. As a legacy of apartheid, education in South Africa has come to be understood as a 'tale of two systems'. Qualitatively, the first system is well resourced in terms of its social, economic, and intellectual capital, producing the vast majority of university graduates who have acquired the necessary literacy and mathematical competencies. The second system, much larger than the first, contains the vast majority of working class and poor children who bring social challenges to inadequately resourced schools and acquire a more restricted set of skills and knowledge (Fleisch, 2008).

Quantitatively, two schooling systems are observed through a stark bi-modal distribution of academic achievement, where students from the upper quintile of socio-economic status far outperform those from the lower four quintiles (e.g. Spaull, 2011). Similar patterns of bi-modal achievement have also been associated with a school's former education department

and racial classification (e.g. Crouch and Mabogoane, 2001; Van der Berg, 2007). An association between former education department and socio-economic status has also prevailed despite systemic restructuring[2] (Van der Berg *et al*, 2011). Given such high between-school variation, different data-generating processes are thought to be at work (Van der Berg, 2006). This suggests the need to analyze each 'system' separately in the conduct of research. In Spaull's terms, "inputs are shaped and transformed into outputs in fundamentally different ways in the two South African schooling systems" (2013: 9).

There are two dire implications of South Africa's dualistic schooling system, which may be inferred as the differential distribution of knowledge. The first is what economists refer to as the 'trap' of low quality education, which reinforces patterns of poverty and privilege due to the education system's inability to enhance upward mobility of poor children in the labor market (e.g. Van der Berg *et al*, 2011; Spaull, 2013; Carnoy, Chisholm, and Chilisa, 2012; Van der Berg, 2007). The second concerns differences in academic trajectories. Analyses of both local and international assessments[3] have shown that by the time children reach grade 3, wide learning gaps are already present between children from advantaged and historically disadvantaged backgrounds (Spaull and Kotze, 2015; Van der Berg, 2015). For the majority of children in South Africa, these findings suggest that learning deficits are acquired in the first years of schooling due to an underperforming, low quality system. The paradox of this research is that while education may reproduce patterns of inequality and poverty, education is also one of the most viable avenues for those living in poverty to acquire the knowledge and skills needed for social mobility.

Internationally, relative to neighboring African countries, South Africa's results from SACMEQ[4] II and III show that schooling inequality is not explained solely by poverty.

[2] As a consequence of the *Group Areas Act* of 1950, which assigned different population groups to different residential areas based on racial classification, population groups continue to be spatially segregated in South Africa. Spatial segregation has been shown to be a significant factor with respect to quality education, particularly due to geographic and financial inaccessibility of quality schools situated in more privileged areas (Yamauchi, 2011). Such spatial segregation also acts to maintain the homogeneity of poor schools in terms of socio-economic status and ethnicity, while enabling heterogeneity, or mixing of home background, in the wealthier schools and neighborhoods (*ibid*).

[3] South African Annual National Assessment (ANA); the National School Effectiveness Survey (NSES); the Southern and Eastern African Consortium for Monitoring Educational Quality (SACMEQ); and the Trends in International Mathematics and Science Study (TIMSS)

[4] Southern and Eastern African Consortium for Monitoring Educational Quality from 2000 and 2007, which surveyed Botswana, Kenya, Lesotho, Mauritius, Malawi, Mozambique, Namibia, Seychelles, South Africa, Swaziland, Tanzania, Uganda, Zambia, and Zimbabwe

Though a school's socio-economic status or quintile has the largest impact on student performance in South Africa, more so than that of an individual child, the education system is significantly underperforming relative to its regional counterparts. This is despite its advantage of greater resources (a higher GDP), more qualified teachers, and lower student-teacher ratios (Van der Berg *et al,* 2011). For instance, South Africa ranks 10th out of 15 SACMEQ countries for students' reading performance in grade 6 (Spaull, 2011). These studies raise the question of how much poorly resourced schools can do to compensate for socio-economic disadvantage.

An enduring argument, stemming from this field of research, is that the managerial capacity of schools in poor communities to 'convert' resources into outcomes may be of more importance than resources themselves. For instance, Crouch and Mabogoane (2001) show that after controlling for poverty and resources, 30 percent of secondary school matriculation results remains unexplained. They attribute variation in school performance to resource management, highlighting 'cognitive' resources as an important variable. Other studies, such as Van der Berg (2008), Spaull (2011), and Taylor (2011) show similar patterns of unexplained variance between schools, suggesting that management efficiency and the ability of teachers to convey their knowledge may explain differences between better and worse performing schools. Thus, we may infer that "…efficient schools make the most of whatever resources they are given" (Van der Berg *et al*, 2011: 13).

The unequal distribution of knowledge in South Africa has largely been a consequence of unequal access to quality schooling for both children and teachers and may be exacerbated by the weak managerial capacity of schools producing institutional dysfunctionality and wasted time and opportunity to learn (Van der Berg *et al*, 2016). For some, this problem resembles a tension between performance accountability and the capacity of an educational system to realize its aim (e.g. Spaull, 2015; Elmore, 2008). Nonetheless, knowledge remains at the heart of academic success. I therefore make explicit my position on the relationship between knowledge and schooling below, underpinning the logic of this thesis, and discuss some of the more recent empirical data highlighting the necessity of further research on teacher knowledge.

1.3 The problem of knowledge

1.3.1 What are schools for?

"Just as every theory of education implies a theory of society, educational theories always imply a theory of knowledge" (Young and Muller, 2007: 175). To critically address the question of the purpose of schooling requires a confrontation with knowledge itself, which tends to be lacking in educational research. This thesis takes a realist view, that is, I regard knowledge as real, as having both a social basis and a natural objectivity (Muller, 2000). While absolute truth or objectivity may be unattainable, given our social nature, we may get as close to truth as possible through principled rigor and discipline and a commitment to truthfulness (Young and Muller, 2007).

In the case of the school, then, and its relationship to knowledge, this view presupposes the differentiation of knowledge or different knowledge types (Young and Muller, 2016). These are context-dependent knowledge, developed in everyday contexts to deal with particular situations, and principled specialized knowledge that is developed in order to make reliable generalizations about instances of experience. Though both may have a role to play in education, it is specialized knowledge that cannot necessarily be obtained outside of the school (*ibid*). This proposition has direct implications for both curriculum and pedagogy, and of great consequence to this thesis, the nature of the teacher's role.

I therefore take the school to be a social institution set up to reproduce that which is valued by society *with the primary purpose of promoting the acquisition of specialized knowledge.* It follows that for children to acquire specialized knowledge and skills, such as in mathematics and science, teachers necessarily require specialized knowledge themselves. The necessity of teacher knowledge stands irrespective of the theory of pedagogy as traditional or progressive. Given debates surrounding who gets access to what knowledge, notably in Freire's (1970) *Pedagogy of the oppressed*, Young and Muller (2016) usefully isolate the concept of 'powerful knowledge', not based on who has access to the knowledge, but on what the knowledge *can do*. From this view, powerful knowledge, or that which is specialized and developed independent of context, can enable one to move beyond their particular circumstance and think about the world in unthinkable, impossible ways (Bernstein, 2000).

On the tension between knowledge that 'dominates' and that which 'emancipates', Young and Muller offer a potent example:

> In the case of Bantu education in South Africa, dominant and subordinate classes have attempted to use schools to realise their widely different purposes. One only has to remember that Nelson Mandela was a product of the schools for Africans that predated Bantu education to be reminded that even the most oppressive school systems can be used by some as instruments of emancipation (2016: 108).

Mandela's experience exemplifies how the acquisition of specialized knowledge through schooling has the power of individual 'enhancement', a concept put forward by Bernstein as a condition for democracy (2000: xx). The institutionalization of the right to enhancement, whether it is intellectual, social, or material enhancement, necessarily depends on a discipline, or the right to experience *boundaries*. Through boundaries, the past may be condensed, thereby opening up new possibilities or new futures (*ibid*). Alternatively, "freedom from the curriculum without access to knowledge leads nowhere" (Young, 2014: 13). If knowledge boundaries entail intellectual enhancement, and the purpose of schooling is to promote access to that specialized knowledge, then the school, its curriculum, and its pedagogy undoubtedly act as instruments of social justice.

Though the school may serve as a site for the reproduction of inequality, the school may also be viewed as a site for interrupting patterns of inequality (Bernstein, 1975). The primary means whereby the school is able to achieve the latter is by providing children with access to principled specialized knowledge. In the following section I provide an overview of the state of teacher knowledge in South Africa to put the problem on display from a large-scale, empirical perspective.

1.3.2 Systemic patterns of teacher knowledge

The first National Audit of teacher qualification in 1995 showed high numbers of both un- and under-qualified teachers (Shepherd, 2015), stemming from the inequitable provision of quality schooling and teacher education before 1994. In 2007, the National Policy Framework for Teacher Education was updated, stating that a minimum qualification for primary and secondary teachers is a REVQ[5] of 14, or the completion of grade 12 (matriculation) with a four-year degree of study. The Quarterly Labor Force Survey of 2010

[5] The Relative Education Qualification Value (REVQ) measures the relative value attached to an education qualification based on the number of recognized and prescribed full-time years of study (Shepherd, 2015).

shows, however, that only 36 percent of primary school teachers met the new requirement, with 13.3 percent of all teachers falling below a REVQ of 13, or the equivalent of a diploma (*ibid*). A larger issue is that the majority of teachers within the system, including principals, were trained before 1994, with only 5.4 percent of teachers under the age of 30 in 2005. There has been a highly unequal distribution of human resources within the system, with more qualified teachers and principals employed at wealthier schools in the upper quintiles of socio-economic status (Shepherd, 2015; Wills, 2015).

Given that years of teaching experience and level of qualification are not able to account for much of the variation in student achievement (Hanushek and Rivkin, 2012; Rivkin, Hanushek, and Kain, 2005; Carnoy and Chisholm, 2008), teacher knowledge, as an indicator of teacher quality, has emerged as a significant variable of study, particularly teachers' subject and pedagogical content knowledge[6]. Evidence of the effect of teacher knowledge on student achievement remains mixed, however, partly due to differences in research methodology. Nonetheless, large-scale studies of teacher knowledge in South Africa offer insight into its distribution at a systemic level, with some evidence to suggest a relationship between knowledge, pedagogy, and student achievement.

It became evident in 1999 from the President's Education Initiative (PEI) that teachers' disciplinary knowledge was a constraint on the South African schooling system. From an analysis of 54 studies concerning the state of education at that time, Taylor and Vinjevold (1999) found that:

> The most definite point of convergence across the PEI studies is the conclusion that teachers' poor conceptual knowledge of the subjects they are teaching is a fundamental constraint on the quality of teaching and learning activities, and consequently on the quality of learning outcomes… Teachers by and large support the intentions of the new curriculum, but lack the knowledge resources to give effect to these in the classroom.

The PEI studies and subsequent research concerning teacher knowledge in South Africa remained largely anecdotal (Hoadley, 2012) and inferred through observation, until 2007 when SACMEQ first tested the content knowledge of a nationally representative sample of

[6] Pedagogical content knowledge (PCK), as conceived by Shulman (1986), includes the most useful forms of conceptual representation, how to formulate knowledge to make it comprehensible for students, and strategies to reorganize students' understanding.

teachers in reading and mathematics. From an analysis of grade 6 teacher tests[7], Spaull (2011) showed that while a significant relation exists between teachers' knowledge and learner performance, it is too small to be a significant determinant of learner performance due to its estimated effect size. He suggests the ability to 'convey' that knowledge might be of more importance. With respect to socio-economic status, Spaull found that the impact of teacher knowledge was significantly smaller in low SES contexts, or for the poorest 80 percent of children, implying unobservable constraints overshadowing the impact of teachers' knowledge.

Using a more sophisticated technique that corrects for omitted variables and selection bias, Shepherd (2015) analyzed the same data set and confirmed Spaull's findings. She also found 'divergent' effects of grade 6 teachers' knowledge in both reading and mathematics across quintiles, resembling the bi-modal distribution of student achievement. This "socio-economic distribution of knowledgeable teachers" confirms the work of Carnoy and Chisholm (2008) Taylor and Taylor (2013) and Venkat and Spaull (2015: 127). Thus the impact of teacher knowledge is not homogenous across the schooling system and is exacerbated by its unequal distribution. In low SES schools, there was no significant effect of teacher knowledge on student performance. Where the effect size of teacher knowledge for Quintile 5 schools is comparable to that of developed countries, such as the USA, the effective size for Quintiles 1 to 4 is comparable to other developing countries, such as Peru. In relation to other SACMEQ countries, Taylor and Taylor (2013) found that South African learners taught by teachers with weak content knowledge perform worse than their counterparts taught by teachers with the same level of content knowledge. This further suggests an unobservable constraint on teaching and learning.

To better understand the nature of teacher knowledge in relation to curriculum requirements, Venkat and Spaull (2015) map the SACMEQ teacher test questions for mathematics to the South African grade 6 curriculum. Their findings show that 79 percent of grade 6 teachers demonstrated content knowledge below the grade 6/7 level. This means that the majority of grade 6 teachers scored less than 60 percent correct on the grade 6/7 test items. By quintile, teacher content knowledge differences were not found to be statistically significant between

[7] Nearly 15 percent of teachers declined to take the subject-knowledge test, therefore, there is some uncertainty around the generalizability of the findings. It is likely that teachers who declined are those with the poorest subject knowledge, suggesting the results may be more severe (Spaull, 2011).

Quintiles 1 to 4. Rather, there was a spike in teachers' knowledge considerably above grade level in Quintile 5 that was significantly different to that of the other four quintiles. At a provincial level, across all quintiles, Taylor and Taylor (2013) found Western Cape teachers to have significantly higher levels of content knowledge in both language and mathematics, relative to other provinces in South Africa.

In the North West Province, Carnoy, Chisholm, and Chilisa (2012) assessed the relation between grade 6 teachers' mathematics knowledge, classroom pedagogy, and student achievement gains in 58 low SES schools. Nearly a third of teachers in their sample were teaching content below grade level. On average, grade 6 teachers scored 46.5 percent on a test designed to assess their mathematical knowledge at a grade 6 level. Overall findings of the study show that the quality of teaching is important to student learning gains through a combination of better teaching, including the level of cognitive demand, higher levels of content and pedagogical content knowledge, and greater curricular coverage. The authors emphasize that schools in the North West, and by implication, South Africa, need to increase their level of knowledge resources as well as efficient use of those resources.

Utilizing data from the National School Effectiveness Survey (NSES) of primary schools in South Africa, Taylor (2011) found a positive significant relation between teachers who scored 100 percent correct on a mathematics test, spent more than 18 hours teaching per week, and learners' mathematics achievement. Using the same NSES data set, Taylor and Taylor (2013) show a discernable difference in learning gains from grades 3 to 5 when teachers scored 100 percent correct on a mathematic test. When looking at SACMEQ data using a multivariate regression model, they found that the impact of improved teacher mathematics knowledge is greater at higher levels of teacher knowledge, when taking socio-economic status and other school and teacher characteristics into consideration. Their findings suggest the pivotal role of teachers' specialized knowledge:

> In order to be effective, a teacher needs to have a deep understanding of the principles of the subject discipline, and that different degrees of a relatively shallow understanding have no marked effect on learner performance (229).

Two findings emerge across this literature. The first is that sound teacher content knowledge is a critical precondition for learning, though the impact of that knowledge remains conditional on the ability to convey or transform that knowledge into pedagogy. Reeves'

(2005) study of 24 low SES schools in the Cape Peninsula serves as a powerful example. She found that teachers' ability to engage learners with the principled knowledge of mathematics at higher levels of cognitive demand promoted higher student achievement gains across a school year. The overall pedagogical style was less important than teachers' ability to convey their understanding of the underlying principles of mathematics.

The second finding that emerges from this literature is that the deployment of teacher knowledge may be enabled or constrained by certain conditions within the school. Though management may enable an organized learning environment by monitoring curriculum coverage, implementing an instructional timetable, and keeping up to date assessment records (Taylor, 2011), more research is needed to reveal the nuances of how teacher knowledge itself can be maximized as a resource through certain organizational conditions. This is a critical limitation of current research given the unequal socio-economic distribution of knowledge across schools in South Africa.

1.4 The research question

Motivated by the disparate patterns of academic outcome through low quality schooling and the problem of teacher knowledge in South Africa, the study is framed to answer the following question:

> *What organizational conditions facilitate or impede the circulation of specialized knowledge for teaching and learning within differentially performing schools in poor communities?*

Communication is taken as the fundamental medium through which knowledge may or may not be made available to teachers. Importantly, the study does not measure the possession of knowledge, but rather the conditions that 'unlock' its access and maximize its distribution. Eleven differentially performing primary schools situated in low SES communities are selected for the study to discern naturally occurring differences in the forms of social organization. The sample includes schools achieving better than expected and lower than expected outcomes in grade 3 for literacy and numeracy, relative to the mean for the school's former education department. Grade 3 teachers' relations in the school are the primary unit under investigation. To discern differences in the forms of social organization, or conditions

that facilitate teachers' distributional access to knowledge resources, the study investigates forms of communication in four distinct ways, framed below as a set of sub-questions.

1.4.1 Sub-questions of the study

The first three questions below relate to the way instructional forms of communication are specialized or bounded, while the fourth concerns the form of teachers' relationships. Taken together, the four questions aim to describe how knowledge is socially organized within the school.

1. *To what extent do grade 3 teachers communicate with their colleagues about instruction?*

2. *To what extent are instructional forms of expertise recognized by grade 3 teachers within the school?*

3. *To what extent are instructional forms of communication specialized for the purpose of pedagogic practice?*

4. *How is communication structured between teachers and their colleagues?*

1.5 Overview of the dissertation and key considerations

The study is broadly located in the field of sociology of education with a particular interest in the nature of teachers' social relations. I draw an important distinction upfront, which structures the remainder of this dissertation. Throughout the study, at both an empirical and conceptual level, I refer to the relations between teachers themselves and the relations between teachers and management, or those in positions of authority. By making this distinction, notions of leadership and professionalism are necessarily brought to the fore.

I undertake a literature review in Chapter 2 with the above-mentioned distinction in mind utilizing two criteria. The first is to review those studies that have sought to understand teachers' social relationships within the school. This includes studies of organizational structure as well as the field of school effectiveness and school culture. Studies that pertain to management and leadership and teacher professionalism are considered as two important

domains of organizational activity. The second criterion entails the privileging of studies that draw attention specifically to knowledge and instructional communication.

The dissertation is framed conceptually in Chapter 3 by drawing on the sociology of Émile Durkheim, Basil Bernstein, Max Weber, and the anthropology of Mary Douglas. From the writings of these scholars, I adapt conceptual resources to construct a framework and a theoretical language to describe how knowledge is socially organized. Two key social dimensions are discerned within the chapter to explain how order is generated within the school. These are classification processes, in which boundary conditions are established for the categories of time, practice, and discourse, and regulatory processes, which control interaction between individuals. The two dimensions constitute an instructional order that generates a system of communication. Where the former specializes the 'what' of communication, the latter structures the 'how' of communication. It is within this system of communication that information, and potentially knowledge, may be circulated.

The research methodology is set out in Chapter 4 where I describe the sampling approach and methods of data collection, interpretation, and analysis. It is important to note that the study sample is selected from within an underperforming 'system' of schooling in South Africa's Western Cape province. The eleven schools fall within Quintiles 1 to 3, stretch across urban and peri-urban areas, and were formerly administered by either the Department of Education and Training or the House of Representatives.

An understanding of the school context is fundamental to the interpretation of the results of the study. It is presumed that the schools under investigation are similarly constrained by a low ceiling of knowledge resources. The research design allows for conclusions to be drawn about particular types of schools situated in similar communities that are faced with a scarcity of social, economic, and intellectual forms of capital. Differences between the schools are not stark; they are highly nuanced, which are brought to light through a qualitative analysis. Interview data was obtained from a range of participants over a period of three years.

Chapters 5 and 6 undertake an in-depth analysis of the interview data. In both chapters I utilize data descriptions and extracts from interviews in order to contrast particular cases of schools. Contrasting cases are used to put qualitative differences on display. The chapters also explore patterns of similarity and difference across the sample of eleven schools, which

are presented in tabular form. Patterns are considered for both teachers' relations and the relations between teachers and management. Chapter 5 addresses sub-questions 1 to 3 outlined in Section 1.4.1 above and concerns the specialization of communication. Chapter 6 addresses sub-question 4 on the form of teachers' relationships and the structure of communication. Each chapter addresses one of the two key social dimensions through which instructional communication is shaped.

In Chapter 7, I bring together both dimensions to investigate the form of instructional order within the schools. I maintain the distinction between teachers' relations and those between teachers and management. A typology of the school is developed in this chapter that draws a relation between academic performance and the form of instructional order. In this way, the study shows how the circulation of knowledge is enabled by particular social conditions within certain schools.

1.6 Aims of the study

The aims of this research are two-fold. First, the study aims to provide a nuanced language of description as a research tool, which may be utilized and developed in future. Much work has been done to understand how schools are organized, how leadership influences learning, and how a professional community of teachers may enhance learning outcomes. What this research lacks, however, is a principled language embedded within a strong theoretical framework that is able to *describe*, both empirically and conceptually, similarities and differences between schools and between different types of relationships in schools.

The second aim of the study is to understand, more generally, how schools are socially organized and how knowledge may be circulated as a resource for teaching and learning through forms of communication. This is a critical gap in the field of education. Knowledge tends to be taken for granted in the study of the school as a social organization. Though it is clear why some schools underachieve due to socio-economic factors and low quality instruction, it is far less clear how some schools achieve better than expected outcomes despite demographic odds and resource constraints. What I hope to show through the case of eleven South African primary schools is that educational change is possible, even in contexts of poverty.

Chapter 2

Locating the study:
A review of the field on teachers' social relations

2.1 Introduction

To address the problem of knowledge as set out in Chapter 1 and to locate the study within a sociological field of inquiry, this chapter reviews three complementary sub-fields that examine teachers' social relations within the school, albeit in different ways. These are studies of:

- The school as a social organization
- Leadership and management
- Teacher professionalism

Each field is considered from a conceptual viewpoint to discern theoretical shifts over time, key issues, and tensions requiring further exploration. I also consider empirical research within each field, including international and South African literature, to identify salient findings and to develop hypotheses of what to look for in the study of how knowledge may be utilized and circulated as a resource in schools. Throughout the review, I point to methodological shortfalls on which to build. The chapter concludes with a critical reflection on the literature signaling the study's movement toward a new perspective on the social organization of knowledge in schools. The review is guided by the following overarching question: *How has prior research understood teachers' social relations within schools that pertain to knowledge and instructional forms of communication?*

2.2 The school as a social organization

This section begins with a review of major theoretical approaches to the study of the school as a social organization to discern differences in how social structure, authority, and control are conceived. I draw out some of the conceptual tensions and make explicit how these are taken up by this dissertation. I then look to studies of school effectiveness and school culture to examine, more empirically, what forms of teachers' relations are associated with better academic outcomes.

2.2.1 Organizing schools: The social structure of the school

The concept of 'structure' is widely utilized in studies of school organization. A concern with structure signals an interest in formal properties, social arrangements, and underlying rules, which constitute different modes of control that relate to teachers' work. For Waller (1932), who was one of the first to distinguish between the school's structure and collective culture, structure was understood to arise from face-to-face interaction between teachers and students. Over the years, alternative perspectives have emerged, for instance, structure may also be conceived as an 'institution' that shapes individual behavior and the nature of social interaction. Much of the theoretical tension in the study of school organization therefore mirrors the broader tension between structure and agency in the field of sociology.

Theoretical approaches to the study of school organization have been derived in part from classic sociology. From the writings of Weber, Marx, and Durkheim, principles of social structure have been adapted for the analysis of schools, as though schools are a 'small society' (Coleman, 1961) or a 'social system' (Parsons, 1959). In response to the rise in curricular complexity and the expansion of the schooling system in the early part of the 19th century, administrative units, including principals, became necessary for greater curricular coordination and control over teachers' work (Bidwell, 1965; Meyer and Rowan, 2008). Hence, schools came to display many of the classic characteristics of a bureaucracy. Up until the mid-1980's, most studies seeking to understand school organization therefore drew from the Weberian ideal-type bureaucracy (Tyler, 1988).

2.2.1.1 The school as a bureaucracy

The bureaucratic model of school organization usefully foregrounds a basis for authority or control, what Weber conceived as 'legal-rational' authority (1947). While differences in methodology remain, largely in terms of participant perspective, the study of the school as a bureaucracy (e.g. Mackay, 1964) has been widely operationalized through a dimensional set of indicators pioneered by Richard Hall and rooted in the Weberian framework (Tyler, 1988). Hall's approach is arguably one of the most systematic attempts to measure bureaucratization in schools (Punch, 1969). Each indicator of bureaucracy is measured on a separate continuum to determine the degree of bureaucratization and the relation between the six indicators. These are: hierarchy of authority, presence of rules, procedural specification, impersonality, functional specialization, and technical competence (Hall, 1968).

Empirically, it has been shown that bureaucratic structure in schools, when employing the indicators above, consists of two distinct sets of inter-related yet negatively correlated orders of authority (e.g. Punch, 1969; Sousa and Hall, 1981). The inter-relation between the first four indicators, that is, between hierarchy, rules, procedure, and impersonality, is found to be negatively correlated with technical competence and specialization. In Punch's terms, "…the two clusters are independent of each other…the dimensions divide into two clusters, within each of which there are positive inter-relationships" (1969: 50).

An analytical issue arises in the literature with what Weber (1947) understood to be an ideal unitary concept: the relation between bureaucratic authority and professional expertise. These two bases for control over teaching are often viewed in opposition in the field of education (e.g. Mehta, 2013), where bureaucratic control is regarded as incompatible with teachers' professional autonomy and commitment to teaching (Rowan, 1990). In this dissertation, I aim to understand this analytical tension in the basis of control by examining how the two types of authority, and respective forms of social structure, might (or might not) work together within the school, particularly in relation to the distribution of knowledge.

2.2.1.2 The contingency theory of school organization

'Contingency theory' offers a complementary perspective on social relations by relating the complexity of teachers' work to the appropriate mode of organizational control. Two types of management systems, derived from Burns and Stalker (1961), are put forward: 'mechanistic' and 'organic'. Where the former resembles a bureaucratic-type structure appropriate to more stable work conditions, the latter mirrors a network-type structure more appropriate to changing work conditions that give rise to new problems. Social relations are understood as dependent on the 'technology' of the work (Perrow, 1967), especially the complexity and routinized nature of the work. Rosenholtz (1991) contends teachers' work may be non-routine, if outcomes are unpredictable given variability between students, or routine, if well-established techniques and procedures can be applied over and over to produce the same result.

Empirical research sheds some light on whether forms of instruction are associated with forms of teachers' relations. From a longitudinal study of 83 elementary schools, Cohen, Deal, Meyer, and Scott (1979) examine whether the social structure of the school becomes

more complex as teachers' pedagogy becomes more complex. The study showed that perceived complexity in teaching was related to greater collaboration between teachers. In a similar way, Rosenholtz (1991) demonstrates that the routinization of teachers' work is both a function of teachers' relations and perceptions of how students learn. 'Uncertainty' in teaching is put forward as a key issue, based on the absence of a technical codified knowledge base. In considering the relation between structure and learning, Miller and Rowan (2006) draw evidence from a representative sample of American elementary schools. They found that organic forms of school management, indicated by collegiality, teacher decision-making, and supportive principal leadership, were *not* powerful predictors of student achievement.

This line of research suggests that the form of teachers' relations may not be a sufficient condition to affect how teachers carry out instruction in the classroom or to generate higher academic outcomes. Empirical evidence does suggest, however, a relation between social structure and teachers' perceptions of pedagogy. I therefore surmise from this research that the social structure of teachers' relations may provide optimal conditions for managing complex instructional issues, though it is not necessarily associated with more or less complex or effective forms of pedagogy.

2.2.1.3 The school as a loosely-coupled institution

The 'loose-coupling' perspective, which draws a similar distinction between the managerial and the classroom domain, tends to explain the degree and nature of organizational control by looking to the more visible and formal kinds of social structure (Ingersoll, 2005). Given the school's bureaucratic set up and the inability of certain policy and reform initiatives to consistently effect change in classrooms, a structural 'looseness' was posited by Bidwell (1965), reinforcing a more professional mode of organization. In developing the perspective, Weick (1976) conceived schools as composed of autonomous elements unresponsive to each other, the technical and the managerial core, indicated by a relative lack of coordination, regulation, and inspection of classroom practice.

To explain what conditions give rise to structural looseness, Meyer and Rowan (1977) notably conceived formal structure as a social institution, inspired by the theory of social constructionism developed by Berger and Luckmann (1966). In what has come to be known

as ‘new institutionalism’, schools are viewed as ‘institutions’ structured by rules that have become institutionalized through patterns of social norms regarding how the organization should operate. The school as an institution is understood to be a social construction that patterns human behavior (and cognition) through habituated social interactions (Wuthnow *et al*, 1984). “Once formed, institutions are profound external structures for the regulation of human conduct and the stabilization of social structures” (Bidwell, 2006: 34).

The study of school structure by new institutionalists has been heavily influenced by the early writings of Parsons (1956a; 1956b; 1960), whose sociology discerned principles that could be applied to all kinds of organization, including schools. Parsons’ functionalist approach conceived organizations as specialized sub-systems integrated within the super-ordinate system of society. The differentiating feature of the organization is the primacy of goal attainment, which is at one level an output (e.g. competencies), and at another, an input (e.g. labor). The goal of the organization is attained through power, or specialized functions, enabling procurement and mobilization of resources, including labor and capital. Parsons argues, “the main point of reference for analyzing the structure of any social system is its value pattern” (1956: 67). The value pattern is considered a sub-value pattern of society, which legitimizes the goal of the organization.

Aligned with Parson’s (1960) theory of technical activity and institutional management, actions in schools attempt to align with societal norms and values, which conflict with the attainment of the goal of the organization (Spillane and Burch, 2006). New institutionalism thus problematizes the social structure of the school as institutionalized rules arising out of the need for legitimacy within a particular social environment rather than out of the need to coordinate the day-to-day work of teachers in classrooms. The theory posits structural coherence between schools as organizations (tight coupling) as sub-systems of society and weak coherence within organizations (loose coupling) according to weak administrative controls on teachers’ classroom practice.

Arguments made for structural looseness in schools are premised by the assumption that pedagogy is an uncertain ambiguous technology (Gamoran *et al*, 2000), where the goals of education are generally vague (Rowan, 1990). Ingersoll (2005) argues that by under-emphasizing the function of the school, the loose coupling theory does not go far enough in explaining organizational activity, and that the character of organizational control depends on

'where' and 'how' you look. For instance, if teaching is viewed as a unitary concept, rather than as a set of inter-related parts, aspects of pedagogy that may be more 'tightly coupled' with policy, such as the subject matter, are consequentially neglected (Spillane and Burch, 2005). Different modes of organizational control may therefore regulate instructional activity in different ways.

I attempt to address the issue of control in this study by considering the formal/visible and informal/invisible mechanisms or rules that regulate instructional forms of communication between teachers and their colleagues. In bringing knowledge to the fore, the character of organizational control may look somewhat different. In his seminal theorization of school structure, Bidwell (1965) emphasized that, "control, with communication as an important component, thus emerges as a central organizational process" (1014). If schools are social systems, then a communication system is inevitably embedded in the structuring of teachers' social relations, which may provide access to knowledge in differently structured ways.

2.2.1.4 Bernstein's sociology of the school

One of the most noteworthy attempts to bring together a theory of the school's social structure, communication, and educational knowledge is that of Bernstein's sociology. Situated in the British research tradition within a structuralist paradigm, the Bernsteinian project has evolved significantly over the past 60 years and has been deeply committed to a concern with meaning, issues of cultural and social reproduction, and the interruption of inequality through schooling (Atkinson, 1985; Hoadley and Muller, 2010). In Bernstein's terms:

> How a society selects, classifies, distributes, transmits, and evaluates the educational knowledge it considers to be public, reflects both the distribution of power and the principles of social control. From this point of view, differences within, and changes in, the organization, transmission, and evaluation of educational knowledge should be a major area of sociological interest. Indeed, such a study is part of the larger question of the structure and changes in the structure of cultural transmission… Educational knowledge is a major regulator of the structure of experience (1975: 85).

For Bernstein, the problem of knowledge is part of a larger problem of institutionalized social structure and the organization of schooling. Crucial to this framework is the principle of control, which serves as the key mechanism enabling the possibility for change. Through

mechanisms of control, the school has the potential to interrupt processes of social reproduction through forms of social structure, and thus, through communication (1975).

Much of the empirical research produced within this tradition pertains to issues of classroom pedagogy, where the teacher acts as an interrupter or reproducer of inequality (e.g. Hoadley, 2007; Morais, 2002). Bernstein (2000) conceives the classroom as an interactional context of communication in which knowledge is transmitted and acquired through a 'pedagogic relation'. Differences in the boundary between knowledge domains and the structure of social relationships generate different modes of communication (or discourses) in the classroom. Respectively, these principles of interaction are termed, the 'classification' of knowledge and the 'framing' of social relations. Where classification concerns differentiation and power, framing pertains to control or the regulation on communication between teacher and student. These dialectical concepts vary independently and are able to describe how knowledge is shaped through communication or pedagogy, referred to in the Bernsteinian literature as the 'what' and 'how' of teaching and learning.

At an organizational level, Bernstein's early work offers a "structuralist anthropology of schooling" (Atkinson, 1985: 20). Strongly influenced by Durkheim's (1961) notion of moral order and social solidarity and partly by Douglas' (1996) conception of cultural categories, Bernstein distinguishes between two kinds of relationships in schools. Drawing on the language of Parsons (1951), these are termed the 'instrumental' and 'expressive' orders. Though empirically indistinguishable, the former controls behavior and activity relating to knowledge and skills, while the latter regulates values, beliefs, and the moral system of the school. The instrumental order is potentially differentiating, where the expressive order is a source of social cohesion and a mechanism of consensus (Bernstein, 1975). For Bernstein, changes in these forms of control mirror broader changes in society's division of labor as conceived by Durkheim (1961). This dissertation utilizes Bernstein's distinction between instructional and non-instructional controls on communication to analytically isolate a kind of social relation whereby knowledge resources can be explored.

In sum, studies on the organizational structure of the school raise three significant points of analytical tension, which I aim to address in this study. The first is the basis of control and the extent that communication is regulated by bureaucratic and/or non-bureaucratic modes of authority, what Ingersoll refers to as an "odd mix" in the forms of control in schools (2005:

107). In making this distinction, I aim to understand how both formal and/or informal social relations control the form of communication in different ways. Second, I undertake to address a key distinction between the managerial or administrative domain and the technical domain of teaching. How communication is controlled within and between different domains of organizational activity is therefore considered. Third is the distinction between instructional and non-instructional (social) functions of the school. Given that communication, as a central organizational component, is often neglected in studies of the school as social organization, I draw on Bernstein's sociology to explore instructional forms of communication and to examine conditions for the distribution of knowledge. His theory offers a description of the principles that regulate communication systems and thus, social systems or organizations.

Alongside theoretical studies of school organization are more empirically oriented studies, namely the fields of school effectiveness and school culture. Both fields demonstrate correlations between academic outcomes and school-level variables. These variables provide some indication of where to begin looking from an empirical viewpoint in the study of teachers' relations and are used to develop hypotheses for this project.

2.2.2 From structure to process: School effectiveness and school culture

The school effectiveness tradition derives much of its impetus from Coleman and colleagues who argued, "schools bring little influence to bear on a child's achievement that is independent of his background and general social context" (1966: 325). Given the evidence during the 1960's that schools have little effect on children's academic outcomes (e.g. Jencks, 1979), the school effects movement challenged these pessimistic claims to illuminate the decisive role that education is able to play (Chitty, 1997). The movement positioned the school as the central explanation for differences in student achievement (Ball, 1995), and showed how, albeit in a limited way, that schools do make a difference.

In understanding what makes some schools more 'effective' than others, the production function model (adapted from economics) is one of the earlier and more widely adopted methods used to explain the impact of particular inputs (e.g. textbooks) on outputs (e.g. academic achievement) from large-scale samples (Jansen, 1995). While the method enables findings to be generalized across contexts, it also implies that context does not necessarily matter to the effectiveness factors of a school, a major criticism of this research tradition. In

light of these views, Edmonds (1979) developed a methodology in consideration of school context by identifying schools serving similar students yet achieving different academic outcomes. With a particular interest in poor students from poor homes, his is one of the most commonly cited reviews of research in this field in which he concludes with a 'five-factor' model for effectiveness:

> Effective schools… are instructionally effective for poor children [with] a climate of expectation in which no children are permitted to fall below minimum but efficacious levels of achievement… the school's atmosphere is generally conducive to the instructional business at hand… Effective schools make it clear that pupil acquisition of basic skills takes precedence over all other school activities… and some means must exist in the school by which the principal and the teachers remain constantly aware of pupil progress in relationship to instructional objectives (22).

Though various school effectiveness 'checklists' continue to emerge within the field (e.g. Teddlie and Reynolds, 2000), there has been a shift in focus from studies that identify discrete static variables toward 'process' variables that indicate how effectiveness is achieved (Jansen, 1995; Teddlie and Stringfield, 1993; Reynolds *et al*, 2014). Rutter, Maughan, Mortimore, and Ouston's (1979) study of inner city secondary schools in London brought significant attention to process variables in an attempt to answer the question: Does schooling make a difference, and if so, are some schools more effective than others (Moore, 2004)? One of the most significant findings from this study is that:

> It appears helpful for there to be some kind of consensus on how school life should be organized. For there to be an accepted set of norms which applies consistently throughout the school, it is necessary not only to have ways of ensuring that there is joint staff actions, but also that staff feel a part of the group whose values they share (194).

The study found that the *combined* measure of school processes, for instance, academic emphasis, stability in the teaching group, and patterns of decision-making, was stronger than any individual process variable. This suggested a cumulative effect of process variables, or a school 'ethos' impacting on school outcomes of attendance, behavior, delinquency, and academic attainment. Rutter *et al* also found that the extent to which teachers can improve their skills is partially dependent on the school in which they work, given that joint planning and opportunities for supervision and support were present in the more successful schools. Importantly, the study showed that the ideology underpinning the school's ethos is not necessarily relevant to its effectiveness (Moore, 2004), initiating further exploration in the field on the 'culture' or 'climate' of the school.

Scholars, such as Brookover *et al* (1978) and Mortimore *et al* (1988), developed frameworks for measuring 'climate' through an investigation of school norms and expectations, which they found to be related to academic outcomes. Some of the major methodological issues with this approach, however, are that it does not address how characteristics develop in schools, nor the mechanisms behind the relations, lacking a coherent conceptualization of the school as a complex organization (Nias, 1982). Although a seemingly useful way to explain the nature of social relations, the culture concept has been limited in its usefulness due to the wide variety of terminology and methods stemming from different trends in organizational theory (Prosser, 1999). A similar phenomenon of ambiguity is also present the sociological literature on culture (Wuthnow *et al*, 1987).

School culture has come to be associated more recently with studies of school improvement[1] as a critical variable that gives rise to change in schools (e.g. Schoen and Teddlie, 2008; Louis and Lee, 2016). Hargreaves (1995) offers a novel conception for investigating a school's culture, linking the concept to the work of Durkheim, Weber, and Marx. His model distinguishes between two domains of institutional culture: 'cohesion', which maintains social relations, and 'control', which ensures task achievement. He also theorizes two sets of social structure, often in tension, on which culture depends. The first is the tension between a 'formal' distribution of power (the division of labor) and an 'informal' network of individuals. The second is the tension between 'stability' and 'change'. Where the former is maintained by a bureaucratic structure, the latter is thought to develop through a variety of possible structures. In this study I utilize a similar set of dimensions in understanding the culture of the school, though I incorporate communication as fundamental to culture.

The field of school effectiveness has come to acknowledge the significance of school context (e.g. Hallinger and Murphy, 1986), raised as a serious concern by scholars of school culture. It has also seen significant development in its methods of statistical analyses and wider use of mixed methods. While the methodological approach is potentially able to provide claims of causality, other forms of theoretical development in this field remain limited (Reynolds *et al*, 2014). Curriculum is often taken as a 'given' (Chitty, 1997), which silences knowledge and its role within the school. Ball argues, "such research constructs a normative model of the

[1] My interest in the notion of change is specifically related to communication, or how forms of communication are ordered and changed. I therefore exclude school improvement studies, though often coinciding with school effectiveness, from this review. In Chapter 3, I set out a framework, which makes explicit how the notion of change, as it relates to communication, is understood and utilized in this study.

effective school and abnormalises the ineffective or 'sick' school" (1995: 261). In taking a normative approach, alternative explanations of effectiveness are inevitably set aside.

Nonetheless, school effectiveness research does indicate where to begin looking in the study of schools at an organizational level that may relate to differences in academic achievement. It is intriguing that some of the more common findings in this field have been relatively consistent, including Edmonds' 5-factor model (Rosenholtz, 1985; Purkey and Smith, 1983). From a state-of-the-art review of international effectiveness research, Reynolds *et al* (2014) note three additional correlates associated with schools in 'challenging' contexts. These are: "making the school a learning community that can, in a lateral fashion, identify and transmit 'good practice'; support from outside the school in key areas; [and the use of] additional resources to potentiate innovation and change" (211). This suggests more effective schools maximize their available resources, including cognitive resources.

Heeding criticisms of the school effects tradition, especially the significance of the social, economic, and cultural context, the validity of variables associated with achievement may be strengthened. I therefore look to some of the school effects research in South Africa and other developing countries followed by studies of outlier schools that achieve despite the odds to discern other salient variables associated with academic outcome.

2.2.2.1 Empirical studies of effective schools in developing countries

The National School Effectiveness Survey (NSES) is one of the most prominent attempts to explain differences in academic achievement across primary schools in South Africa. The mixed methods study followed a cohort of learners for three years, addressing the need for large-scale studies of leadership, management, and teaching (Taylor, Van der Berg, and Mabogoane, 2013). These foci are especially important given the evidence from SACMEQ that South African children achieve lower academic results than equally resourced children in other neighboring African countries (Spaull, 2011). In light of the bi-modal distribution of achievement in South Africa, as discussed in Chapter 1, the NSES considers effectiveness factors specific to the socio-economic status of the schools (Taylor, 2013).

From Taylor's (2013) modeling of education achievement from the NSES, findings confirm, what has been shown previously (e.g. Spaull, 2007), that the mean socio-economic status of

the school is an important predictor of academic achievement, stronger than the socio-economic status of any individual learner. School resource variables (e.g. textbooks) were not especially important determinants of achievement. Rather, it is argued that effective school management of resources is related to academic outcomes. Taylor found that instructional leadership, through time maximization, curriculum management, and utilization of resources, is an important component of school management. Findings from the NSES also indicate that assessment practices, teacher commitment and planning, teacher knowledge, and curriculum coverage are strongly linked to learner achievement.

Outside South Africa, research conducted in other developing countries points to similar variables to those demonstrated by the NSES relating to academic outcomes. From a review of school resources in developing countries, Glewwe, Hanushek, Humpage, and Ravina (2011) find only a few inputs have unambiguous results and that among the most consistent reflects teachers with greater knowledge of the subjects they teach, a longer school day, and the provision of tutoring. A more recent review by Glewwe and Muralidharan (2015) identifies supplementary remedial pedagogy and performance accountability by monitoring teaching and learning as two of the most significant variables that may improve educational outcomes. From a review of effectiveness studies in developing countries, Scheerens (2001) found a consistent and strong effect of material and human resource input factors, which seem to vary from those found in more industrialized countries.

The school effectiveness literature conducted in South Africa and in other developing country contexts strongly suggests that resources matter to the extent that they are utilized efficiently for teaching and learning. Leadership and management of instructional time, curriculum, and other cognitive resources are discerned as key variables on which academic outcomes likely depend. I therefore undertake a separate review of the leadership literature in Section 2.3. In the following section, I look to a second body of empirical research on outlier schools, given that the school sample of this dissertation is located in under-resourced contexts of poverty.

2.2.2.2 Empirical studies of outlier schools that achieve despite the odds

Outlier studies offer an indication of the kinds of social relations associated with effective schools in poor communities, or those that achieve significantly different performance outcomes than most schools in similar socio-economic contexts. These schools are often

characterized as ‘schools that achieve despite the odds’ or as ‘good schools in poor neighborhoods’. From the review I discern methodological issues as well as the most salient findings associated with teachers’ relations that pertain to instruction. The review includes a selection of 18 empirical studies conducted internationally in both developed and developing countries to explore patterns across contexts.

A weakness of this body of work, which I aim to address in this dissertation, manifests in the research designs employed. For instance, Maden and Hillman (1996), Christie, Butler, and Potterton (2007), and James *et al* (2006), exclude a control group of schools. The validity of their findings is undermined through the confounding of home background variables with organizational variables impacting on school performance. Outlier studies with the strongest validity are those that identify schools at multiple points along a performance continuum and match or group these schools with others in similar social, economic, and cultural contexts (Purkey and Smith, 1983), such as Teddlie and Stringfield (1993) and Taylor *et al* (2013). Longitudinal studies that employ measures of performance over time account for the dynamic nature of these schools, the nature of reform in education, and contextual changes and challenges, including staff turnover and community migration patterns.

Despite methodological limitations of outlier studies, findings from the review are largely consistent, from which seven themes are deduced that encompass various features shared by many of the schools. Table 2.1 ranks these themes on the left-hand side according to prevalence in the literature. Salient findings in the right-hand column may be classified as more or less prevalent when considered independently. I have excluded the theme of external relations with parents and the community given that this study is specifically concerned with social relations internal to the school.

Table 2.1. A review of outlier studies: Salient findings grouped by theme and priority

Themes	Salient findings
1. Professional development	• Staff value and share knowledge and expertise • Staff are supported by those with expertise • Teachers are given opportunities to learn from others • Teachers are given feedback on their performance
2. Collaboration	• Explicit roles and responsibilities • Teachers frequently plan together both formally/informally • Shared-decision making
3. Collective agency	• Teachers and principal take responsibility for self, others, and learners • Staff desire to constantly improve teaching and learning • Teachers and leaders are problem-solvers and innovative thinkers • Programs and strategies are developed in relation to the needs of learners, teachers, and the school as a whole
4. Expectations	• Shared and explicit academic expectations • Standards are set to frequently measure and monitor learner performance and progress • Shared and explicit behavioral expectations • Praise and rewards are allocated to teachers and learners • Students are given responsibilities beyond their academic work
5. Shared values	• Staff share a particular vision or purpose in their work • Staff share an academic emphasis in their work • Staff share a particular construct of good classroom teaching • School environment is respected by all and kept orderly
6. Instructional leadership	• Leaders interact frequently with teachers and are aware of their needs and how they are performing • Leaders monitor the quality of teachers' work • Leaders maintain norms and expectations • Leaders manage human resources and relations between staff members
7. Time management	• Purposefully extended allocation of time • Time is well regulated and managed for instructional purposes

The most recurrent finding demonstrated by outlier studies is the valuing and sharing of expertise for teachers' professional development. Teddlie and Stringfield (1993) found the quality of teachers' practice improved over time through processes of induction and mentorship. Teachers received regular feedback on their practice from specialists. Maden and Hillman (1996) illustrate how leaders developed teachers' expertise through its deliberate distribution across the school, often through meeting minutes and regular forms of verbal communication.

Across the literature, the concept of collaboration is used to highlight the presence of an explicit distribution of responsibility across grades, teams, and the school (e.g. Malcolm *et al*, 2000), and the specialization of leadership roles, including mentors and learning specialists (e.g. Maden and Hillman, 1996). Christie and colleagues (2007) depict a successful South African secondary school where teachers work inter-dependently due to the recognition of expertise in particular areas of mathematics. A high frequency of interactions for instructional support and planning also indicates collaboration within the literature. For instance, Maden and Hillman (1996) found that teams of teachers meet frequently with a clear purpose to plan, observe, and share best practices. Taylor, Mabogoane, and Akhoobhai (2011) observed, however, that the majority of teachers across high and low performing South African schools in their sample meet to discuss learner performance, suggesting the content or substance of the communication may be of more significance.

Underpinning the sharing of expertise is another prevalent finding, which is that teachers and principals take responsibility for their work as well as the work of others. Taylor *et al* (2013) characterize this feature as a 'proactive attitude toward improvement', similar to Maden and Hillman who depict a 'culture of continuous improvement'. Edmonds (1979), Prew (2007), and James *et al* (2006) found that outlier schools not only desire to improve, they are just as eager to avoid things that don't work.

Shared and explicit standards for academics and behavioral conduct indicate the presence of expectations (e.g. Scheurich, 1998), which may be translated into specific performance targets to measure and monitor progress and the level of cognitive demand (e.g. Clewell and Campbell, 2007; Malcolm *et al*, 2000; Teddlie and Stringfield, 1993). Maden and Hillman (1996) show how different kinds of measurement are used to monitor academic progress, including large-scale standardized assessments, school-based tests, and diagnostic tests. The behavioral models set by teachers and leaders assisted in the maintenance and promotion of school-wide expectations for conduct (e.g. Rutter *et al*, 1979; Taylor *et al*, 2013).

A collective purpose or vision for the school is shown to facilitate social cohesion, given that schools in poor communities face a range of challenges (e.g. Clewell and Campbell, 2007; Mulford *et al*, 2007; Henchey *et al*, 2001). School values reflect an 'academic emphasis', where staff and students cohere around the school's instructional program (e.g. Christie *et al*, 2007; James *et al*, 2006). At some schools, teachers construct a shared understanding of what

'good' practice looks like, which manifests in a number of ways; for instance, common lesson plan formats (James *et al*, 2007) or a focus on basic skills, such as mathematics and language (Teddlie and Stringfield, 1993).

School leadership emerges as a theme in a variety of ways, both in relation to external stakeholders and in relation to classroom instruction. Findings illustrate how school leaders manage relations with parents and the community to protect the school's integrity, and when necessary, act as a buffer to protect teachers' time (e.g. Prew, 2007; MacBeath *et al*, 2007; Taylor *et al*, 2013). Frequent monitoring to identify and support teacher needs, the maintenance of academic norms, and the management of human resources all indicate instructional leadership within the literature on outlier schools (e.g. Christie *et al*, 2007; Teddlie and Stringfield, 1993; Maden and Hillman, 1996).

Time is depicted as one of the most valuable resources to schools in poor communities, particularly because schools have equal access to and control over the extent and purpose of its use. Many of the outlier schools in these studies extend teaching time and regulate every hour of the school day in a focused manner (e.g. Bush *et al*, 2009; Malcolm *et al*, 2000; Taylor *et al*, 2013). Hallinger and Murphy (1986) show that the effective low-SES schools in their sample maximize instructional time through specialized remedial programs. Others found that extra lessons before and after school or on weekends were present (e.g. Henchey *et al*, 2001). Maden and Hillman (1996) show how teacher meetings were carefully thought through; staff knew which kinds of topics would be discussed in certain forums.

Two hypotheses for the study of teachers' relations are discerned from the review. The first is that a high frequency of instructional collaboration, in which time is valued as a resource, enables the circulation of expertise. The concept of collaboration, however, is highly ambiguous throughout the literature and requires clarification, which I attempt to do in this study. A second hypothesis is that there are two significant kinds of social relations necessary for academic success: those that *differentiate* staff, so that specialized knowledge resources can be recognized and activated, and those that *converge* staff, so that the school is able to face obstacles collectively. The following section more carefully considers studies of school leadership and management, given that it remains one of the most consistent variables associated with effective schools in South Africa.

2.3 School leadership and management

There is considerable consensus in the field of education that effective school leadership and management make a difference to learning. In understanding how this field of research bears on this study, I first consider the distinction between the terms, leadership and management, and examine how South African policy defines the division of labor in schools. Given that this study seeks to understand what conditions facilitate the circulation of knowledge across the school, I then consider, from a conceptual point of view, the 'distributed' leadership perspective and what kinds of knowledge school leaders might require. Section 2.3 concludes by reviewing empirical studies of leadership and management, which offer some indication of the forms of communication between teachers and leaders associated with academic outcomes.

2.3.1 Distinguishing leadership from management

An important matter in question is the distinction between leadership and management[2]. In some cases the terms are used inter-changeably within the literature, as though they signify a broader construct, while in others, leadership takes priority as the catalyst for school improvement. This raises the question, is a manager a leader? And, accordingly, is a leader also a manager?

The semantic distinction between leadership and management partly stems from principles derived from commerce, often reflected in education policy (Bush, 2008), an emphasis on school accountability (Heck and Hallinger, 2005), and from the way in which schools are conceptualized as organizations. While an explicit theorization of how the two concepts relate is limited within the literature, school management is generally understood as the processes that maintain *stability*, such as planning, coordinating, and policy implementation, based on rationalized efficiency and positional authority (Heck and Hallinger, 2005; Bush, 2008; Bolam; 1999; Hoadley and Ward, 2009). Leadership, on the other hand, is often conceived on the basis of influence (as opposed to authority) that promotes *change* or improvement by setting goals, direction, and vision and providing developmental support (*ibid;* Leithwood *et al*, 2004). With this distinction in mind, I turn to research that assists in

[2] The term 'management' is preferred across Britain, Europe, and Africa, compared to 'administration', which is more widely adopted in Canada, the USA, and Australia (Bush, 2008). In this study I employ the term 'management' given its widespread usage in the South African discourse of educational policy and research.

elucidating more clearly the specific role of school management and how management roles are positioned within the school's division of labor.

2.3.2 Role specialization and the division of labor in schools

Perhaps all research concerned with the principal's role is also concerned with the school's division of labor. Irrespective of whether a school is conceived as loosely coupled or more centralized, the division of work between teachers and principals has remained constant over the past century (Elmore, 2000). This division has important implications for how knowledge and skills are organized in schools, as roles signify the play of positions within the intellectual field (Bernstein, 2000). In Ingersoll's terms: "The division of labor is, at heart, a division of power – it is fundamentally hierarchical. By definition it limits the areas in which members have responsibility and authority" (1993: 27). School management may therefore be viewed as a specialized position within a hierarchical arrangement, denoting authority relative to others on the basis of status.

Given the relative status carried by different roles within the school, a role may be also viewed as a relational concept; roles take significance from their relation to other roles (Bernstein, 2000). According to Gamoran, Secada, and Marrett (2000):

> An organizational role, such as teacher, only has meaning when thought of in connection with some other role, such as student, principal, or parent. For this reason a sociological study of an organization calls for a study of relationships, centering on how relationships become ordered, how they change, and how they influence outcomes (59).

In this study, I attempt to incorporate the dimension of communication as a medium for order and change, through which roles, such as principal or teacher, take on their meaning in relation to others.

In the context of South Africa, the management of schools has devolved to a School-based Management Team (SMT), composed of the principal, deputy principal(s), Head(s) of department (HOD), and a teacher representative (South African Schools Act, 1996). Table 2.2 below synthesizes the instructional responsibilities of the different educator ranks set out by the South African Education Labor Relations Council (ELRC, 2003). The table excludes the deputy principal role, given that the role is not under investigation within this study.

Table 2.2. Instructional responsibilities of school-based South African educators by rank (adapted from ELRC, 2003: C64 – C68)

Role	Instructional responsibilities
Principal	• Manage school satisfactorily in compliance with legislation, regulations, and personnel • Promote education of learners according to policy and dependent on needs of school • Generate and implement timetables • Develop school-based staff training programs • Assist new and inexperienced educators to achieve objectives • Guide, supervise, and offer professional advice on the work and performance of staff • Serve on advisory, recruitment, and promotion committees • Cooperate with colleagues to maintain learning standards • Participate in professional committees to contribute and upgrade professional standards • Engage in teaching responsibilities as per workload of post
Head of Department	• Head of a subject, learning area, or phase; develop policy for that department, coordinate assessment, homework, written assignments • Provide and coordinate guidance on latest approaches to the subject, methods, evaluation, syllabi, practical and remedial work, inexperienced staff members • Control the work of educators and learners, including marks and test papers • Engage in classroom teaching • Responsible for effective functioning of the Department • Organize activities to promote the subject, learning area, phase and education of learners • Planning and management of text resources and subject work schemes • Advise principal on division of work amongst staff • Guide, supervise, and appraise the performance of staff • Cooperate with colleagues to maintain good teaching standards • Engage in teaching responsibilities as per workload of post
Teacher	• Engage in classroom teaching and organize relevant activities to promote learning • Coordinate and control academic activities of each subject taught • Prepare lessons with relevant approaches • Take on a leadership role in a subject or phase if required • Plan, coordinate, evaluate, and report on learners' academic progress • Assist the HOD to identify and address aspects which require special attention • Contribute to the professional development of colleagues by sharing knowledge, ideas, and resources • Cooperate with colleagues of all grades to maintain a good teaching standard

From the table, a division of instructional labor between the principal, HOD, and teacher indicates the most important forms of knowledge, where they are located, how they vary, and how they may be utilized within the school (Barr and Dreeben, 1983). Each role assumes a specialized function, differentiated from the other roles and requiring specific kinds of expertise. The necessity of specialized knowledge is exemplified by the supervisory responsibilities of principals and HODs through the provision of guidance and advice and the coordination of teachers' work. The HOD and teacher role categories may be differentiated

by grade or by subject, socially organized along lines of knowledge, such as the mathematics HOD or the grade 3 teacher.

In a recent study of six differentially performing South African primary schools, Hoadley and Galant (2015) demonstrate a relation between 'organizational specialization' and relatively better academic outcomes by drawing on the work of Bernstein, Weber, and Durkheim. A more complex division of labor with clearly bounded roles indicated stronger specialization in certain schools within their sample. Hoadley and Galant found that strongly specialized management roles in a particular higher performing school recruited specialized knowledge and experiences concerning pedagogy and the curriculum, which they term, 'epistemic' authority. In other schools, specialized management roles were not clearly associated with expert authority. Rather, bureaucratic authority was found on the basis of the position or tasks performed. This study points to an important analytic distinction between the tasks assigned to a role and the requisite expertise.

On role variety, Tyler (1973) draws from the language of Parsons and Bales (1955) and distinguishes between two conceptually distinct kinds of role specialization; that which arises from the 'task' or from the division of labor, and that which arises from the 'person' through the extension of expertise and skills into a narrower field. For instance, an elementary school teacher may have high personal specialization yet low task specialization (Tyler, 1973). This distinction aligns with what Parsons (1940) and Bernstein (1975) refer to as roles 'ascribed' and roles 'achieved', and with what Bernstein (1971) and Douglas (1996) classify as 'positional' and 'personal' control within a social system of roles. In each case a distinction is drawn between a specialized structural position or category and the specialized knowledge and skills characteristic of the individual within that category.

The distinction between specialized tasks and expertise provides a useful starting point for conceptualizing the role of principals and of school management in this study. If schools are mostly similar in their formal structural arrangement, in terms of the different ascribed tasks set out in Table 2.2 above, then an important axis of variation between schools may be the extent that roles, including management and teachers, are *achieved* on the basis of expertise. In this study, I aim to understand how different kinds of expertise are organized within the school's division of instructional labor. In what follows, I look to the distributed leadership perspective, given that school leadership and important forms of expertise may not solely

reside in formal management roles. In other words, an instructional leader might not necessarily be a school manager.

2.3.3 The distribution of leadership in schools

There has been a shift in recent years toward conceptualizing leadership as distributed[3] (Spillane, Halverson, and Diamond, 2004; Spillane *et al*, 2015) or dispersed (Hayes, Christie, Mills, and Lingard, 2004), which recognizes the significance of social relations and dynamic interactions. Though the framework has been criticized for a lack of conceptual clarity that hinders operationalization in research (Hartley, 2007), it assumes that a school leader may not necessarily reside in a formal position of authority. Teachers may take on informal leadership roles, mirroring some of the characteristics of teachers' professional community. In this dissertation, I adapt the distributed perspective to investigate informal leadership roles, which may explain how expertise is distributed and circulated through different kinds of social relation.

In a similar way to the distributed leadership framework, Elmore (2008) conceives leadership as the practice of improvement, defined as strategies for developing and for deploying knowledge and skills within school. To explain how leaders facilitate school improvement, Elmore distinguishes between a school's 'internal accountability' and its 'capacity'. The former is the degree of coherence in the school around norms, expectations, and processes, whereas the latter is the school's reservoir of knowledge that can be used to improve teaching and learning and simultaneously develop the school's internal accountability. From this perspective, as Elmore argues, leadership is "defined less by position and more by expertise" (51). Knowledge and skills are conceived as the primary instruments of improvement. I therefore take expertise to be a fundamental lever for change and examine how expertise may facilitate the development of instructional strategies through communication. This raises questions, however, around the kinds of knowledge and expertise leaders require, particularly that of principals, but also HODs.

[3] Leithwood *et al* (2004: 6) argue for skepticism toward models of "leadership by adjective," as a certain style may mask important aspects of leading a school effectively. At least eight different models of school leadership have been developed within the field, including instructional, democratic, transformational, moral, participative, managerial, distributed, and contingent (*ibid;* Leithwood and Duke, 1998). Each adjective denotes a particular normative orientation, largely in terms of a certain structural or cultural form. Because this dissertation takes a descriptive approach, I look to the distributed perspective to understand how knowledge may be recognized through different kinds of social relations, including leadership roles that are formally and informally ascribed.

2.3.4 Leadership expertise

Drawing on Shulman's seminal work (1986), Stein and Nelson (2003) shed some light on leadership expertise by conceptualizing 'principal content knowledge' from a qualitative study of instructional leadership. From their analyses, two kinds of knowledge emerge, realized at different organizational levels, that is, the classroom, school, and district level. These are:

- Knowledge of the substance or what the work is about, including subject knowledge and pedagogical content knowledge
- Knowledge of how to facilitate learning, including how students *and* how teachers learn and an understanding of where expertise resides within the school

While research of this nature is limited, mainly due to an overemphasis of studies on what principals do rather than on how they think about what they do (Stein and Nelson, 2003), findings indicate a potential avenue for conceptualizing the kinds of expertise that principals might draw from to facilitate instructional change. Following Robinson, Lloyd, and Rowe (2008), principal expertise that lies closest to the classroom may have the greatest impact on teaching and learning.

On leader expertise, Spillane (2005) argues that even though primary school teachers lack well-defined subject specializations, primary school leadership practices vary by disciplinary subject. Rather than treating instruction as a generic variable in primary schools, Spillane shows how sources of expertise in schools differ by subject, such as language arts or mathematics. Findings from a longitudinal mixed-methods study of a sample eight high-poverty elementary schools show that the manner in which leaders and followers interact, reason about particular issues, and utilize the curriculum and student test data significantly differs by school subject. These findings imply that to harness certain cognitive resources requires the recognition of differences in expertise between teachers who carry out similar instructional roles.

As Elmore puts it: "Giving [teachers] information in the presence of new knowledge and skill, under the right conditions, might result in the improvement of their practice, which might, in turn, result in increased student performance" (2008: 41). I therefore examine in this study differences in teachers' recognition of expertise, given that recognition may be a

necessary condition for its circulation. The following section turns to empirical studies of leadership and management conducted in South Africa to discern what forms of instructional communication between teachers and leaders are associated with student performance. This is followed by a brief discussion of international leadership research.

2.3.5 South African empirical studies of school leadership

In the South African context, Bush, Joubert, and Van Rooyan (2009) investigate management practices in eight township schools in which the principal had been participating in the pilot phase of a school leadership program[4]. The study explores the ways in which principals and HODs oversee and support curriculum implementation. From qualitative analyses of interview data and classroom observations, findings indicate various factors inhibiting learner achievement, which are understood to be school management issues. These are principals' weak grasp of curriculum requirements, who tend to retreat to their office; weak or dysfunctional monitoring systems for teachers' classroom practice; the evaluation of teachers' work for completion rather than quality; and a lack of time for HODs to support teachers professionally.

Findings from Bush *et al's* (2009) study were confirmed by the 2013 South African NEEDU[5] report, which demonstrates that some principals and HODs do not successfully maintain school functionality nor evaluate the quality of the substance of teaching and learning. In the context of South Africa, a well-functioning school management team may be an important condition for maintaining school functionality, laying the foundation for leadership practices to emerge (Dixon and Dornbrack, 2014).

From a review of South African-based studies that pertain to school management, Taylor (2007: 16) identifies four management practices associated with better than expected student performance:

[4] From 2009, the Advanced Certificate in Education (ACE) School Leadership and Management Program has been on offer to principals or aspiring principals in South Africa (Bush and Glover, 2009). Given that poorer schools typically have less qualified or less experienced principals, improving the caliber of principal leadership in South African schools is critical to improving the provision of a quality education to all (Wills, 2015).

[5] The National Education Evaluation and Development Unit report (Taylor, Draper, and Sithole, 2013) investigated a sample of rural schools in all 9 provinces to identify factors that inhibit and advance school improvement.

- Regulation of time
- Monitoring and support for curriculum planning and delivery
- Procurement and management of books and stationary
- Quality assurance of tests and monitoring of assessment results

These practices support Bush *et al's* (2009) findings above and imply the maintenance of instructional stability and school functionality, all generally considered management functions. Hoadley and Ward (2009) draw from these and other findings to investigate how certain leadership factors relate to improved student outcomes from a large-scale stratified sample of secondary schools in the Western and Eastern Cape provinces. Analyses demonstrate that 'improving' schools maximize time during the school day, implement programs to improve performance, monitor curriculum coverage, and manage teaching and learning resources effectively. Although distributed leadership was not a statistically significant variable, descriptive data indicates that the management of curriculum and instruction is dispersed across improving schools within the sample, particularly between the principal and other senior managers, such as HODs.

In a more recent study, Taylor, Gamble, Spies, and Garisch (2013) employ a case study design for a sample of 10 primary schools given the difficulty in establishing how leadership impacts on learning through quantitative methods. The study shows that certain leadership and management activities, predicted to have the greatest potential for improvement, were not well developed in any of their schools, including those performing above demographic expectations. The two key leadership activities absent in their study are strategic resourcing and the promotion of teacher professionalism, suggested by Robinson *et al* (2008) as two central leadership practices associated with academic outcomes. On the contrary, Taylor *et al's* (2013) findings demonstrate that the key levers for improving learning in their sample are a coherent focus on instruction, where clear goals are set and communicated to staff and learners, and optimal use of time for teaching and learning.

On closer inspection, Taylor *et al's* (2013) indicators for strategic resourcing do not include human resource management, nor do notions of professionalism or instructional leadership consider how knowledge resources might be utilized to support teaching and learning, a key issue with which this study is concerned. From the South African leadership literature, it is clear that not all managers are necessarily leaders. Sound management is found to be a

critical practice for instructional forms of leadership to emerge. This study thus examines the forms of communication between teachers and managers that relate to curriculum planning, assessment, and delivery.

2.3.6 International empirical studies of school leadership

Leithwood *et al* (2004) argue that the impact of leadership is second to teaching, relative to other school factors, and its impact is especially greatest in schools where the learning needs of students are highest. The authors contend there are very few, if any, documented instances of under-performing schools being turned around without a strong leader. What is far less clear, however, is *how* school leaders impact on learning in the classroom. The issue has been termed the 'elusive search' for a link between leadership and learning (Hallinger and Heck, 2010), and many have found modest and/or indirect effects on student outcome (Robinson *et al*, 2008; Louis, 2015). Communication is foregrounded in this dissertation as a potential medium through which instructional leadership is made possible.

From a meta-analysis of leadership studies conducted in various countries, Robinson *et al* (2008) found professional relations with the principal, characterized as formal and informal discussions about instruction, to have the largest mean effect size on student outcomes. The principal is recognized as more knowledgeable and as an accessible source of instructional advice. The leadership practice with the second largest mean effect size, demonstrated by Robinson and colleagues, is the planning, coordinating, and evaluating of the curriculum. This tends to be evidenced by collegial discussions on how specific pedagogical work impacts on student achievement; classroom observations followed by the provision of feedback; and the systematic monitoring of academic progress. Both leadership practices associated with improved student outcomes are dependent on a form of communication.

In light of much leadership research that neglects educational content and leaders' knowledge of pedagogy, Robinson *et al* (2008) contend, "…the closer educational leaders get to the core business of teaching and learning, the more likely they are to have a positive impact on student outcomes" (664). From extensive quantitative evidence suggesting small and indirect effects of leadership on learning, a greater understanding of the qualities of leadership practices is needed (Leithwood *et al*, 2004; Hallinger and Heck, 1998), as well as more descriptive types of analyses (Timperley, 2009), which I aim to address through a qualitative

approach. In the final section of this chapter, I consider literature on teacher professionalism to discern the forms of social relation and knowledge associated with the technical domain of the school and academic outcomes.

2.4 Teacher professionalism

While the education sector is largely organized around a core system that functions as a bureaucracy, often using bureaucratic levers to effect change through policy or program implementation that originate outside the occupation (Mehta, 2013), an enormous wealth of research that promotes teacher professionalism has arisen (e.g. Hargreaves, 1999; Stoll and Louis, 2007). Dreeben (2005) notes, however, that professionalism, for instance in law and medicine, is not necessarily inconsistent with bureaucratic forms of organization; rather, the key issue is whether an occupation such as teaching can efficaciously deploy its reservoir of specialized knowledge in a bureaucratic setting. The impetus of the intellectual (and political) movement toward professionalizing teaching is based on efforts to improve pedagogy through professional development.

Demarcation criteria for recognizing what may be considered a profession is both ambiguous and at times, contested, though what tends to elude scholarly attention is what that knowledge is that professionals have had to acquire (Young and Muller, 2014). Nevertheless, what are generally assumed to be key indicators of a profession include the deployment of specialized expertise, based on a shared, codified knowledge base; technical autonomy in the field of practice; a normative orientation and commitment to moral, ethical, and social conduct; social and material rewards of work; and self-regulation or collegial control over practice (*ibid*; Grace, 2014; Mehta, 2013; Bernstein, 2000; Hall, 1968).

The two key indicators of professionalism that I examine for the purposes of this study are specialized expert knowledge and the nature of collegial relations. The following sections consider each in turn, highlighting various issues relating to the concept of collaboration and how different forms of expertise come to be recognized, shared, and developed by teachers through instructional forms of communication.

2.4.1 Knowledge, expertise, and pedagogy

Specialized knowledge is the hallmark of professions and arguably one of the key resources on which teaching and learning depend. This is especially significant given the evidence that teachers' content knowledge in reading and mathematics is substandard in the majority of South African primary schools (Venkat and Spaull; 2015; Taylor and Taylor, 2013). While the teaching profession is far from sharing an established, codified[6] knowledge base or a common language through which to describe pedagogy (Hierbert, Gallimore, Stigler, 2002; Dreeben, 2005), the professional status of teaching is in a state of development, mostly in terms of its social organization and disciplinary robustness (Muller, 2009). A useful starting point then is to consider the nature of the knowledge that teachers' require.

As central to professional work, Young and Muller (2014) distinguish between specialized knowledge ('know that') and practical expertise ('know how'), often distinguished as theory and practice. The scholars argue, however, that specialized knowledge is more than theory-based or specialized to develop conceptually. Knowledge may also be specialized to a contextual purpose, reflected in craft professions such as cabinetmaking. Specialized 'for-purpose' knowledge addresses technical problems as a means to arrive as "more elegant and efficient solutions" (*ibid*: 9) or techniques, moving from the 'general' to the 'particular'. For teachers, this may reflect craft knowledge for addressing particular problems of practice (e.g. Hiebert, Gallimore, and Stigler, 2002; Taylor and Taylor, 2013). From this view, pedagogy relies, in part, on teachers' specialized knowledge *for the purpose* of teaching that is dependent on local context.

Certain types of specialized knowledge may be acquired and modified in different ways. For instance, knowledge may be acquired from an expert in a formal setting or tacitly through the enactment of the practice, informal observations, and advice seeking (Bertram, 2011; Spillane *et al*, 2012; Gamble, 2014). On the 'knowledge culture' of the teaching profession, Nerland (2012) offers a useful conception of how teacher knowledge is organized in terms of its production, accumulation, distribution, and application in practice. Nerland contends

[6] Emerging alongside empirical studies of teacher knowledge are broader debates around knowledge codification. The debate is partly due to different conceptualizations of teaching that either foreground or background the role of knowledge and its purpose in schooling. Whether a codified scientific knowledge base would deny the context specificity, practical judgment, and craft of the profession or whether it would enhance it through public verification and theoretical development is the matter in question (Taylor, 2014; Sockett, 1987; Hiebert, Gallimore, and Stigler, 2002; Hargreaves, 1999).

teacher knowledge, as mostly experiential and 'practice-oriented', is largely bound by the local context of a school community and distributed through interactions and oral, face-to-face communication. The accumulation of knowledge for teaching tends to be an individual enterprise as a result of teacher-initiated interactions to acquire support. It follows that specialized knowledge for the purpose of teaching is 'mediated' by the social relations of teachers in schools. The form of communication generated by teacher interaction is therefore a key organizer of knowledge for teaching and learning, which serves as a primary focus of this study.

Shulman's (1986) seminal distinction between three types of teacher content knowledge has attracted enormous scholarly attention, both empirically and theoretically, in terms of the categories of what teachers should know. These are:

- *Subject knowledge*, defined as concepts and principles of a discipline, how they are organized, defined, warranted, and central or peripheral to instruction
- *Pedagogical content knowledge*, defined as the most useful forms of conceptual representation, how to formulate knowledge to make it comprehensible for students, strategies to reorganize students' understanding
- *Curricular knowledge*, defined as the selection, sequencing, and pacing of contents, how lessons relate to contents previously taught and content that will be taught

As demonstrated in Chapter 1, literature on the impact of teachers' subject knowledge has shown mixed results (e.g. Monk, 1994; Spaull, 2011; Taylor and Taylor, 2013; Shepherd, 2015), which suggests the relation between teacher knowledge and student learning is not self-evident. In Shepherd's (2015) terms: "…not all teachers with poor content knowledge are ineffective teachers, and not all teachers with good content knowledge are effective" (32). For instance, Taylor and Taylor (2013) cite insufficient subject knowledge, bad pedagogy, and poor language facility as possible reasons for high-teacher low-learner scores on the SACMEQ III mathematics tests. Shulman was quite clear in his early conceptualization that content knowledge may be "as useless pedagogically as content-free skill" (1986: 8). Thus, the cleavage between subject and pedagogical content knowledge is not clear-cut; both are critical to learning where the former underpins the latter.

There is growing evidence to suggest that pedagogical content knowledge (PCK) positively impacts on learning in the classroom, which may be conceived as specialized knowledge for the purpose of teaching. Hill, Rowan, and Ball (2005) found that PCK, or 'content knowledge for teaching mathematics' (CKT-M) was the strongest teacher-level predictor of student gain scores in mathematics for grades 1 and 3, more so than time spent teaching mathematics and teachers' home background variables. A series of questionnaires were conducted over four years across 115 elementary schools that examined how teachers interpret students' statements and solutions, the use of accurate representations, and appropriate definitions and examples of concepts, algorithms, and proofs. Hill and colleagues conclude that an inequitable distribution of CKT-M follows lines of socio-economic and ethnic groups and could be a possible reason for broader achievement gaps.

Studies of teacher knowledge offer a conceptual language for describing and differentiating between types of knowledge and expertise that may circulate in schools. In what follows, I consider a related field of research concerned with a second indicator of professionalism: collegial relations that maintain standards of practice and facilitate its development.

2.4.2 Empirical studies of teachers' professional community

Concepts of professional community, organizational learning, and professional learning community (PLC) have received global scholarly attention as levers for school improvement. Studies of professional community typically investigate formal and informal teacher behavior associated with indicators of professionalism that are naturally occurring (Louis, 2015). Communities of practice, though a somewhat different yet complementary concept, rooted in the Vygotskian frame, is less concerned with professionalism yet is similarly focused on teachers working together to improve their practice (Louis and Lee, 2016; Little, 2002a; Louis, 2015). PLC research tends to initiate change[7] in the school's institutionalized structure that has traditionally governed teaching (Vescio, Ross, and Adams, 2008; Louis, 2015), specifically, the individualistic and isolated work orientation that Lortie (1975) and Bidwell (1965) stressed decades ago.

[7] The literature warns of 'contrived collegiality' resulting from PLC policy, defined as forced and artificial collaboration imposed from above (Hargreaves, 2003). Others have stressed that collaboration can perpetuate or reproduce ineffective practices (*ibid*; Little, 2002a). Further, a high performing school may be oriented toward conserving existing practice rather than improving it, whereas a low performing school in a high poverty setting may preserve the status quo through substandard practices, thus in need of improvement (Bryk, Camburn, and Louis, 1999).

The body of research on teacher professional community assumes student outcomes improve by enhancing teacher practice. Teacher practice is assumed to improve through collaboration, shared norms and values, reflective inquiry-based dialogue, and de-privatized practice, which promote teacher learning and enhance the school's collective capacity for improvement (Stoll et al, 2006; Little; 2002b; Ronfeldt *et al*, 2015; Horn and Little, 2010). The school is viewed as a mediating context for teaching, hypothesized to be as important as what happens in classrooms (Stoll *et al*, 2006).

One of the first studies to illuminate professional community was that of Talbert and McLaughlin (1994), who found that the way in which teachers work with their colleagues was associated with higher levels of professionalism and shared standards for curriculum and pedagogy. While outcomes have been conceptualized differently across studies, the evidence is encouraging that PLCs and certain types of collaboration are associated with student achievement (e.g. Vescio *et al*, 2008; Ronfeldt *et al*, 2015). Be that as it may, the specific interactions through which teachers recognize and access knowledge resources or how instructional practices "come to be known, shared, and developed" is far from clear within the literature (Little, 2003: 913). This is due in part to the normative approach taken in conceptualizing teacher behavior and pedagogy (e.g. Hargreaves, 2003; Louis and Marks, 1998; Andrews *et al*, 2007).

'Collaboration' has been an elusive concept with little indication of how it is taken up in practice (Ronfeldt *et al*, 2015). Tacit knowledge is often assumed to convert into shared knowledge through collaboration (Fullan, 2001; Hargreaves, 1999). A community or de-differentiated workplace is foregrounded over individualism through cross-disciplinary relations and the dissolving of specialized task structures to impede balkanization and reinforce cohesion (Lee and Smith, 1996; Louis and Kruse, 1994). Professional cohesion, or shared norms and values, is seen as the ideal form of control over teaching, as opposed to bureaucratic structure (Johnson, 2009). From this view, it is unclear where particular forms of expertise reside and how these forms are utilized, through interaction, to develop teachers' practice. As Bridwell-Mitchell (2015) argues, diversity within a community of teachers is crucial as new or innovative ideas most likely come from those who think differently in some way; whether teacher interactions maintain or change institutionalized practices depends *both* on the degree of cohesion and the degree of diversity.

There are particular strands within the literature that offer somewhat more descriptive insight into how knowledge resources might be realized through certain forms of collaboration. Peterson, McCarthy, and Elmore (1996) examine three cases of restructuring elementary schools to examine the nature of its effect on teacher practice. Interview and observation data reveal that school structures provide teachers with opportunities to learn new instructional strategies, but structures alone do not cause teacher learning to occur. Rather, learning is promoted by the sharing of ideas, enabled by an extensive set of social and disciplinary relationships. From a study of two secondary schools, Little (2002b) shows how professional community adopted at an organizational level left teachers weakly organized to improve their practice within subject domains. Little argues that subject-specific understandings shape how teachers recognize, analyze, and respond to students' learning difficulties.

These studies highlight an instructional basis for teachers' relations and demonstrate what others have suggested (e.g. Talbert and McLaughlin, 1994; Gamoran *et al*, 2005; Louis and Lee, 2016): the tendency for teacher professional community, or collaboration, to follow lines of subject groupings and/or grade groupings, which may be conceived as knowledge domains. These findings also explain why professional community tends to be stronger in the primary schools than in secondary schools, given that teacher collaboration at the high school level is typically based on more strongly specialized knowledge domains (*ibid*).

In the South African context, Brodie (2013) examines the content of teachers' collaborative inquiry from qualitative observations of three PLCs to understand how teachers work with classroom data and identify problem areas. This 'data-informed practice' occurs through analyses of assessments, learner interviews, and curriculum mapping, implying more of an instrumental approach. Brodie shows that teachers can move beyond what they know and develop their knowledge conceptually within a PLC. She argues that by understanding students' needs, teachers may come to understand their own pedagogical needs, including what content knowledge they need to learn and how to use new knowledge to improve their practice. Yet to learn new knowledge raises the issue of expertise, where it resides, and its role in developing teachers' knowledge and pedagogy.

A recent large-scale study of the content of collaboration in 336 schools in Miami, Florida substantiates Brodie's argument, where Ronfeldt, Farmer, McQueen, and Grissom (2015:

449) found that “all collaborations are not equal – or equally productive,” and the two primary kinds of collaboration associated with gains in student learning are:

1. Analyzing student data to develop instructional responses
2. Curriculum and instructional decision-making and development of teaching strategies

Ronfeldt *et al* also found that individual teachers who reported engaging in better quality collaboration, perceived as extensiveness and helpfulness in particular instructional domains, demonstrated relatively higher student achievement gains, after controlling for the effects of school-level collaboration. The authors conclude naturally occurring collaboration pertaining to a variety of instructional domains is the most consistent predictor of student achievement gains, thus “individuals benefit from seeking out and taking advantage of available collaborative resources, regardless of how rich these resources may be” (509).

Brodie (2013) and Ronfeldt *et al* (2015) offer some insight into what forms of instructional communication might be most important to teaching and learning. Both studies found analyses of student data to be an important kind of collaboration, which resembles Abbott’s (1988) distinguishing acts of professional practice: *diagnosis*, *inference*, and *treatment*. A problem is classified and reasoned about through inference and expertise, followed by an action to achieve a predicted outcome. Analyses of student data also speak to what Hoadley and Muller (2016: 2) refer to as the “pedagogic potential” of testing. From interviews with staff in 14 South African primary schools, findings show how instruction, teachers, and students are ‘read’ or interpreted through test results. In the case of instruction, test results may signal criteria for the selection, sequencing, and pacing of contents in the classroom. Testing may also signal where teacher expertise resides, enabling a more efficient distribution of knowledge resources in low resource contexts. In a similar way, students may be distinguished in terms of what they know, enabling remediation or individualizing pedagogic strategies.

Louis and Lee (2016) investigate ‘organizational learning’, conceived as searching for, sharing, and evaluating information, across a stratified random sample of 117 schools in the USA. The authors found professional community, as indicated by reflective dialogue, de-privatized practice, and shared responsibility, to be the strongest predictor of organizational learning, more so than academic emphasis, support, and trust. Findings also show there is no

significant relation between teachers' capacity for organizational learning and high poverty contexts. Although this study found trust to be a less significant variable, there has been an emergence of research that brings together professional teacher relations and social capital theory that depends, in part, on teacher trust. Some have also shown how social capital predicts academic outcomes (Leana and Pil, 2006).

Motivated by Coleman (1988) and by Bourdieu's (1986) theories of social capital, a number of studies suggest how forms of collegial relations, or 'ties', facilitate access to resources, including cognitive, social, and material (e.g. Spillane, Kim, and Frank, 2012; Spillane, Hopkins, and Sweet, 2015; Bridwell-Mitchell and Cooc 2016; Gamoran *et al*, 2005; 2000; Mulford, 2007; Bryk, Camburn, and Louis, 1999). Social capital theory offers an explanation for how teachers' social relations may facilitate the creation of human capital and productive activity (Coleman, 1998). From empirical research, a notable distinction arises between 'formal' and 'informal' relations.

Spillane *et al* (2015) examine teachers' instructional interactions to discern the relation between formal organizational structure and perceived expertise. From a sample of 28 schools across 2 districts, the authors found that routines and formal positions signal to staff where expertise resides in schools. Thus the formal organizational set up was found to supersede individual characteristics in forging ties and influencing advice-seeking behaviors. In contrast, Bridwell-Mitchell and Cooc (2016) explore features of informal teacher relations, how teachers make choices about the community of colleagues with whom they interact, and the maintenance of those ties. From their longitudinal study of four elementary schools that vary in performance, findings show that cohesion between teachers, or the frequency, degree of attachment, and overlapping, mutually reinforcing ties among community members, is a key factor in the maintenance of the tie, more so than individual characteristics or formal organizational factors. The authors caution that although cohesion may have positive social capital benefits for schools, it can also undermine innovation due to similarity, overlapping relations between teachers, and increased pressure to conform.

The professional community literature highlights the need to examine more carefully the nature and form of teacher interactions about instruction, the tension between cohesion and diversity, and how knowledge, that enables the development of teachers' practice, comes to be recognized within the school through formal and/or informal kinds of social relations. This

dissertation attempts to address each of these issues, by developing a descriptive analytical framework. In my concluding remarks below, I reflect on the entirety of Chapter 2 to resolve some of the key tensions and to inform, empirically and conceptually, the study of the organization of knowledge in schools.

2.5 Toward a perspective on the social organization of knowledge in schools

This chapter set out to critically address the follow question: How has prior research understood teachers' social relations that pertain to knowledge and instructional forms of communication? Studies of the school as a social organization, leadership and management, and teacher professionalism were considered as three complementary perspectives on teachers' relations. Throughout the chapter, I identified various conceptual tensions relating to teachers' relations as well as some of the methodological limitations of empirical studies. From the review, four empirical domains are hypothesized as key to the investigation of how knowledge is socially organized in schools. These are:

- How often knowledge is made accessible
- Where knowledge and expertise reside within the school
- What specific kinds of knowledge and expertise are made available
- How the circulation of knowledge is controlled through teachers' relations

The first domain of inquiry, as to *how often* knowledge is made accessible, emerges from the wealth of research highlighting the significance of time used for instructional purposes. Though differences may be present in how school managers maximize and regulate time, all schools have equal access to and control over how time is utilized during a school day. It is therefore hypothesized that a higher frequency of teacher interactions regarding instruction enables greater access to knowledge resources within the school. A higher frequency of instructional interactions may also serve as an indicator for the strength of cohesion and the degree of trust between teachers, facilitating the development of social capital and the maintenance of social ties.

W*here* knowledge resides concerns the tension between diversity and cohesion in schools. Though both may be fundamental to school stability, the recognition of differences in expertise may be a precondition for change and development. An investigation of recognition

would require a consideration of the formal division of instructional labor and informal kinds of expert leadership. In the first instance, the division of instructional labor signals where expertise is potentially located within an intellectual field of specialized positions or roles, which may shed light on the tension between bureaucratic status and expertise. Second, the informal recognition of differences in expertise may further signal where cognitive resources are located. The study of a school's reservoir of knowledge and skill therefore entails a consideration of formal and informal kinds of recognition.

The types of knowledge and skill that may be key to improving learning outcomes include those that are specialized to develop conceptually along lines of disciplinary or subject domains and those specialized for the purpose of teaching. Formally termed, these are subject knowledge and pedagogical content knowledge, where the latter is dependent on the former and translates teachers' knowledge into pedagogy.

To understand *what* specific kinds of knowledge and expertise are made available to teachers requires an investigation of teacher interaction, collaboration, or the forms of instructional communication in which knowledge and skills 'come to be known, shared, and developed'. If communication is a central organizational process, then communication may also be a source of instructional stability and change and a medium for leadership and management. Of primacy for pedagogical improvement may be communication that concerns analyses of student data to develop instructional strategies, reflections on classroom practice, and curriculum decision-making. Discussions of assessment tasks may further enable the recognition of differences between teachers and differences between learners.

The social structure of teachers' relations emerges as a mechanism for control in which certain kinds of social structure provide optimal conditions for managing instructional issues. A key tension between bureaucratic and professional authority manifests across much of the literature reviewed. Rather than holding the two in opposition, a nuanced analysis of both bureaucratic and professional relations may reveal *how* the circulation of knowledge is controlled in different ways in schools. This would entail an investigation of formal and informal kinds of communication thus implying certain bases of control that structure teachers' social relations in particular ways.

In the following chapter, I recruit conceptual resources that bring together a theory of knowledge, social relations, and communication. I do this by drawing on the conclusions from this review couched within a conceptual set of resources largely from the work of Bernstein. The chapter constructs a framework to describe, theoretically, how knowledge is socially organized in schools. Chapter 4 brings together the empirical perspective and the theoretical framework to produce a research design that heeds some of the methodological limitations outlined in this chapter.

Chapter 3

Framing the study:
A sociological theory for the organization of knowledge

3.1 Introduction

In the preceding chapter, four empirical domains for the study of how knowledge is socially organized were derived from a review across three sub-fields of inquiry, all broadly located within a sociological frame offering varying perspectives on teachers' social relations. In this chapter, I describe the theoretical antecedents of study, drawing on the work of Durkheim, Bernstein, Douglas, and Weber who demonstrate linkages in their intellectual contributions. Bernstein and Douglas reflect similar themes of boundary and control, and to a great extent, a structuralist take on Durkheim's profundity of social organization. Weber offers the tools for examining the basis of authority and the possibility for change. I then draw selectively from these antecedents to construct a theoretical framework. Following Bernstein (2000), it is from the conceptual or 'internal' language that an empirical or 'external' language is derived and able to 'read' the data unambiguously, presented in Chapter 4. I conclude this chapter by establishing the study's framework through which the social organization of knowledge may be conceived and analyzed at a level of abstraction.

3.2 Durkheim, solidarity, and the division of labor

The conceptual framing of this dissertation was inspired by Durkheim's, *The division of labor in society* (1933). Throughout his work, Durkheim expresses a central theoretical concern with the social bond. On the one hand, he sought to reconcile the tension between individual freedom and a broader social order that motivates and constrains. On the other hand, he sought to understand how forms of social organization could produce solidarity and maximize individuality (Thompson, 2002). These concerns partly arose from changes in the forms of social order and the division of labor that Durkheim observed in French society in the 19th century.

For Durkheim, the moral order of society, or that which unifies and attaches individuals to something other than themselves, is the 'conscience collective' (1933). It is the totality of

collective beliefs and sentiments, a form of cultural regulation (Thompson, 2002). When man works toward goals superior to, or beyond, individual goals, man acts morally; morality in practice involves consistency, predictability, and regularity of conduct, some sense of authority where we are constrained to act in certain ways (Durkheim, 1973; Wuthnow, 1987). As Parsons (1960) argues, Durkheim's concept of the conscience collective offered a social basis for collective order, though it could not account for the phenomenon of *unity in diversity*, or the solidarity displayed by the integration of a highly differentiated social system.

To account for increasing social diversity, Durkheim deduced changes in the forms of social solidarity from the study of norms established in juridical rule and the progression from primitive to modern industrialized societies. From the perspective of the individual, there are two forces at work, centripetal and centrifugal, each relating to the individual's membership in society (1933). Both forces, propelling the individual toward or away from the conscience collective, cannot develop simultaneously. Here, Durkheim raises the tension between the individual and the collective observed in the shift towards individuation, or the loosening of the social bonds that bind the individual to the collective (*ibid*; Thompson, 2002). The shift expresses two dominant forms of solidarity, that which arises from similitude and that which arises from the division of labor, termed 'mechanical' and 'organic' solidarity, respectively (Durkheim, 1933).

Mechanical solidarity is expressed by a homogenous, static, and segmental social structure where the social bond is based on mutual resemblance and likeness. The action of the individual follows that of the collective and is consequentially limited by its regulation (Durkheim, 1933). As the division of labor develops with the individualization of specialized functions, each individual comes to have a "sphere of action […] peculiar to him" (*ibid*: 131). The needs of the individual cannot be met solely by their own activities; thus, by virtue of specialization and increased interaction, individuals become dependent on the activities of others (Parsons, 1960; Thompson, 2002). As a result, organic solidarity and interdependence are produced. Under organic solidarity, social cohesion is as strong as the degree of individuation (Durkheim, 1933). As the collective embraces the individual and permits autonomy or freedom of movement, it becomes more capable of collective action. Durkheim maintains, however, that labor is never completely original or free of control; there remains a

degree of conformity in the practice of any profession (*ibid*). Mechanical solidarity is therefore never completely erased (Merton, 1934).

Durkheim's invaluable contribution to sociology and to the sociology of education offers a point of departure for understanding the tension between social integration and social regulation, that is, between social solidarity and control. I derive from Durkheim that both are necessary aspects of social order and may be adapted for the investigation of specialized knowledge in schools. From Durkheim, I also derive a critical proposition, which is that the growth of knowledge is associated with specialization and an intellectual division of labor (Young and Muller, 2016). I therefore conceive the school to express a form of social order that reflects the phenomenon of unity and diversity (or cohesion and specialization) that is regulated by a mode of social control, which may be termed a 'school order'. It is within this school order that knowledge is organized and may be circulated as a pedagogic resource.

In what follows, I look to Bernstein's sociology of education, whose work adapts Durkheim's notion of solidarity in relation to the school, to expand the concept of school order and to integrate knowledge, communication, and control more fully.

3.3 Bernstein's sociology of education

Broadly located in cultural reproduction theories, Bernstein's sociology is one of very few theories that has been able to connect different contexts of experience, such as family, work, and education, and different levels of regulation on knowledge from the national down to the individual level (Bernstein and Solomon, 1999). His work has been dedicated to understanding the social organization of knowledge, the manner of its transmission, and the power relations on which knowledge rests (Bernstein, 1975).

3.3.1 On the order of the school

How does the school act as a source of social, occupational, and cultural change? How is the school able to provide children with access to "other styles of life" and "modes of social relationships" (Bernstein, 1975: 33)? These questions motivate much of Bernstein's early work on the order of the school and explicitly concern issues of cultural reproduction. Though much of his writing privileges the student-teacher relation and resembles conceptual 'sketches' rather than empirically tested propositions, Bernstein's conception of the school

offers analytical tools for the analysis of the teacher role and for the organization of knowledge (Atkinson, 1985). His understanding of the school as a social form is derived from Durkheim's notions of moral order, cohesion, and attachment to the collective.

From one of the first iterations of the theory on consensus and disaffection in education, Bernstein (1975) distinguishes between two inter-related orders of social structure that constitute the moral order or culture of the school (briefly reviewed in the previous chapter). These are the 'expressive' and 'instrumental' orders of the school. The expressive order controls the complex of behavior and activities to do with conduct, character, and manner and binds the school together as a "distinct moral collectivity" (*ibid*: 34). The instrumental order controls the complex of behavior and activities to do with the acquisition of knowledge and specific skills, which is potentially divisive in function, or differentiating. Bernstein argues that the two orders reflect a source of strain within the school, for instance, where the expressive order is weak, cohesion between pupils and staff may become weakened.

On the one hand, the instrumental and expressive orders serve as differentiating and converging orders realized for different purposes, reflecting the Durkheimian tension between individuation and the conscience collective. On the other hand, Bernstein is distinguishing between two primary functions of schooling, which may be conceived simply for now as instructional and social functions.

In a corresponding analysis of ritual in education (1975), Bernstein explores ritual's symbolic role in the school by expanding the concepts of instrumental and expressive order. He considers the forms of social relation that control the transmission of symbolic meanings, including knowledge. If knowledge is rationally organized and transmitted hierarchically within the school, Bernstein argues that the instrumental order would take a bureaucratic form. On the other hand, the expressive order, or the norms of conduct, character, and manner, would be transmitted through ritual. Bernstein draws a distinction between 'consensual' rituals, which give the school a distinct identity and facilitate sentiment toward the dominant value system in society, and 'differentiating' rituals, which mark out groups or individuals on the basis of status, such as age or gender. In this way, the theory posits different social bases of control, bureaucracy and ritual, which fulfill different social ends within the school.

It is possible, as Bernstein suggests, that as the instrumental order strengthens in its alignment with the demands of the occupational system and the ideal of educating for diversity, the expressive order may weaken. This would effect an organizational shift in the school from a 'stratified' to a 'differentiated' form (1975). From a Durkheimian stance, the school would reflect the movement from mechanical to organic solidarity, from social segments organized on the basis of fixed attributes and common values to a differentiated whole organized on the basis of individual characteristics and interpersonal relations (*ibid*; Atkinson, 1985).

On the changing nature of school solidarity (1975), Bernstein elaborates on this ideological shift as a reflection of the broader forms of solidarity found in industrialized society. He adapts Durkheim's concepts of organic and mechanical solidarity to distinguish between forms of social integration in schools as either 'open' or 'closed', respectively. Though Bernstein is concerned with the secondary school, these forms of integration imply bases of social control that may be considered at the primary level as well. Of significance to this study is his analysis of change in the forms of control and resultant implications for the teacher role.

As the school's division of labor develops in its complexity, Bernstein suggests that teacher roles become fragmented into a series of more specialized roles (1975). Relations between teachers are more cooperative or complementary and less autonomous or isolated. On the role of the teacher, he deduces a shift from roles 'assigned' to roles 'achieved' in relation with other teachers; "…role conception evolves out of a series of diverse contexts and relationships. The enactment of the role reveals less [her] similarity, but rather [her] difference from others" (*ibid*: 66). The form of control becomes more 'personalized' where individuals confront each other directly. Drawing on Durkheim, Bernstein suggests the "indeterminacy of the collective conscience", or moral order, is what facilitates a shift toward individuation and differentiation of roles and labor (*ibid:* 62). This is fundamentally a shift towards organic school solidarity as a reflection of organic solidarity in society. Bernstein terms this new form of social integration – 'open schools' within an 'open society'.

The distinction between the open school and closed school usefully reflects different bases of control that structure teachers' relationships in different ways. The theory also implies change in the form of symbolic control in the school that impacts on curriculum and therefore the extent of specialized knowledge. From an elaborated discussion of curricular implications

that stem from certain forms of symbolic control, Bernstein (1975) distinguishes between two curriculum types, a 'collection' and 'integrated' type, which generate different social arrangements between teachers on the basis of knowledge.

Under a collection-type curriculum, categories of knowledge, for instance, 'physics' or 'geometry', are strongly insulated from one another. Thus, amongst teacher roles, knowledge is organized and insulated within subject hierarchies and departments. The social arrangement is both hierarchical and horizontal and implies strong socialization and subject identity on the part of the teacher. Interactions within the heterogeneous group may be limited to 'non-task-based' topics, given the strength of insulation between knowledge categories.

The categories of knowledge under an integrated-type curriculum are mixed, in which subjects are subordinated to a relational idea (Bernstein, 1975), for instance, a lesson on weather patterns that integrates mathematics, science, and language. As a result, the boundaries are blurred between the knowledge categories, which generates a form of integration at both a symbolic and social level. Where integration is 'teachers-based', that is, between science and mathematics teachers, social relationships are horizontally organized and arise out of shared, cooperative tasks. Thus, the interactions of a homogenous teaching group may concern, relatively more overtly, the instructional task (*ibid*). According to Bernstein:

> [Change in the educational code from collection to integrated] involves a change in what counts as having knowledge, in what counts as a valid transmission of knowledge, in what counts as a valid realization of knowledge, *and* a change in the organizational context. At the cultural level it involves a shift from the keeping of categories pure to the mixing of categories…[original emphasis] (1975: 104).

Change in curricula generates change in the forms of social and symbolic control in schools. Bernstein attributes the shift toward inter-disciplinary curricula to broader changes in the concept of skill and in the character of work relations in society (1975). The theory implies that the social arrangement between teachers generates a form of communication that privileges specialized knowledge to a greater or lesser extent.

Bernstein's most recent conceptual iteration on the order of the school is found in the appendix of his final book (2000: 23), in which he theorizes a 'pedagogic culture' of the school. In his return to school order, he more carefully considers the relation between institutionalized order at a school level and teachers' classroom pedagogy. This theorization reflects less of a concern with ritual and more with the regulation of the instrumental or instructional order of the school (Hoadley and Galant, 2015). The theory postulates four dimensions of pedagogic culture of significance to classroom pedagogy. These are:

- *Shape*, defined as the division of labor and the structuring of social relations
- *Stability*, defined as the management of reproduction and order
- *Economy*, defined as the management of symbolic, human, and material resources
- *Bias*, defined as external regulation on the school

This conception of the school expands beyond issues of solidarity and control. What is interesting about the refined theorization is how Bernstein relates the four dimensions of pedagogic culture to knowledge. Of most significance to this study are the 'shape' and 'economy' of the school, which Bernstein classifies as "distributive rules" that "specialize forms of knowledge, forms of consciousness, and forms of practice to social groups" (*ibid*: 28). Thus, it is through the school's division of labor, social relations, and management of resources that knowledge is specialized, distributed, and/or produced.

In sum, Bernstein's work on the order of the school offers a framework[1] to consider how knowledge is organized through teachers' social relations. The school is conceived as a social form of organization constituted by a moral order. The school is comprised of two analytically distinct orders of relation, instructional and social order, each regulated by different bases of control. Because this dissertation is concerned with the problem of knowledge, I specifically explore, and analytically isolate, the instructional order of the school, which controls the organization of knowledge through different social arrangements

[1] There has been somewhat limited empirical testing or application of Bernstein's theorization of school organization, relative to his other prominent contributions to the sociology of education, though examples include King (1976; 1981), Walker (1983), Kapferer (1981), and Hoadley and Galant (2015). Notably, King (1976; 1981) carried out a quantitative testing of Bernstein's sociology of the school due to its lack of empirical referent. He found limited evidence of a substantive shift in schools from mechanical to organic solidarity. Tyler (1985) argues, however, that King's conclusions are premature as his probabilistic methodology impedes an adequate reading of the empirical association between the dimensions of the theory. Tyler also argues that a fair and adequate test of Bernstein's theory on school organization has yet to be carried out.

and forms of communication. To synthesize the major axes of variation from which the theory is sketched, Table 3.1 organizes these according to theme.

Table 3.1. Bernstein's sociology on the order of the school (adapted from Atkinson, 1985: 36)

Theme	**Variation**	
Social integration	Mechanical/closed	Organic/open
Division of labor	Segmental/stratified	Complex/differentiated
Boundary maintenance	Strong insulation	Weak insulation
Cultural categories	Pure	Mixed
Social arrangement	Hierarchical and horizontal	Horizontal
Social roles	Ascribed	Achieved
Expressive order/ritual	Strong	Weak
Social control	Collective values	Individualized competencies

In what follows, I look to a complementary line of Bernstein's work that considers how social roles form part of a broader system of communication and control.

3.3.2 Roles, communication, and control

Some of the earliest formulations of Bernstein's theory relating to forms of control were specifically concerned with the context of the family and the parent-child role relation (1962; 1971). He notes, however, that the theory is also applicable to other contexts of role relations, including the peer group, school, and work. In this way, the theory is able to operate across different contexts of communication. On the concept of role, Bernstein (1971) elaborates the significance of *meaning* realized through forms of communication:

> Individuals come to learn their social roles through the process of communication. A social role from this point of view is a constellation of shared, learned, meanings through which individuals are able to enter stable, consistent, and publically recognized forms of interaction with others. A social role can then be considered as a complex coding activity controlling both the creation and organization of specific meanings and the conditions for their transmission and reception (112).

From this point of view, roles are embedded within a communication system that shapes the individual's orientation to meaning. Thus, different modes of communication are generated by and reinforce different forms of social relations between roles, and as a result, the kinds of meanings that are produced (*ibid*). In Bernstein's terms, "the particular form of social relation acts selectively upon what is said, when it is said, and how it is said" (1971: 112).

Key to the theory is the concept of 'code', conceived as a regulator of how meanings are organized. Code[2] is conceived as an orientation arising out of different forms of social solidarity and regulating the selection, organization, and realization of meanings through communication (Bernstein, 1971; 2000). The concept speaks to the question of "how does the outside become inside, and how does the inside reveal itself and shape the outside?" (Bernstein, 1987: 563). Though the concept has undergone refinement, the 'restricted' code is generally associated with an orientation to context-dependent meanings associated with particular situations, whereas the 'elaborated code' privileges context-independent or universal meanings suited to processes of formal education (Hoadley and Muller, 2010). For Douglas (1996), code is viewed as a principle of choice. Although this study is not directly concerned with Bernstein's code theory, I am interested in the respective 'open' and 'closed' role systems that organize meanings (and therefore knowledge) in different ways.

Within an open role system, Bernstein contends meanings, such as decisions and judgments, are achieved through discussion, negotiation, exploration, and extension, creating the potential for change in the "pattern of received meanings" (1971: 116). The 'other' is differentiated, and as a result, roles are achieved in terms of the individual's unique social, affective, and cognitive characteristics. Ambiguity and ambivalence are more easily handled, though there may be greater instability of order. According to Bernstein, the communication system continuously assimilates and accommodates the different intentions, qualifications, and motives of individuals. Due to weakened separation of individuals, the ascribed status of the role is weakened by the achieved status of the person. Individuals are oriented toward the 'person' and the 'I', rather than the 'we', promoting the circulation of individuated meanings.

[2] Much of the controversy around Bernstein's concept of 'code' is largely due to its oversimplification and miscomprehension as a form of linguistic 'deficit' (Atkinson, 1985; Bernstein and Solomon, 1999). Importantly, the concept was motivated by Bernstein's concern with differences in schooling outcomes associated with different social class contexts. Through its refinement, the concept of code became less a linguistic repertoire and more an orientation to meaning arising from and acquired through particular modes of social solidarity in the home and in the school (Hoadley and Muller, 2010; Bernstein, 2000; Maton and Muller, 2007).

In contrast, within a closed role system, Bernstein argues that meanings are typically assigned, fixed, and left relatively undisturbed (1971). There is therefore little discussion or negotiation between roles. The 'other' is generalized on the basis of the transmission of communalized symbols and meanings. 'We' is emphasized, rather than 'I', and individuals are oriented toward a social category or status, rather than the person. There is a clear separation of roles with formal divisions of responsibility allocated on the basis of status. A degree of sensitivity toward the person may be present, though this is not likely to be raised in a verbal sense. Because roles are unambiguous and more clearly structured, Bernstein contends that individuals are less likely to cope with ambiguity and ambivalence and may keep to a more fixed, stable system of order.

To expand the theory of role systems, Bernstein (1971) looks to the familial relation between parent and child and posits two modes of control[3] based on appeals, 'personal' and 'positional'. The modes generate and regulate different forms of communication, which reinforce the form of social relation. Each expresses a degree of attachment to a social structure (Douglas, 1996) and a normative order in which the rules for communication, such as who makes decisions, are embedded (Bernstein, 2000). The theory embeds relations of power in terms of the positioning of individuals and in the degree of flexibility on what is an acceptable form of communication (Atkinson, 1985). Douglas argues that in either case – that is, personal or positional – a steady pattern of control is fundamentally necessary for a coherent system of order (1996).

Following Bernstein, the role learnt by any individual is dependent on the specific mode of control operating within a communicative context (1971). Under the personal mode of control, there is greater autonomy, where individuality is valued and behavior is controlled through sensitivity toward the person and their unique characteristics. Individuals are less attached to a social structure with explicit categories of status (Douglas, 1996). Control may be less overt or more implicit, though not entirely absent (Atkinson, 1985). Conduct and communication are controlled through inter-personal discussion and negotiation; thus, the

[3] Bernstein (1971) acknowledges that the distinction between positional and personal has been made elsewhere and that his conception is distinct to that of others. He also refers to an imperative mode of control, with an absence of role discretion. I do not discuss the imperative mode here, as it is not conceptually relevant to this study. Bernstein's theory of control has been empirically tested and developed by others, which I have consulted for the purposes of this study, for instance, Cooper (1976), Edwards (1976), Pedro (1981), and Hoadley (2005).

rules for determining the discretion of a role are achieved through more explicit and complex forms of communication. Through a personal mode of control, individuals come to learn how they are both similar to and different from others (Bernstein, 1971).

The positional mode of control, as conceived by Bernstein (1971), is dependent on a status arrangement embedded within a social structure. Attachment to the social structure is strong, and the status of the role is based on an agreed upon, universally held, normative order that regulates its power (Douglas, 1996). According to Bernstein, areas of decision-making are formally defined. Disputes, tensions, or other kinds of communicative interaction are determined and settled based on the status of the individuals involved. The rules for determining the discretion of a role are assigned, and any challenge to a rule may generate conflict. Individuals tend to relate to one another largely because of what they are, and any unique attributes or characteristics are submerged into the general category of the status. The individual's place in the social order is reinforced through appeals made during communicative interactions (Edwards, 1976).

The relation between roles, communication, and control can be summarized as follows in Table 3.2, which is based upon the work of Bernstein (1971; 1990), Cooper (1976), Edwards (1976), Pedro (1981), Atkinson (1985), and Douglas (1996).

Table 3.2. A sociology of roles, communication, and control

	Closed social system	**Open social system**
Roles	Status assigned Generalized 'other' Formal division of responsibility Lower discretion and ambiguity	Status achieved Differentiated 'other' Responsibility based on characteristics Higher discretion and ambiguity
Communication	Communally shared meanings Orientation to categories/status Stable, fixed meanings Less reciprocity	Negotiated meanings Orientation to individual person Changing, individuated meanings Greater reciprocity
Control	Strong attachment to social structure Authority vested in positional status Rules assigned Formal, explicit, overt	Weaker attachment to social structure Authority vested in personal achievement Rules achieved Inter-personal, implicit, covert

The distinction between open and closed systems bears a resemblance to the Durkheimian notions of organic and mechanical solidarity. What this literature adds, however, are the analytical categories of role and communication, which enable a different reading of social relations. A theorization of the rules of communication systems provides a language to describe *how* information 'flows', or how meanings remain stable and/or change through different forms of social relations. In this study, I adapt the notions of open and closed systems to describe the way in which the rules of communication, based upon the school's normative order, are relaxed and/or observed. Where closed relations entail the observance of rules based upon status, open relations entail the relaxing of rules and the negotiation of meanings. The following sub-section explicates Bernstein's theory of knowledge transmission, which clarifies how knowledge may be accessed and specialized through communication.

3.3.3 Knowledge, discourse, and pedagogy

For Bernstein, the relation between knowledge, schooling, and society is crucial to his sociology. He therefore offers a highly explicit theorization of knowledge, which is more conceptually developed than his work on school order. As much of his writing demonstrates, Bernstein recruits Durkheim in his conception of knowledge, depicting it as both 'sacred' and 'specialized' (Bernstein, 1975; Atkinson, 1985). The conception reflects a special system of symbolic meaning separate from everyday life, denoting a *boundary* between knowledge as 'sacred' and the problems of everyday life as 'profane' (Durkheim, 1995; Young and Muller, 2016). Bernstein's conception also reflects one of Durkheim's most profound contributions to sociology, which is that the categories of our thought reflect our social organization (Durkheim and Mauss, 1963; Atkinson, 1985). Knowledge is therefore *classified* on a social basis and *differentiated* from the world of experience (Young and Muller, 2016).

The social basis of knowledge is formally set out in Bernstein's conception of a 'pedagogic device' (2000). The theory makes knowledge and its social sources visible for investigation; it explains how knowledge is circulated in society, how its movement relays ideology, and how its realization through pedagogy specializes our consciousness in society's image (Maton and Muller, 2007). Three hierarchically related rules or principles constitute the device (*ibid*):

1. *The distributive rule* – the production of knowledge where forms of power specialize forms of knowledge, typically at the university in modern societies; regulation of 'who' has access to 'what'
2. *The recontextualizing rule* – the transformation of knowledge into a school curriculum or a pedagogic discourse; regulation of the 'what' and 'how' of teaching and learning
3. *The evaluative rule* – the reproduction of knowledge whereby pedagogy and assessment transmit criteria for evaluating its acquisition; the specialization of consciousness

Each rule is associated with a specific field of activity in which knowledge is regulated. These are the fields of production, recontextualization, and reproduction of knowledge (Bernstein, 2000), which speak to issues of power, knowledge, and consciousness by the same token (Maton and Muller, 2007). The pedagogic device offers an explanatory framework that positions school knowledge as a 'pedagogic discourse' constructed through communication and carrying a social base. According to the device, classroom teachers and school administrators are positioned in the field of pedagogic recontextualization and reproduction at the site of the school. It is at this site that institutionalized rules for the regulation, transmission, and acquisition of knowledge are relayed. As Bernstein argues: "No discourse ever moves without ideology at play" (2000: 32).

In consideration of social contexts, such as the classroom, in which cultural reproduction occurs, Bernstein sets out underlying rules that shape the construction of discourse and practice, with special reference to pedagogy (2000). For Bernstein, pedagogy is:

> A progressive, in time, pedagogic relation where there is a purposeful intention to initiate, modify, develop, or change knowledge, conduct, or practice by someone or something which already possesses, or has access to, the necessary resources *and* the means of evaluating the acquisition [original emphasis] (Bernstein and Solomon, 1999: 267).

In this way, knowledge becomes part of one's consciousness through a form of communication in which meanings are recognized and realized. Two fundamental principles of communication – power and control – are recruited by Bernstein (2000) to describe the nature of symbolic organization that occurs through social interaction. Though power and control are analytically distinguished and operate at different levels of analysis, they are

empirically embedded in each other (Bernstein, 2000). While I am not specifically concerned with the concept of a pedagogic relation, I am interested in the principles of power and control that regulate the social relation and the forms of discourse constructed through communication.

In the first instance, power relations, termed 'classification', regulate the strength of insulation between categories. The principle of classification establishes relations between categories, and consequentially, the quality of the category. In Bernstein's terms, "A can only be A if it can effectively insulate itself from B" (2000: 6). Insulation may pertain to social categories, for instance, between teachers within a division of labor, or discursive categories, such as subjects or disciplines. The principle of classification carries underlying rules in terms of 'what' meanings may (and may not) be put together. The rules entail 'demarcation criteria' enabling the recognition of what counts as a legitimate feature of a category (Bernstein, 2000; 1990). Strong classification, for instance, between 'biology' and 'physics', implies strong insulation between categories, and as a result, specialization and differentiation. Weak classification implies the mixing of categories, the blurring of boundaries, and weak specialization.

I adapt Bernstein's concept of classification in this dissertation to explore the way in which instructional categories are specialized through communication within the school. In other words, I aim to explore the boundary conditions for categories, such as 'time'. For instance, we can say that time is strongly specialized if it is clearly demarcated or bounded for instructional purposes only. In this way, I am able to examine how instructional forms of communication are organized, classified, and differentiated from non-instructional forms of communication.

In the second instance, control relations, or 'framing', regulate the nature of communication within a context. Framing controls how communication is enacted and the form of social relationships that goes with it. Where classification is about what meanings may be put together, framing is about 'how' meanings are put together (Bernstein, 2000; 1990). Framing is measured in terms of the degree of apparent control that an acquirer has over the form of communication. Though control is always present, what varies is the form of the control. According to Bernstein, strong framing denotes very few choices on the part of the acquirer

in the enactment of communication, for instance, in the selection of contents or topics, whereas weakened framing entails significant choice.

In this study, I adapt the concept of framing, or control relations, to investigate the form of communication between teachers and their colleagues. In a similar way to Bernstein's early work on open and closed social systems, framing is also concerned with the rules for communication, which control how meanings are organized. By incorporating a measure of control, I am able to explore how knowledge may or may not circulate through particular forms of social relation. Rather than examining the pedagogic relation between teacher and student, I consider the communication relation between teachers and between teachers and management.

Importantly, as Bernstein argues, framing regulates the rules of social and discursive order, termed 'regulative' and 'instructional' discourse, respectively (2000). The analytical distinction between regulative and instructional is a refinement of the expressive and instrumental order of the school (Bernstein, 1975), reflecting Bernstein's concern with how a form of communication generates a form of discourse. In a similar way, the regulative discourse carries the rules for conduct, character and manner, while instructional discourse selectively organizes knowledge, contents, and skills. Contrary to what many consider to be distinct aspects of schooling, that is, the acquisition of values and competencies, Bernstein (2000) argues that, empirically, there is only one discourse, not two. Though the strength of framing or the degree of control over the regulative and instructional discourse may vary at an analytical level, the instructional is always embedded in the regulative. Social order is therefore conceived as the dominant regulator of communication within the school.

I recruit Bernstein's concept of instructional discourse in this study to examine the substance or the 'what' of communication between teachers and their colleagues. By analytically isolating instructional forms of communication, I am able to explore what forms of knowledge are shared and developed, constituting a form of instructional discourse.

Taken together, classification and framing shape the nature of communication within a context through "the structuring and bounding of experience" (Atkinson, 1985: 145). As the strengths of classification and framing change, so do organizational, social, and discursive practices. Communication is therefore a medium for the struggle over symbolic control

(Bernstein, 2000). An individual's access to and acquisition of specialized knowledge is enabled or impeded by the rules of communication that generate a discourse. Crucial to this framework is the nature of discursive change in the construction of a discourse, which comes at the level of framing or control on communication. As Bernstein puts it: "control is double faced for it carries both the power of reproduction and the potential for its change" (*ibid*: 5). I therefore derive from Bernstein that change in the forms of communication is dependent on the form of control.

In the following section, I discuss a select thread of Mary Douglas' cultural anthropology. Given that her work is complementary to that of Bernstein, I derive a cultural framework to explicitly locate and underpin a conception of school order as a cultural form.

3.4 Douglas' cultural anthropology: Categories, boundaries, and control

Inasmuch as Bernstein is indebted to Durkheim, Douglas' work is equally underpinned by the Durkheimian proposition that classification systems are products of the form of social relationships (Douglas, 1996; Atkinson, 1985). Douglas specifically recognizes a correlation between the symbolic system and the social system (1996). From her early writings on religion and primitive cultures, Douglas showed that symbolic categories, such as 'dirt' and 'pollution', are collectively recognized values that generate order and patterned behavior (1966; 1999a). For Douglas, the category, 'dirt', is essentially 'matter out of place', signifying 'danger' or a contravention of 'purity' and cleanliness (1966). Key to this structuralist framework is that "classifying, like symbolizing, is the creation of culture, or equally one could say that culture is the creation of classifying processes" (Douglas, 2007: 2). The underlying thesis of her anthropology is that *order* is established through a system of categories and boundaries and is a fundamental aspect of all social life. Culture therefore exists at a social level and is constituted by patterns that express symbolic boundaries (Wuthnow *et al*, 1984). Hence, the cultural is intimately tied to the social:

> A safeguard is to treat cultural categories as the cognitive containers in which social interests are defined, classified, argued, negotiated, and fought out. Following this rule, there is no way in which culture and society can part company, nor any way in which one can be said to dominate the other (Douglas, 1982: 12).

The analysis of 'pollution' as a cultural category serves as one of Douglas' (1999a) most profound insights into the nature of sociality. The processes, beliefs, and values associated

with our understanding of pollution, or of any cultural category, are understood to serve two purposes. The first is to impose "order on experience," by establishing a social structure that makes interaction, coordination, and thus, communication possible (Douglas, 1999a: 111; Douglas, 2007; Wuthnow, 1987). Collective categories also establish boundaries so that dissonance and conflict may be avoided (Douglas, 1999a); a disruption of the boundary, for instance, an anomaly, potentially generates disorder, ambiguity, and rejection (Douglas, 2007). Ritual has been extensively examined by Douglas as a form of cultural expression that ensures conformity and reaffirms the social order, particularly in times of crisis (Douglas, 1996; Wuthnow *et al*, 1984).

At the outset, Douglas derived cultural types from Bernstein's distinction between personal and positional family types, based on the assumption that a shared and coherent system of classification requires a stable pattern of control (Douglas, 2007; 1966). As the framework evolved, largely in conversation with colleagues (e.g. Bernstein, 1975; Douglas, 1982; Wildavsky, 1987; Thompson, Ellis, and Wildavsky, 1990), the cosmology became less to do with the content of the classification and more to do with boundaries, social regulation, and forms of social organization (Douglas, 2007). Two dimensions of sociality – group and grid – are conceived as a heuristic device to typify the culture of social entities or communities (Douglas, 1996; 1999b; 2007). The concepts address the essential questions of "Who am I?" and "What shall I do?" (Wildavsky, 1987: 6).

The concept of group concerns identity and the tie between an individual and the collective (Wildavsky, 1987). According to Douglas (2007), group measures the strength of the external boundary of a social entity between members and non-members in terms of absorption within and individual commitment to a bounded social unit. Weak group incorporation entails isolation or privacy. Grid is concerned with behavior and measures the extent of constraint or the degree of control that individuals come to accept, which regulates their interactions. The lower the grid, the fewer prescriptions, and the more individuals are expected to negotiate their interactions with others (Thompson *et al*, 1990).

Five cultural types are derived from the two axes of variation, which organize social life in different ways. These are hierarchy, egalitarianism, individualism, fatalism, and autonomy (Thompson *et al*, 1990). Though an infinite number of cultural types may exist empirically, group and grid are understood to be the most critical dimensions of sociality (Wildavsky,

1987; Douglas, 1999b). Proponents of the framework have suggested that all five cultural types may be present within a single community, organization, or society, a kind of 'cultural pluralism', which has the potential to generate conflict and competition for resources, members, or status (Thompson and Wildavsky, 1986; Douglas, 2007).

To theoretically frame a conception of school order, a number of assumptions are discerned from Douglas' anthropology. I do not operationalize the grid/group theory; rather, I theoretically underpin the school as a collectivity by drawing on principles of social order and culture. For Douglas, culture is social; it is about categorization, boundary, and control, viewed as inherent properties of social life and applicable across contexts. From this view, there are clear parallels between Bernstein and Douglas in conceiving of the 'social', which may be partially attributed to their affinity for Durkheim. Both scholars theorize boundaries between social categories. For Bernstein, the boundaries between categories of knowledge or discourses are his primary concern, whereas for Douglas, they are between social groupings (Ostrander, 1982; Atkinson, 1985). A shared concern for social organization is thus implied. Both scholars also view social regulation or control as a principal social property that generates order and institutionalizes, to a greater or lesser extent, a social structure.

In what follows, I look specifically to Weber's sociology of authority. In a similar way to Bernstein and Douglas, Weber shares a concern for social organization and conceives authority as an essential element of ordered interaction. What Weber offers, however, is a framework to investigate the social bases that underpin different types of authority and, as I will argue, an explanation for change in the form of instructional order.

3.5 Weber on legitimacy and authority: Toward a theory of change

On social organization, Weber was centrally concerned with the nature of institutional stability and change and the conditions on which social structure is dependent (Parsons, 1947a). Key to Weber's framework is the notion of 'legitimacy', which, in its various forms, generates a stable system of order and makes coordinated action possible (Spencer, 1970; Parsons, 1947b). Hence, the concept of legitimacy is tied to two principles of control within a social organization. The first is a normative order, or the rules that regulate and orientate forms of activity, not unlike Bernstein's concept of framing and Douglas' concept of grid. The second is the *basis* of authority, or the nature of the claim to exercise control (Weber,

1947). Spencer argues, “the total institutional structure underlying ordered interaction is always some amalgam of norms and authority” (1970: 124). Of significance to this study is Weber’s conception of authority in the form of ideal or ‘pure’ types, each carrying a different social basis for exercising control.

The first type of authority derives its basis from ‘tradition’, or from a sacred form of order that “has always existed” and “has been handed down from the past” (Weber, 1947: 130). The second type is termed ‘charismatic’ authority, based on charisma and grounded in the personal and exceptional qualities of the individual (Weber, 1947). The third type of authority is termed, ‘rational-legal’. Based upon reason, rational-legal authority is most commonly associated with the modern social organization, notably in the form of a bureaucracy. Given that the modern schooling system tends to function as a bureaucracy (Mehta, 2013), I adapt the concept of rational-legal authority and the respective form of normative order for the purposes of this study.

The bureaucratic form of organization is one of the most rational forms, designed to achieve stability, predictability, and efficiency (Tyler, 1988). Under rational-legal authority, control is exercised through an impersonal order of generalized universalistic rules and procedures (Weber, 1970). Members of the organization occupy a specialized “sphere of competence,” constituting a division of labor within a hierarchy of “offices” (Weber, 1947: 303). Authority is graded by rank and may be carried out on the basis of status, with each office controlled and supervised by the office directly above (Weber, 1970). As argued by Weber, technical competence determines fitness for office, and, therefore, “bureaucratic administration means fundamentally the exercise of control on the basis of knowledge… which makes it specifically rational” (1947: 311).

Because a bureaucratic office assumes a sphere of technical competence, but may exercise authority impersonally on the basis of status, a tension arises between authority vested in legal competence and authority exercised through expertise. Parsons (1947b) notably elaborates on this tension in the following argument:

> Weber's formulation of the characteristics of bureaucratic organization, which has become a classic, raises some serious analytical difficulties in the treatment of social structure. It is the present writer's opinion that he has thrown together two essentially different types, which, though often shading into each other, are analytically separate… Legal 'competence' is a question of 'powers'… technical competence is of a different order… Professional services are often, indeed increasingly, carried out in complex organizations rather than by independent individuals… when this is the case there are strong tendencies to develop a different sort of structure from that characteristic of the administrative hierarchy… Instead of a rigid hierarchy of status and authority, there tends to be what is roughly, in formal status, a 'company of equals', an equalization of status (58 – 60).

According to Waters (1989), Weber did not overlook professional expertise; rather, expertise was conceived as an integral and substantive element of bureaucratic organization, what Spencer refers to as a "dual basis of authority," where status may be "tempered" by expertise (1970: 134). In this dissertation, I aim to explore whether the authority of management roles, such as the principal, is exercised through status and/or expertise. Understanding how the two bases of control do (or do not) 'shade into each other' is crucial, given that the basis for exercising authority has the potential to affect the structure and dynamics of an institution (Spencer, 1970). If change in the form of instructional order is dependent on the form of control, as Bernstein argues, then what specifically is the basis or source that enables change?

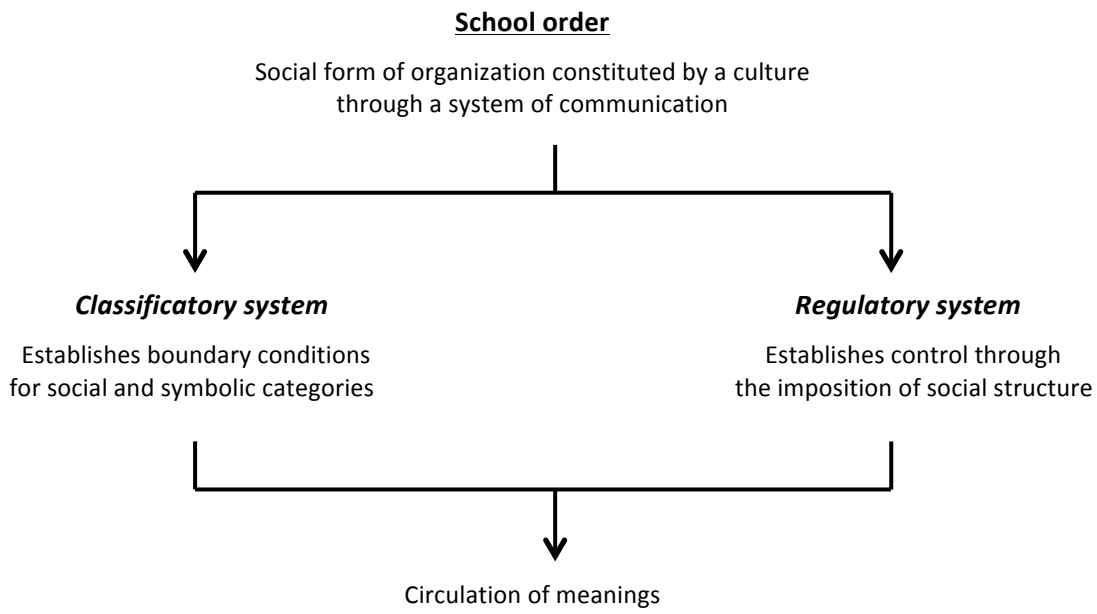
I propose that status and expertise have the potential to achieve different organizational ends within the school. On the one hand, authority based upon status, or the legal competence of school management, has the potential to achieve stability and maintain the form of instructional order through impersonal rules and routinized procedures. Following Douglas (1996), a stable pattern of control is a fundamental requirement for a coherent system of order. On the other hand, authority based upon status *and* expertise has the potential to enable change in the form of instructional order. Expertise, or specialized knowledge, is thus conceived in this study as the source for change by augmenting the possibilities for action. In contrast, within a 'company of equals', or in the relations between teachers of a shared status, I suggest that expertise, as a catalyst for change, may be realized differently through collegiality or more professional forms of relation. What the thesis seeks to explain are the conditions that 'unlock' the distribution of specialized knowledge and how this might vary between differently structured relations, that is, teacher-teacher and teacher-management relations. Where the form of relation controls *how* meanings circulate, the basis of authority has the potential to control *what* meanings circulate, thereby enabling the potential for change and/or stability in the form of instructional order.

In the final section of this chapter, I adapt the preceding conceptual resources drawn from Durkheim, Bernstein, Douglas, and Weber to construct a theoretical framework for the study of school order and change. The framework enables an investigation of the social organization and circulation of knowledge. Section 3.6 makes explicit the study's theoretical assumptions and serves as the internal or conceptual language of description for the thesis (Bernstein, 2000).

3.6 Principles of school order

The school is conceived as a social form of organization constituted by a moral order, or culture, as an inherent property of all social life. School order is generated by and reinforces the culture of the collectivity through two inter-related dimensions of sociality. The first is a system of classifying processes, which denotes boundary conditions for symbolic categories, such as knowledge and discourse, and social categories, such as identity and roles. The classificatory system is dependent on the second dimension of sociality, a regulatory system of control that generates normative order. Taken together, both dimensions generate a system of communication that circulates meanings. Figure 3.1 below models the macro social dimensions of school order.

Figure 3.1. Model of school order



3.6.1 Instructional and regulative order of the school

The order of the school is comprised of two analytically distinct yet empirically bound sub-orders of social relation, the instructional order and the regulative order. The instructional order of the school is a form of discursive order to do with the 'what' and 'how' of teaching. It entails the distribution, circulation, transmission, and acquisition of knowledge and skills. It is analytically distinguished on the basis that the school is a site for the reproduction of specialized knowledge. The regulative order of the school is a non-instructional, social domain that binds or converges the school as a collection of autonomous individuals through shared values, norms, expectations, and ideals. The regulative order is conceived as the dominant order in which the instructional order is embedded and thus shaped. Each order may be explored at various levels of social relation or in various contexts within the school.

If school order is generated by and reinforces two dimensions of sociality, it follows that each sub-order of relation – the instructional and the regulative – is generated by the same dimensions of classificatory and regulatory systems of communication. The instructional and regulative orders therefore entail different bases of control as well as different classifying processes. Where the regulative order converges the school to a greater or lesser extent, the instructional order differentiates the school to a greater or lesser extent and potentially specializes communication. In this way, the integration of unity and diversity is possible. With respect to teacher professionalism, the school's regulative order shapes teachers' normative orientation and commitment to moral, ethical, and social forms of conduct. The instructional order of the school controls the deployment of specialized knowledge and expertise of its staff members.

3.6.2 Dimensions of the instructional order of the school

Because this study concerns the problem of knowledge and its distribution within low resource contexts, the following sections set out a framework to more fully conceptualize the *instructional order* as the analytical focal point of this dissertation. The first sub-section formulates a classificatory system, as one principal dimension of instructional order. The second conceives a regulatory system of control as the second principal dimension. Each sub-section conceptually isolates teachers' relations at a school level and foregrounds communication in which instructional meanings or knowledge may circulate. The term 'instructional' is used in the same sense as that of instructional order.

3.6.2.1 Specialization of instructional communication

The classificatory system of the instructional order is termed, ‘specialization of communication’. Specialization refers to the strength of the boundary, ‘strong’ or ‘weak’, that organizes, classifies, and differentiates instructional forms of communication from other forms. Three principal categories are discerned from the conclusions of Chapter 2, through which knowledge may be organized. These are the categories of ‘time’, ‘practice’, and ‘discourse’. Time establishes boundary conditions for when instructional forms of communication occur. Practice measures the complexity of the division of instructional labor. Instructional discourse is measured in terms of its specificity and depth and examines what forms of knowledge are shared and/or developed. Through the categories of time, practice, and discourse, communication, and potentially knowledge, is specialized to a greater or lesser extent for teaching and learning.

3.6.2.2 The form of instructional communication relations

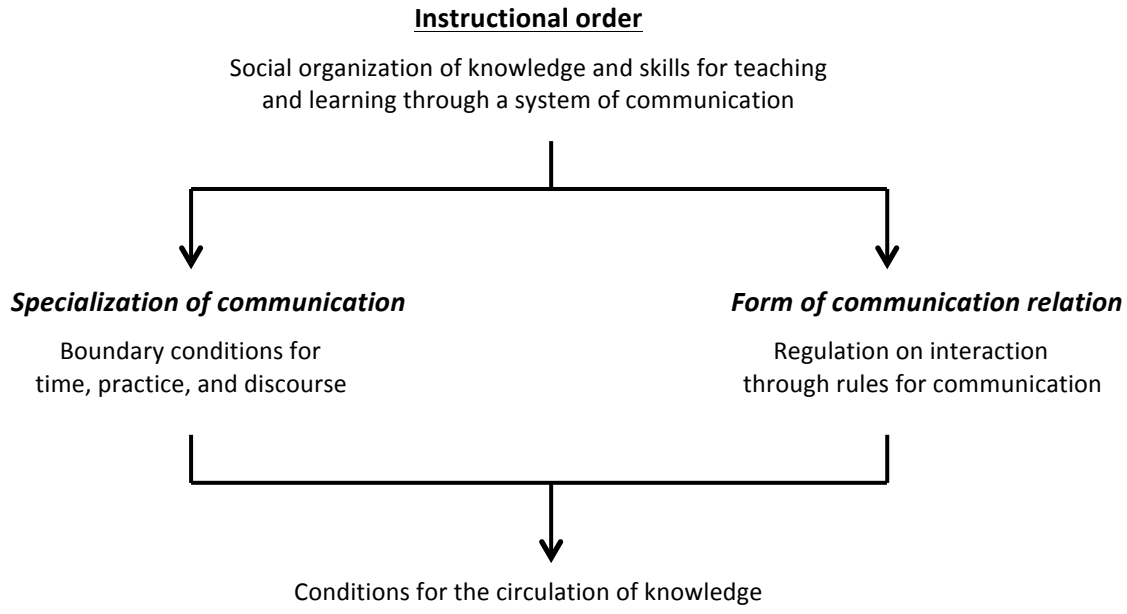
The regulatory system of the instructional order is termed, ‘communication relations’, which varies in terms of its form or structure. The division of labor is comprised of role categories that establish a social structure to generate order and coordination. The status of a role, such as teacher, is derived from the school’s normative order and carries underlying rules for interaction, communication, authority, and responsibility. Two primary role categories are considered in this study: ‘teachers’ and ‘management’. The relations between teachers are horizontally organized given their shared status. Relations between teachers and management are hierarchically organized given their differential status, denoting a bureaucratic-type structure. The different roles and their relationships to each other constitute a communication system that controls how meanings circulate, and potentially, the circulation of knowledge. The form of the relation varies on a scale from ‘open’ to ‘closed’. An open communication relation entails a relaxing of the underlying rules for interaction, where the rules are achieved through discussion and negotiation. A closed relation entails the observance of assigned rules for communication on the basis of status derived from the school’s formal normative order.

3.6.3 The instructional order and the potential for change

The instructional order of the school socially organizes knowledge by specializing time, practice, and discourse through rules for communication. In this way, the instructional order

generates the conditions for the circulation of knowledge within the school. Knowledge may circulate horizontally or hierarchically, depending on the rules for communication. Where specialization classifies and organizes the 'what' or the substance of communication, the form of relation structures the 'how' of communication, or how meanings circulate. Change in the form of instructional order, or what meanings circulate, is dependent on the basis of authority or control. When expertise, or specialized knowledge, serves as the basis for control, the potential for change is made possible in the forms of instructional communication. A model of the framework for the instructional order of the school is presented in Figure 3.2 below.

Figure 3.2. Model of instructional order for the social organization of knowledge



According to Bernstein, "a theory should generate the criteria for its evaluation, the contexts necessary for its exploration, the principles for their description, and the rules for interpretation" (1990: 94). This chapter has presented the evaluative criteria for a sociological framing of the school. In Chapter 4, I present the research design and methodology through an external language to enable the empirical exploration, description, and interpretation of the data. In the chapters that follow, that is, Chapters 5, 6, and 7, this dissertation proceeds to examine the conditions that facilitate (or impede) the circulation of specialized knowledge within the instructional order of eleven South African primary schools.

Chapter 4

Research methodology and design

4.1 Introduction

This chapter presents the dissertation's mode of inquiry by describing in depth the research design and methodology. Motivated by the problem of knowledge associated with low-SES schools in South Africa, the study aims to understand what organizational conditions facilitate the circulation of knowledge as an instructional resource to teachers. From a review of studies on teachers' social relations, four domains of empirical inquiry were discerned. These are: how often knowledge is made accessible, where knowledge resides within the school, what kinds of knowledge are made available, and how the circulation of knowledge is controlled. In the previous chapter, I constructed a framework in order to explore these empirical domains at a conceptual level and to describe how knowledge may or may not circulate within the instructional order of school.

In what follows, I set out the research design and methodological approach that brings together the empirical and conceptual languages of description. The chapter makes explicit the criteria for various design decisions and for describing and interpreting the data.

4.2 Bounding and focusing the empirical investigation

Three design decisions are made to set foci for the boundaries of sample selection and data collection. The first is to select a sample of South African primary schools located within the low performing education 'system' that is constrained by poverty and a scarcity of resources. Second, the investigation foregrounds only data pertaining to teachers' social relations that are specifically concerned with issues of instruction, teaching, and learning. The third criterion is to investigate only teachers' relations with other staff members *within* the school. Information relating to education districts, NGOs, parents, and other community members are therefore excluded from this study. These initial design decisions bound the context of exploration thereby influencing how the findings may be interpreted.

The mode of inquiry takes a descriptive qualitative approach to investigate multiple cases of schools. This approach enables the identification and classification of nuanced variations between schools in low resource contexts. Qualitative descriptions allow for an in depth examination of teachers' relations and explanations of why patterns exist and what the patterns imply (Babbie, 2001). The dissertation is primarily concerned with answering questions relating to 'what' and 'how' (Creswell, 1998). The study aims to understand how knowledge is socially organized in schools and what variations exist at a conceptual level derived from empirical descriptions.

In the sections that follow, I describe the school selection process and introduce the sample of the study. The various stages of data collection are then outlined, including how instruments were structured and the kinds of information that were elicited. I then describe how the information collected was translated into data through the development of an external language of description. The external language of description specifies what counts as data and the rules for reading and interpreting the data (Bernstein, 2000). In various ways, I show how the findings were both deductively and inductively derived over multiple iterations of analysis.

4.3 The study sample

4.3.1 School sample selection

Much of what is known about factors associated with better academic outcomes is dependent on what evaluative criteria are used to differentiate one school from another. Although reliability and comparability of primary school performance measures have been relatively limited at a national level[1] in South Africa, the Western Cape Provincial Education Department (WCED) employs an externally administered test to monitor learner performance in the province on an annual basis. The Western Cape Systemic Evaluation (WCSE) was first implemented in 2002 and tests students' literacy and numeracy skills in grades 3, 6, and 9. Locally, it is referred to as "the LitNum" or "the systemic test." The WCSE is arguably the best possible standardized measure of learner performance across all schools in the Western

[1] The Annual National Assessments (ANA) were introduced in 2012 by the Department of Basic Education as a tool for monitoring the quality of learning. The ANA is a standardized assessment taken by learners in grades 1 to 6 and 9. Given the relatively recent implementation of the test and issues such as calibration, inter-temporal comparability, and teacher moderation (Van der Berg, 2015; Hoadley and Muller, 2016), ANA data was not used in this study as a reliable measure of school performance over time.

Cape province. Performance data from the WCSE is thus utilized as the dependent variable to select the sample of schools for investigation. The initial school selection process was carried out by the SPADE[2] project, as discussed in Chapter 1.

A preliminary focus for the research was set on grade 3 teachers. There are three reasons for this. First, the WCSE assesses learner performance in grade 3 and provides the most reliable data on an annual basis starting in 2002, allowing for longitudinal and more reliable measures of learning. Second, grade 3 is the final year of the Foundation Phase[3] in the national school curriculum where fundamental skills should be acquired for further learning. Third, as depicted in Chapter 1, learning 'deficits' are acquired by many children in the first years of schooling due to an underperforming, low-quality system of education in South Africa. The study thus constructs an understanding of performance on the basis of longitudinal measures of academic outcomes from the WCSE for grade 3, regarded as a critical stage of learning.

In the selection of schools, the first step was to calculate the overall mean performance in grade 3 for literacy and numeracy over an eight-year period from 2002 to 2010. This process was carried out for all public primary schools in the Western Cape province. From prior research, it has been shown that poverty or socio-economic status and former education department are strong predictors of a school's performance (Spaull, 2012). It has also been shown that the distribution of teacher knowledge is highly unequal across the South African schooling system, with more knowledgeable and more qualified teachers and principals located in wealthier schools (Shepherd, 2015; Wills; 2015). Selection criteria therefore included these variables to determine which schools formed part of the sample.

The selection process began with the exclusion of intermediate, combined, and small schools with fewer than 200 students. In light of the bimodality of student performance in South Africa, only schools in National Quintiles[4] 1, 2, and 3 with a poverty index above 0.6 were included. Hence, the schools are selected from within a low performing system of education.

[2] Schools Performing Above Demographic Expectations

[3] Grades R to 3 are classified as the Foundation Phase in the South African Curriculum and Assessment Policy Statement.

[4] The Department of Basic Education's 'quintiles' are categories of schools determined by the degree of poverty of the school's catchment area, with Quintile 1 as the poorest and Quintile 5 as the wealthiest. The degree of poverty of the catchment area is based on census data such as income levels, dependency ratios, and literacy rates (Hall and Giese, 2009). Quintile groupings broadly reflect the socio-economic status of schools and their communities (Van der Berg, 2015). The poorest quintiles receive greater financial subsidy from the DBE.

It is therefore assumed that the schools selected for investigation are equally resourced and constrained by the problem of teacher knowledge and weak pedagogical skill.

The third criterion for selection, after size and poverty index, is informed by a broader debate on the study of schools that achieve better than expected outcomes. As discussed in Chapter 2, there are various limitations associated with outlier studies. The most common include a small sample size, the complexity of controlling for social class and home background characteristics, and the masking of school sub-groupings by aggregating performance at the school level (Purkey and Smith, 1983). Various selection techniques have been employed in prior research, such as the study of positive outliers only, allowing for no comparison; the study of positive and negative outliers; positive outliers and typical schools; and positive, typical, and negative outliers (Stringfield, 1994). This study's design attempts to address these concerns to strengthen the validity of the findings, which I describe in detail below.

To avoid extremity along the performance continuum, especially given the research on school dysfunctionality (see Taylor, 2008), schools that had been performing *at least 5 percent above the mean*, relative to their former education department[5], were identified. This selection approach accounts for nuanced variation between schools, as opposed to stark differences. The approach enables an analysis of the 'tipping point' for schools achieving better than expected outcomes.

From the sampling frame of poorly resourced primary schools in Quintiles 1, 2, and 3, there were nine schools that met the selection criteria for overall mean performance on the WCSE in grade 3. The nine schools vary in terms of former education department[6], medium of instruction, and geographic location. Four of the schools were formerly controlled by the Department of Education and Training (DET) for Black African children during apartheid, with isiXhosa and English as mediums of instruction. The remaining five schools were formerly controlled by the House of Representatives (HOR) for Coloured children, with Afrikaans or Afrikaans and English as mediums of instruction. The schools are spread across a variety of education districts, both urban and peri-urban, within the Western Cape province.

[5] Overall mean scores for grade 3 numeracy and literacy on the WCSE over four cycles of testing (from 2002-2010) are 49.9 percent for former-HOR schools and 43.1 percent for former-DET schools.

[6] Under apartheid, racially stratified departments of education were set up to control curriculum, administration, and funding. A school's former education department is strongly correlated with its socio-economic status and academic achievement (Van der Berg *et al*, 2011).

To control for home background variables, schools performing *at least 5 percent below the mean*, relative to their former education department, were selected as 'controlled comparisons' (Maxwell, 1996). In sum, a total of 14 schools were selected by SPADE, 9 performing better than expected and 5 lower than expected. The sample was then organized into five groupings of 'matched sets' comprised of demographically similar schools achieving relatively different performance outcomes. Each school set, except for set 1, consists of two relatively higher performing schools and one relatively lower performer based on shared demographic characteristics. Shared characteristics include the school's language of instruction, poverty index (above 0.6), former education department, and geographic location. In this way, a controlled comparison is constructed per set to assist in ruling out unwarranted conclusions associated with the socio-economic and cultural context (*ibid*).

For the purposes of this study, I selected four matched sets or a total of 11 schools from the SPADE sample. There are two primary reasons for the sample size of this study. First, the sample is large enough to capture broader patterns operating across varying sets of schools that may be associated with academic performance, yet it is small enough to allow for the capturing of the complexity of teachers' relations qualitatively. The sample also accounts for a degree of demographic variation or socio-cultural heterogeneity across disadvantaged communities in the Western Cape of South Africa. Although all of the communities in which the 11 schools are situated can be described as economically depressed with a range of social issues such as illiteracy, unemployment, substance abuse, crime, and absent or young parents, the communities do vary in terms of other demographics, such as home language, cultural practices, proximity to resources, and historical forms of educational control.

Table 4.1 below summarizes the contextual characteristics of each school within each set and displays the grade 3 mean performance range from 2002 – 2010. Data pertaining to community demographics were obtained from the 2011 South African Census (Statistics SA, 2011). Pseudonyms are assigned to each of the schools. A *number* signifies a school performing relatively better than expected, and a *letter* signifies a school performing relatively lower than expected. I utilize the original SPADE pseudonyms in this study, though I have renamed the sets, 1 to 4, for logistical purposes.

Table 4.1. School sample contextual features and mean performance range (Statistics SA, 2011)

Set no.	School No.	Poverty Quintile	Broad geographic location	Language of teaching & learning	Community population group	% Employed in local community	Grade 3 mean performance (2002 – 2010)
Set 1 Urban Former-HOR	*1*	NQ3	Delft, Cape Town	Afrikaans & English	51.5% Coloured 46.2% Black	26.1%	Above 60%
	A	NQ3	Delft, Cape Town	Afrikaans & English	51.5% Coloured 46.2% Black	26.1%	45% to <50%
Set 2 Urban Former-DET	*2*	NQ2	Khayelitsha, Cape Town	isiXhosa & English	99% Black	28.4%	50% to <55%
	3	NQ2	Sunnydale, Cape Town	isiXhosa & English	89.4% Black 8.5% Other	43.6%	50% to <55%
	B	NQ3	Khayelitsha, Cape Town	isiXhosa & English	99% Black	28.4%	35% to <40%
Set 3 Peri-urban Former HOR	*4*	NQ3	Bredasdorp, Overberg	Afrikaans	66.5% Coloured 19% White 12.7% Black	41%	Above 60%
	5	NQ3	Hermanus, Overberg	Afrikaans	96% Coloured 2.3% Other	29.7%	55% to <60%
	C	NQ2	Hermanus, Overberg	Afrikaans	95.3% Coloured 2.6% Black	39.6%	45% to <50%
Set 4 Peri-urban Former DET	*8*	NQ2	Mossel Bay, Eden and Central Karoo	isiXhosa & English	66.9% Black 31.3% Coloured	26%	50% to <55%
	9	NQ1	Hermanus, Overberg	isiXhosa & English	94.7% Black 2.3% Coloured 2.1% Other	38.5%	50% to <55%
	E	NQ1	Oudtshoorn, Eden and Central Karoo	isiXhosa & English	74.2% Coloured 24.7% Black	20%	35% to <40%

The image below demonstrates the spread of schools across the province with each school marked with a star. Five of the schools are clustered around the Cape Peninsula, with the remaining six schools spread across eastern peri-urban communities.

Figure 4.1. Mapping of schools across Western Cape, South Africa (Google Maps, 2016)

4.3.2 An introduction to the schools and their community context

Set 1: School 1 and School A

School 1 and School A are situated about 35 kilometers outside the city center of Cape Town within the community of Delft. Originating in the late 1980's, the community is now home to approximately 152,031 residents (Statistics SA, 2011). Due to the expansion of Delft during the 1990's, additional primary schools, including School 1 and A, were established. The broader community of Delft continues to expand through local housing projects. While both schools offer English and Afrikaans as mediums of instruction, the number of isiXhosa speaking learners at these schools continues to rise.

Set 2: Schools 2, 3, and B

The township of Khayelitsha, meaning 'new home', is located about 25 kilometers southeast of the city of Cape Town. Schools 2 and B, though achieving different performance outcomes, are situated within Khayelitsha about 1.5 kilometers apart. Established in 1983 under the policy of residential segregation, Khayelitsha is now home to approximately

391,749 residents and is the second largest township in South Africa (SAHO, 2013; Statistics SA, 2011). School 3 is located in a smaller township, home to 15,968 residents, about 35 kilometers south of Cape Town along the peninsula (Statistics SA, 2011). Both communities have a relatively high influx of migrants from the Eastern Cape province.

Set 3: Schools 4, 5, and C

Schools 5 and C form part of two different fishing villages near the coastal town of Hermanus, approximately 120 kilometers east of Cape Town. The community of School 5 is home to 8,214 residents, and the community of School C, approximately 4,847 residents (Statistics SA, 2011). School 4 is located southeast of Hermanus in the agricultural town of Bredasdorp, about 160 kilometers from Cape Town and home to 15,524 residents (*ibid*). All three peri-urban communities are predominantly Afrikaans speaking.

Set 4: Schools 8, 9, and E

Schools 8 and 9 are situated in two peri-urban coastal townships, the former in a growing community within the Mossel Bay area, and the latter within a township of Hermanus. The community of School 8 is home to 27,562 residents, and the community of School 9 is home to 18,209 residents. Both communities are predominantly isiXhosa speaking. School E is located in the town of Oudtshoorn, situated in the Klein Karoo area of the Western Cape province, about 420 kilometers from Cape Town. While the school offers isiXhosa and English as mediums of instruction, the community of School E has had a recent influx of Afrikaans speaking residents and learners at the school.

4.4 The stages of data collection

The course of the data collection stage extends over a three-year period. From 2012 to 2014, interviews were conducted with various individuals at each of the 11 schools. All interview schedules can be found in Appendix A – E. Piloting of the instruments occurred from 2010 to 2011 to determine whether interview items elicited the kinds of information required for the study. At this stage, certain questions were removed while others were revised. Formal data collection began in 2012, when all grade 3 teachers[7], the Foundation Phase Head of

[7] The number of grade 3 teachers employed at each school varies according to the size of the school or the number of learners. In this sample, the number of grade 3 teachers at each school ranges from between 3 and 5.

Department (HOD), and the principal were interviewed in each school. The units of observation in this study are thus grade 3 teachers, HODs, and principals from a sample of 11 primary schools.

Interviewees, positioned differently within the school's division of labor, were purposefully selected to gain varying perspectives on the work of teachers and on the work of management and how their role is understood in relation to others. Similar questions were asked across all interviewees, including specific probes for detail. This strategy enabled the triangulation of perspectives on multiple aspects of school life providing a more complete account of the questions that were posed. It also enabled a systematic reading of the information obtained from the different respondents within the 11 schools.

4.4.1 Structuring of interview instruments

The structuring of interview schedules constructs the independent variables of the study. Interview instruments utilized in 2012 for grade 3 teachers, HODs, and principals concern a broad range of instructional, organizational, and social aspects of the school. Empirical antecedents, reviewed in Chapter 2, informed the selection of interview items on issues of curriculum planning and coverage, assessment, teaching strategies, instructional time, leadership and management, and the culture of the school.

With all grade 3 teachers in 2012, interviews were semi-structured and included both open and closed questions. More open questions probed for detail relating to specific pedagogic practices for literacy and numeracy, such as:

> *A new teacher asks you for advice for a grade 3 student who is struggling to read. What advice would you give her?*

Teachers were also asked about curriculum planning and lesson delivery, for instance:

> *What or whom do you rely on mostly when planning your lessons in literacy?*
>
> *How do you know what to teach each week for numeracy?*

More structured questions concerned text usage, homework, school performance, and teacher satisfaction.

With the Foundation Phase HOD and principal, interviews were more structured and in some cases used pre-determined categories for organizing responses. The figure below presents an extract from the principal interview instrument of a closed-type question:

Figure 4.2. Extract from Instrument 2: Principal/School Leader Interview (2012)

6. Are any inspections of learner books or assessment tasks undertaken by the SMT/HOD/principal? Tick as applicable.					
Almost never		Occasionally		Regularly	
Please explain your answers.					

HODs and principals were also posed open questions relating to leadership, for instance:

> *What are the main roles and tasks of the principal at this school?*

Regarding school performance, both the HOD and principal were asked:

> *How is learner performance discussed in your school? By whom? How often? What is the focus?*

The principal was asked about the school's culture, the collegial relations of grade and phase teams, curriculum delivery, and teacher professionalism. In 2013, follow-up interviews were conducted with principals at each of the 11 schools to determine whether any changes had occurred, instructionally, managerially, or socially, that might impact on the performance trajectory of the school.

In 2014, follow-up interviews were conducted with grade 3 teachers in each of the 11 schools. Two teachers were selected in order to triangulate responses. Where possible, individuals who were interviewed in 2012 were also interviewed in 2014, though in some cases, new teachers had been appointed to grade 3 since 2012. From engagement with data collected during 2012 and 2013, and from a review of studies on teachers' relations that foregrounded knowledge, the 2014 grade 3 teacher interview instrument focused specifically on expertise, instructional communication, and social relations within the school. The four empirical domains discerned from Chapter 2 relating to when, where, what, and how knowledge is organized in schools were used to design interview items.

The 2014 interview with grade 3 teachers focused on their relationship with other grade 3 teachers, foundation phase teachers, the foundation phase HOD, and the principal. The instrument was designed to elicit information on both formal interactions during meetings and informal interactions about teaching. The schedule made use of a combination of both open and closed questions, with some pre-categorization to organize teachers' responses. Questions mainly pertain to the topics teachers typically discuss, the expertise of colleagues, working relations with other teachers and management, frequency of interactions, feedback on pedagogic practices, assessment processes, and instructional programs designed to improve learner performance in grade 3. Table 4.2 summarizes the kinds of information elicited by the interview schedules, how many of each type of interview was conducted, and where each instrument is located in the appendix of the dissertation. In sum, 96 interviews constitute the data set for this study.

Table 4.2. Summary of interview schedules and description of information elicited

Year collected	Instrument	Description of information elicited	No. of interviews	Appendix
2012	Grade 3 Teacher Interview	The instrument is designed to obtain information pertaining to the grade 3 teachers' pedagogic practices, curriculum planning, support, and delivery, and general information relating to teacher satisfaction and the school's academic performance	41	A
2012	Principal/School Leader Interview	The instrument is designed to obtain information pertaining to leadership and management practices in the school, learner performance, teacher professionalism and curriculum delivery, and community and parent characteristics	11	B
2012	Foundation Phase Teacher/HOD interview	The instrument is designed to obtain information on experiences of leadership and management, learner performance, instructional strategies for improvement, and community and parent characteristics	11	C
2013	Follow-up Principal/ School Leader Interview	The instrument is designed to obtain information on any changes in the school since 2012 relating to leadership and management practices, teacher appointments, learner performance, and academic expectations	11	D
2014	Follow-up Grade 3 Teacher Interview	The instrument is designed to obtain information pertaining to expertise within the school, teachers' relationships with other teachers and management, the discourse of formal and informal professional activities, and the grade 3 instructional program, including assessment practices, content selection, and strategies for improvement	22	E

4.4.2 From information to data

To understand the basis for the construction of data, a number of design decisions will be made explicit in this section. Information was collected from persons that were purposefully selected for the study. The information acquired provides a personalized account of what tends to happen in these schools. Though the mode of inquiry is a form of indirect observation of the phenomena concerned, the decision to interview was purposeful.

This study is deeply interested in how experience is *structured* and *bounded*. Such an approach requires an analysis of how individuals position themselves in relation to others and categorize their experiences. Interviewing various individuals at multiple points in time provides the information required to observe, indirectly, the principles regulating the organization of the school, for instance, whether teachers recognize the expertise of their colleagues, openly seek advice, or work well together. The interview space enabled individuals to reflect on the context in which they work, eliciting insight into the endogenic nature of the school.

To a degree, a bias operates during the phase of data collection on the part of the researcher in the selection of data that was collected and recorded. This bias, however, was made explicit prior to entering the interview space through the careful structuring of interview instruments. The structuring of the instruments provided a 'pre-conceptualization' of the empirical setting to be observed. As a result, information was systematically collected in terms of the categories set out within the schedule (Brown and Dowling, 1998).

To ensure interviewees felt comfortable sharing their experiences, three languages were involved in the collection[8] of information during interviews: Afrikaans, isiXhosa, and English. Where necessary, information was transcribed and translated into English by a fieldworker proficient in the language. In the recording of information collected during interviews, audio-records were obtained in some cases and detailed field notes obtained in all cases. These decisions were based on the kind of information being obtained. For instance, the 2012 grade 3 teacher interviews were audio-recorded in full and transcribed in parts where extensive detail was required. For the principal and HOD interviews conducted during

[8] Forming part of the broader SPADE project, the collection of data was carried out by a research team of fieldworkers, of which I formed part, who were trained according to data collection protocol. Interviews were systematically conducted according to formalized protocols for interview conduct.

2012 and 2013, very detailed field notes were taken during the course of the interviews. During the 2014 grade 3 teacher interviews, detailed field notes of interviewee responses were employed. Verbatim speech was recorded in response to open questions that required an elaborated explanation or an example.

Immediately following the interviews, field notes were transcribed and any additional information obtained or observations of the interview setting were recorded separately. Post-interview reflections served as an important stage in the analysis of the data to discern emergent similarities and differences between interviewee responses and between schools.

4.5 Method of data analysis

In what follows, I describe the processes involved in the organization and description of the data and how the conceptual framework presented in Chapter 3 is operationalized through an external language of description. I present a variety of examples of the coding of the data for each conceptual dimension of the study and make explicit what counts as data and how to interpret or read the data.

4.5.1 Organizing and describing the interview data

From the perspectives of principals, HODs, and teachers, the primary unit of analysis is importantly, *grade 3 teachers' relations* in various contexts and with various individuals regarding instruction. This includes teachers' relations with other teachers and with management. Empirically, a series of contexts and relationships were considered as crucial settings for the investigation of how knowledge is socially organized. Four discrete *contexts of communication* were discerned for the description and analysis of grade 3 teachers' relations, constituting four discrete sub-units of analysis:

- Relations between grade 3 teachers
- Relations between grade 3 teachers and foundation phase teachers in grades 1/2
- Relations between grade 3 teachers and the foundation phase HOD
- Relations between grade 3 teachers and the principal

These four contexts were used to classify information collected from interviews in order to translate the information into organized data sets. In the first instance, a table was generated

for each of the four contexts of communication to organize what data pertained to which context. These tables also included interviewee responses; the interview instrument and item number, for example, G3T.14.Q2a; the interview question; as well as the respondent's name represented by a school-based pseudonym, such as T8.4 for Teacher 4 at School 8. It was important to keep track of names so that responses could be compared across interviewees. By setting up a table in this way, it was also possible to read the data systematically across the sample of schools.

Once all data had been extracted from interview transcriptions and organized into tables, I created smaller sub-sets of tables to organize the data according to two criteria:

- Data pertaining to a particular context of communication, such as, 'the relations between grade 3 teachers'
- Data pertaining to an orienting concept, for instance, 'expertise'

Particular questions from interview schedules were identified as empirical indicators of the criteria. Sub-sets of organized data were then used to produce 'data descriptions' that combined both narrative of and extracts from the data. Data descriptions purposefully exclude interpretation of meaning. Inductive observations of what the data means in relation to the research questions were documented separately during this process. By separating description from interpretation at this stage, a variety of analytic iterations were made possible.

As I worked between the conceptual framework and the data, I employed a number of orienting concepts to organize the data in different ways. This allowed me to deductively test hypotheses and discern the most meaningful patterns of empirical variation. The conceptual framework was revised several times during the data analysis stage. Multiple sub-sets of tables were therefore generated to produce different data descriptions. In this way, the data was in conversation with the theory and was able to challenge the boundaries of the conceptual categories.

For Bernstein, the development of theory necessarily encounters a 'discursive gap' between the languages used to read and to interpret the text. An interface is generated where descriptions of the data speak back to the rules of interpretation thus enabling conceptual

change, or in Bernstein terms, "the described can change its own positioning" (2000: 131). Below, I employ Bernstein's mode of inquiry and make explicit the evolution of the empirical and conceptual languages developed throughout the analysis stage.

4.5.2 The external language of description

One of the primary aims of this study is to develop a language of description as a research tool that can *describe*, empirically and conceptually, similarities and differences in the forms of teacher's social relations. In Chapter 2, I showed that much empirical research on school organization, leadership and management, and teachers' professional community is largely normative, as opposed to descriptive, and lacks a language for capturing more discrete forms of variation. From the review, four empirical domains were discerned and hypothesized as key to the investigation of how knowledge is socially organized in schools. These are:

- How often knowledge is made accessible
- Where knowledge and expertise reside within the school
- What specific kinds of knowledge and expertise are made available
- How the circulation of knowledge is controlled through teachers' relations

In Chapter 3, I constructed a theoretical framework for the instructional order of the school that generates conditions for the circulation of knowledge. It was theorized that the instructional order generates a system of communication and varies along two social axes or dimensions:

- The specialization of instructional communication
- The form of communication relations

Where specialization organizes, classifies, and differentiates the 'what' of instructional communication, the form of relation regulates the 'how' of interaction through rules for communication. To operationalize these two dimensions empirically, an external language of description was developed in light of the four empirical domains. In what follows, I bring together the empirical domains and the conceptual framework and show how an external language of description is developed for the analysis of teachers' relations.

The external language of description (L^e) is formally defined as the "empirical referent" or the "interpretive interface" that enables an unambiguous reading of the data (Bernstein, 2000:

135). Vital to the interpretive and theoretical validity of this research, the external language makes visible what is to count as an empirical realization of a concept. For instance, what does the concept, 'specialized discourse' look like in the data? The external language specifies precise criteria or boundaries for making judgments about the data, promoting greater reliability in the coding process.

In the operationalization of *specialization*, three indicators were discerned over multiple iterations of data description and analysis:

- Frequency of instructional communication
- Recognition of distinct instructional practice
- Specialization of instructional discourse

The three indicators speak to issues of how often knowledge is made accessible, where knowledge resides, and what kinds of knowledge are made available. In this way, the indicators specialize the categories of time, practice, and discourse, set out in Chapter 3. When referring to communication and the indicators of specialization, the term 'instructional' is used to signal a focus on data that deals with knowledge and pedagogy, or the 'what' and 'how' of teaching and learning. Data pertaining to other issues, such as discipline, are excluded from this study.

There are two key points to be observed regarding the concept of specialization as it is used here. The first is that specialization is a relative measure understood within the context of a low performing and under-resourced education system. Specialization is therefore restricted in these contexts. Differences in specialization strength between schools are *relative to* other schools within the sample under investigation. The second concerns the nature of teaching in primary schools specifically. Though the work of a primary school teacher may be considered less specialized in relation to, for example, the high school algebra teacher, empirical variation is nevertheless present between the schools.

In the sections that follow, I present the external language or the rules for recognizing and interpreting the data for the three indicators of specialization. I then move on to consider the second dimension of instructional order, the form of communication relation, and present the respective rules for description and interpretation.

4.5.2.1 Coding the frequency of instructional communication

The utilization of instructional time in South African schools has been cited as an important resource and yet a critical problem (Taylor, 2008). In many ways, time is a potentially productive instructional resource that all schools share, irrespective of their history or socio-economic composition. To what extent then do grade 3 teachers communicate with their colleagues about instruction? Are there more opportunities to communicate in some schools than others, or in certain contexts more than others? Where time is clearly marked and bounded for teachers to discuss instructional matters with others, communication, and therefore time, is more strongly specialized.

In the structuring of the interview schedules, two distinctions were made in the collecting of the data relating to how often instructional communication occurs. The first is the distinction between formal and informal communication. I was interested in both the frequency of structured or scheduled kinds of communication as well as the unscheduled instances of interaction. For instance, teachers were asked:

> *How often do grade 3 teachers meet as a team?*
>
> *How often do you discuss teaching practices with other teachers in the school outside of meetings?*

A second distinction is made in the structuring of the interview instruments between the four contexts of communication so that each could be considered in relation to each other, for example, whether grade 3 teachers communicate more frequently with the HOD or with the principal about instruction. This distinction enables a context-specific consideration of frequency between contexts within schools and between schools within the sample.

From the perspective of school management, principals and HODs were asked how often learner performance is discussed and by whom, how often inspections of learner books and tasks occur, and how often classroom observations take place. Within the interview instruments, frequency scales were used to classify interviewee responses to these types of questions with room for further explanation. An example of a frequency scale extracted from an interview instrument is presented below.

Figure 4.3. Extract from Instrument 14: Grade 3 Teacher Interview (2014)

7a. Do you have GRADE level meetings? If so, how often do GRADE 3 teachers meet as a team?							
At least once a week.		About every two weeks.		About once a month.		Never. We don't meet.	
Comments? (Probe for degree of regularity, e.g. when do you meet and where?)							

Not all instances of communication reported by teachers, HODs, and principals pertain to instruction however. Frequencies of non-instructional forms of communication are therefore excluded from the overall frequency measure. The table below presents the external language of description for what counts as data and the forms of variation used to code the frequency of instructional communication between grade 3 teachers and their colleagues.

Table 4.3. External language of description for the frequency of instructional communication

Dimension	**Contexts of communication**	**Conceptual indicator**	**Empirical indicator**	**Variation/coding**
Specialization of instructional time	- Amongst G3 teachers - Between G3 teachers and the FP - Between G3 teachers and the FP HOD - Between G3 teachers and the principal	Frequency of instructional communication	How often grade 3 teachers discuss topics that pertain to teaching, learning, and classroom instruction Distinction made between how often communication occurs both *formally* at meetings and *informally* at unscheduled times before, during, or after school Does not take into account whether the communication is strongly or weakly specialized to topics pertaining to pedagogy, only whether instructional topics are present in the form of communication	(5) More than once per week; Daily (4) Once per week (3) Twice per month (2) Once per month (1) Once per term (0) None

During the coding phase, particular interview questions were identified as empirical indicators of frequency. A sub-set of tables was then created to extract and organize data on how often instructional communication occurs. Data extracts, based upon frequency scales

used for interviews, were relocated to a second table and coded with the numerical values presented above in Table 4.3. For example, a code of [4] was allocated when the frequency of instructional communication was reported as once per week.

Each of the four contexts of communication within each of the 11 schools was coded separately. First, individual interviewee responses were coded for formal and informal interactions. Codes for individual responses were then aggregated to produce a composite measure of the reported frequencies. This procedure generated a mean score for formal communication and for informal communication. Next, a second-level frequency aggregate was calculated in order to more broadly classify a specific context of communication. This measure was calculated by taking the mean of both the formal and informal frequencies of communication for all interviewees, weighting both types of communication equally. Table 4.4 presents an extract from a coding table to exemplify this process for grade 3 teachers' relations. For this particular context, data on the frequency of communication was obtained in 2014 during follow-up interviews with two teachers at each school.

Table 4.4. Extract from a coding table for measuring the frequency of instructional communication at Schools 8, 9, and E (Set 4)

Set no.	**School no.**	**Context: Relations between grade 3 teachers**						**Overall mean**	
		Formal frequency	**Code**	**Mean**	**Informal frequency**	**Code**	**Mean**		
4	8	T8.4. 2x/month	3	*3*	T8.4. None	0	*3*	*3*	**-**
		T8.3. 2x/month	3		T8.3. 2x/week	5			
	9	T9.2. 1x/week	4	*4*	T9.2. 2x/week	5	*5*	*5*	**++**
		T9.5. 1x/week	4		T9.5. 2x/week	5			
	E	TE.1. 1x/week	4	*4*	TE.1. Daily	5	*5*	*5*	**++**
		TE.4. 2x/month	3		TE.4. 1x/week	4			

While this procedure was being carried out for all schools, a language of description was generated alongside to classify variation in the findings for each context of communication. The language signifies the frequency of interactions on a scale from high frequency (++) to very low frequency (- -), shown in the far right column of Table 4.4. Each signifier corresponds to a specified numerical value, or range of values, produced during the coding

procedures described above. Table 4.5 is an example of a data coding descriptor, which enables an unambiguous reading of the data between schools.

Table 4.5. Measuring the frequency of instructional communication amongst grade 3 teachers

In the formal and informal kinds of communication between grade 3 teachers	++	+	-	- -
	High frequency (5)	Moderate frequency (4)	Low frequency (3 – 2)	Very low frequency (1 – 0)
	Teaching and learning are typically discussed *more than* once per week and/or on a daily basis.	Teaching and learning are typically discussed about once per week.	Teaching and learning are typically discussed about once or twice a month.	Teaching and learning are typically discussed once per term or hardly ever/never.

A four-point scale is used for all data descriptors to avoid a middling tendency and to evenly distribute variation on one side of the continuum or the other. The same four-point scale of signifiers, from (++) to (- -), is applied to all dimensions in this study to systematically compare variation across the dimensions investigated. A total of 16 data coding descriptors were generated for each context of communication for the four sub-dimensions of the study. All data descriptors can be found in Appendix F.

In the final stage of coding the frequency of instructional communication, a school-level aggregate was generated to classify how often teachers talk about instruction within a variety contexts. An aggregate score was produced by calculating the mean of the numerical values assigned to each of the four contexts of communication. All scores were then relocated to a table and replaced with a signifier according to the scheme exemplified in Table 4.5 above. Table 4.6 exemplifies the end result, which is used to compare frequencies within and between schools in the sample.

Table 4.6. Measuring the frequency of instructional communication at School 8

In the formal and informal kinds of communication between…		Grade 3 teachers	G3 and FP teachers	G3 teachers and the FP HOD	G3 teachers and the principal	**School level aggregate**
Set 4	School 8	-	+	++	-	-

4.5.2.2 Coding the recognition of distinct instructional practice

The second indicator of specialization explores the formal 'division of pedagogic labor' (Ensor, 2001) in which status and expertise may coincide or 'shade into each other' (Parsons, 1947b). It also explores expertise recognized through informal communication as an indicator of where other cognitive resources may be located. The term 'distinct' signals a focus on the specialty and distinguishing characteristics of particular practices. 'Instructional' refers to any teaching practice that relates to the transmission and/or acquisition of knowledge for *grade 3 specifically*. 'Practice' denotes the enactment of an instructional role realized within a context of communication. This dimension addresses the extent that instructional forms of expertise are recognized or marked out by grade 3 teachers within the school.

The analysis of recognition reads the concept through the perspective of grade 3 teacher interview data only. This approach implies where cognitive resources are located for grade 3 teachers to recruit for instructional purposes. In the structuring of the interview schedules, a variety of questions were developed to capture categories of expertise and distinct practices. This includes formal recognition by title, such as the 'Mathematics Head', as well as informal recognition through teachers' social relations. In the recognition of practice, interviewees were asked questions such as:

> *Are there any teachers in your school that you would go to for help if you were experiencing problems in the classroom?*

If the interviewee identified or recognized a specific individual or set of individuals, I then probed for the specific form of expertise, knowledge, or skill and how the teacher came to realize these. To elicit information on the practices of HODs and principals, teachers were asked questions about the reception of pedagogic support and the substance of instructional communication during classroom visits.

The 2012 and 2014 grade 3 teacher interview transcripts were used to generate data descriptions for this dimension. Interview data from at least 5 teachers at each of the 11 schools were considered. From the data, four empirical indicators of recognition were used to produce an overall coding score for each context of communication. Table 4.7 presents the external language of description for the recognition of distinct instructional practice.

Table 4.7. External language of description for the recognition of distinct instructional practice

Dimension	Contexts of communication	Conceptual indicator	Empirical indicators	Variation/coding
Specialization of instructional practice	- Amongst G3 teachers - Between G3 teachers and the FP - Between G3 teachers and the FP HOD - Between G3 teachers and the principal	Recognition of distinct instructional practice	Whether distinct instructional tasks are *formally* allocated and carried out by particular individuals	(1) Presence (0) Absence
			Whether distinct instructional tasks are *informally* allocated and carried out by particular individuals	(1) Presence (0) Absence
			Whether the instructional practice of an individual is marked out as distinct and relevant to grade 3 pedagogy	(2) Several (recognized by *at least 2 teachers*) (1) Few (recognized by *1 teacher*) (0) No recognition
			Whether expertise is attributed to specific individual(s) relevant to grade 3 pedagogy	(2) Several (recognized by *at least 2 teachers*) (1) Few (recognized by *1 teacher*) (0) No recognition

In the coding scheme presented in Table 4.7 above, there are two distinct kinds of variation in the data. The first is the presence or absence of instructional tasks carried out by specific individuals, either formally or informally. This indicates whether specialized work is enacted. The second kind of variation in the data is *how many* interviewees or teachers recognize distinct instructional practices and expertise relevant to grade 3 teaching and learning. The greater the number of teachers who recognize distinct practice and expertise, the higher the recognition and the stronger the specialization of instructional practice. Table 4.8 exemplifies a coding table generated from data descriptions for the recognition of distinct instructional practice.

Table 4.8. Extract from a coding table for measuring the recognition of distinct instructional practice at Schools 2, 3, and B (Set 2)

Set No.	School No.	Context: Relations between Grade 3 teachers and the Foundation Phase HOD				Total score	
		Informal tasks	**Formal tasks**	**Pedagogic practice**	**Pedagogic expertise**		
2	2	T2.5. Informal classroom visits; Feedback on learner books – 'Indicate what intervention you did to help this learner'	T2.5. Teaches mathematics for G3 teachers and generates assessment tasks	T2.6. Helps learners in her class with learning disabilities T2.5. Demos methods; 'how to' teach a topic using a specific strategy, e.g. indirect speech	T2.5. Mathematics T2.6. Knowledge of CAPS (curriculum) and selection of topics	6	++
		1	*1*	*2*	*2*		
	3	T3.3. Looks at tasks and learner results to see how teachers and learners perform; Gives teachers feedback on tasks and learner books	T3.5. Scheduled fortnightly visits to evaluate lessons and identify teachers' strengths and weaknesses	T3.5. Support in preparing activities for lessons	T3.3. Home language T3.5 Good at writing comprehension tasks at specific level of cognitive demand	5	*++*
		1	*1*	*1*	*2*		
	B		TB.4. Schedules and moderates assessment tasks; allocates to teachers who will create which task	TB.1. Support with lesson planning		2	-
		0	*1*	*1*	*0*		

Within the table above, a code is allocated below empirical indicators of recognition based on data descriptions and the coding scheme presented in Table 4.7. A total score for measuring the recognition of distinct practice is generated in the far right column by calculating the sum of the discrete indicator codes. The total recognition score, or composite value, is used to classify each context of communication at each school on a scale from high recognition (++) to no recognition (- -). The table below exemplifies a descriptor developed during the coding process for classifying the strength of recognition for a particular context of communication.

Table 4.9. Measuring the recognition of distinct instructional practice regarding the FP HOD

In relation to the instructional practice of the FP HOD	++	+	-	- -
	High recognition (6 – 5)	Some recognition (4 – 3)	Little recognition (2 – 1)	No recognition (0)
	Several grade 3 teachers recognize the instructional practice of their HOD as distinct and also attribute her with a particular form of expertise relevant to grade 3 pedagogy. The HOD tends to be recognized for distinct pedagogic tasks, formally and informally.	A few grade 3 teachers recognize the instructional practice of their HOD as distinct and may attribute her with a particular form of expertise relevant to grade 3 pedagogy. The HOD may be recognized for distinct pedagogic tasks, formally and/or informally.	About one grade 3 teacher recognizes a distinct instructional practice or task of their HOD. Where teachers report their HOD as somewhat supportive in relation to instruction, the form of expertise or practice is not marked out as distinct from others.	Grade 3 teachers do not recognize any distinct instructional practice or task carried out by their HOD. Teachers tend to find their HOD unsupportive in relation to instruction.

A school-level aggregate was then generated to classify a measure of teacher recognition across a variety of contexts. The aggregate was produced by calculating the mean of the numerical values assigned to each of the four contexts of communication. In the same manner of measuring the frequency of communication, all recognition scores, or numerical values, were relocated to a table and replaced with a signifier according to Table 4.9 above. The final table is used to compare recognition within and between schools in the sample.

4.5.2.3 Coding the specialization of instructional discourse

It was hypothesized in Chapter 2 that analyses of student data to develop instructional strategies, reflections on classroom practice, and curriculum decision-making are important forms of collaboration. The third indicator of specialization therefore examines the substance or the 'what' of instructional communication, termed a 'discourse', which may be more or less specialized for the purpose of pedagogic practice.

Instructional discourse is defined in this study as a form of communication that pertains to the transmission and/or acquisition of knowledge and skills for grade 3 pedagogy. In measuring the specialized nature of the discourse, two criteria are utilized, which move beyond a measure of the predominance of instructional topics. The first criterion is the *specificity* of the discourse. Through communication, specificity is achieved when pedagogy

is differentiated into aspects or categories, for instance, 'teaching 3-digit addition'. The second criterion is the *depth* of the discourse. Depth is achieved through an analysis of specific aspects of pedagogy, or when relevant strategies are exchanged and/or developed to resolve issues with teaching and learning in grade 3. In this way, an investigation of instructional discourse exposes what knowledge and skills for teaching and learning come to be 'known, shared, and developed'.

The analysis of instructional discourse utilizes grade 3 teacher, HOD, and principal interview data from 2012, 2013, and 2014. Interviewees were asked to reflect on the typicality of different kinds of formal and informal interactions with other teachers, with the HOD, and with the principal. For instance, grade 3 teachers were asked:

> *Do you ever receive feedback from others on your classroom teaching? What kind of feedback do you receive, or what kinds of things do they say?*
>
> *Does your HOD help or support you with your classroom teaching? If so, how?*

To facilitate the organization of the data, some interview items were structured with pre-conceptualized categories of communication. For example:

> *During a typical grade meeting, what are some of the things that you normally talk about?*

From the list below, teachers were asked to rank the three primary topics typically discussed and to explain their answer:

- *Sharing of teaching strategies*
- *Problems with learner behavior*
- *Problems with teaching and/or learning*
- *Learner performance and/or assessments*
- *Resources to use for teaching*
- *What topics to teach*
- *How long to spend on topics*
- *Parents and/or the community*
- *Administrative duties*
- *Other*

For each topic, I probed for further detail or specific examples of what teachers get from the meetings, whether solutions to particular problems are discussed, and if so, how. This was a crucial part of the protocol carried out systematically across all interviews. Though not entirely exhaustive, the categories of topics assisted in the description and organization of teachers' responses in the first instance of data analysis to discern patterns of discourse across the schools. Key, however, is the explanation that teachers provided to elaborate the category or topic. For example, how teachers talk about assessment tasks or learner performance varies. The topic may be instructional, but the degree of specialization may differ. The focus of the analysis is therefore variation in the specificity and depth of instructional topics.

The foundation phase HOD and principal were asked different kinds of questions relating to instructional discourse, such as:

What do the grade teams meet about?

How is learner performance discussed in your school? What is the focus?

The principal and HOD were also asked a variety of similar questions relating to their own role or function as well as the roles of their colleagues. This approach enabled the triangulation of responses between interviewees. For instance, the principal and HOD were both asked:

What are the roles and functions of the principal?

This type of question provided descriptions of instructional communication enacted by the role and in relation to grade 3 teachers.

Similar to the way in which other dimensions of specialization are explored, data descriptions of the forms of instructional communication were first generated from sub-sets of tables containing extracted data from interview transcripts. Initially, the predominant form of the discourse was explored by categorizing the main topics discussed in different contexts as either 'instructional' or 'non-instructional'. Once it became clear that this measure was not capturing a significant kind of variation in the data, the next step was to analyze in greater detail how instructional topics vary, or the specialized nature of those topics. As a result of this approach, the data challenged the rules of interpretation thereby changing its own 'positioning'. In the coding of the data, empirical indicators of specialized discourse were

developed over multiple iterations of analysis. The table below presents the external language of description for measuring the strength of the specialization of instructional discourse in terms of its specificity and depth.

Table 4.10. External language of description for the specialization of instructional discourse

Dimension	**Domains of interaction**	**Conceptual indicators**	**Empirical indicator**	**Variation/coding**
Specialization of instructional discourse	- Amongst G3 teachers - Between G3 teachers and the FP - Between G3 teachers and the FP HOD - Between G3 teachers and the principal	Specificity and depth of instructional communication	Whether the discourse specifically identifies strong and weak aspects of grade 3 pedagogy and relays relevant instructional strategies for teaching and learning	(2) Full development of the indicator; specific aspects of pedagogy are identified and addressed strategically (1) Partial development of the indicator; aspect of pedagogy discussed, not necessarily specific or addressed strategically (0) Little to no evidence of the indicator; specific aspect of pedagogy/strategy not clearly identified or addressed

In the first stage of analysis, a table was generated with a sub-set of data extracts relating to instructional forms of communication from all grade 3 teacher, HOD, and principal interviews. From these tables, data descriptions were produced for each context of communication at each school between grade 3 teachers, between grade 3 and foundation phase teachers, between grade 3 teachers and the HOD, and between grade 3 teachers and the principal.

To determine the strength of specialized discourse for each context, I looked for instances of the empirical indicator, that is, where strong and/or weak aspects of grade 3 pedagogy and relevant pedagogic strategies were identified. In some cases the indicator was fully present, though in others, it was partially developed. Partial development of the indicator entailed the identification of strong or weak aspects of pedagogy, for instance, a problem experienced while teaching, though it was not addressed strategically or resolved in any way through the exchange or development of instructional strategies for grade 3.

The following are examples from the data of the *full development* of the indicator for the specialization of instructional discourse, which would have received a coding of [2]:

- Problems teachers experience in preparing for certain lessons followed by the sharing of strategies that work well for other teachers, such as, 'how to teach sums', and demonstrations of strategies on the board in front of the teacher group
- Which instructional activities to give to specific grade 3 learners who are performing at a grade 1 or grade 2 level
- Strategies for all grade 3 teachers to use in their classrooms on a daily basis based upon what the learners are struggling with, such as flash cards with sight words and revision of times-tables
- Feedback from grade 3 teaching 'buddy' on assessment task items generated for the grade that forms part of the weekly assessment program in grade 3

In contrast, the following are examples of the *partial development* of the indicator of specialized discourse, which would have received a coding of [1]:

- Weaknesses of learners identified from assessment task results, such as, 'they struggle with their phonics'
- Whether teachers are keeping up with expected content coverage outlined in the lesson plans
- What topics learners are struggling with in the workbooks
- Talk concerning 'disabled' or 'struggling learners' in mathematics

For each context of communication across the 11 schools, empirical instances of the indicator were recorded in a table to compare the different strengths of specialization *relatively* between contexts and between schools. During the coding process, it became apparent that the manifestation of specialized discourse varies in two important ways. The first, as described above, is the presence of the full development of the indicator where strong and weak aspects of grade 3 pedagogy *and* relevant strategies are relayed. The second is the number of instances or variety of ways in which the different forms of specialized talk manifest. Thus, the greater the variety of ways in which the discourse is specialized, the stronger the specialization of instructional discourse. By working between the data and the theory, data descriptors were developed to classify the strength of specialization for different contexts of communication. Table 4.11 presents an example of a data coding descriptor.

Table 4.11. Measuring the strength of specialization of instructional discourse amongst grade 3 teachers

In the forms of instructional discourse exchanged between grade 3 teachers	++	+	-	- -
	Strongly specialized (8– 7)	Fairly specialized (6 – 5)	Fairly unspecialized (4 – 2)	Very unspecialized (1 – 0)
	Teachers identify pedagogic strengths and weaknesses and share relevant strategies with one another in a variety of ways (i.e. 3 or more). Teachers typically analyze performance results on assessment tasks to identify specific contents or skills as focus areas for grade 3 classrooms. Strategic pedagogic approaches or programs are also discussed as a means to improve learner performance.	Teachers identify pedagogic strengths and weaknesses and share relevant strategies with one another in several ways (i.e. 2 or 3), such as the analysis of performance results, focus areas for lessons, and/or strategic programs to improve results. Other topics tend to be more routinized, such as the design of lesson plans or the marking of tasks; or, topics are non-instructional.	Teachers identify aspects of their practice and/or may share relevant strategies with one another in a few ways (i.e. 1 or 2). There is little development of strategic programs for improvement from discussions of learner results. Strategies are less targeted, and focus areas or specific contents are not clearly identified. Other topics concern more routine forms of instructional work; or, topics are non-instructional.	There is little to no evidence that teachers identify aspects of their practice or share relevant strategies. Teachers tend to discuss 'struggling' learners or problems experienced in the classroom, often in relation to issues with discipline. Other topics tend to concern more routine forms of instructional work, e.g. scheduling of tasks; or, topics are non-instructional.

The range of values associated with each signifier for the strength of specialization above represents the *sum* of the coding for each instance of an empirical indicator identified in the forms of instructional discourse. As an example, if there were two instances of a fully developed indicator for specialized communication, this would equate to a sum of [4]; the discourse would therefore be coded as (-) fairly unspecialized.

As a reliability check in the coding of specialization, as well as all other dimensions of the study, I compared coding measures relative to one another to ensure the codes were allocated accurately. The process ensured that if two contexts were similarly classified as 'fairly specialized' (+), then empirically, instances of specialization were very similar in the data. In cases where schools were coded similarly yet differed empirically, I went back to the data coding tables to re-examine the basis for the code. This process provided a sharpening of the

coding scheme and a refining of the data descriptors. From multiple iterations of analysis, differences between the strengths of specialization became more and more evident, enabling a stronger degree of reliability in the coding process.

In the final stages of coding, an aggregate measure of specialized discourse was calculated for each school by taking the mean of the numerical values assigned to each context of communication. All scores were relocated to tables and replaced with a signifier according to the data descriptor, exemplified in Table 4.11 above. The table was then used to compare the strength of instructional discourse within and between schools.

4.5.2.4 Producing a composite measure of specialized communication

Once the frequency of instructional communication, the recognition of distinct practice, and the specialization of discourse had been coded for each context across the 11 schools, I produced a composite measure for the specialization of *communication*. To do this, however, I could not take the mean of the original values associated with each sub-dimension, given that each was calculated using a different scale or range of values. To produce a composite measure, I gave equal weighting to the specialization of time, practice, and discourse, respectively, by assigning a new value to each signifier on a 4-point scale. The new values are as follows:

++	=	3	=	strongly specialized communication
+	=	2	=	fairly specialized communication
-	=	1	=	fairly unspecialized communication
- -	=	0	=	unspecialized communication

The table below exemplifies how the original values associated with each sub-dimension of specialization were translated into new values.

Table 4.12. Calculating a composite measure for the specialization of communication

In the forms of instructional communication between grade 3 teachers	Frequency of communication	Recognition of distinct practice	Specialization of discourse
Original value	5	4	3
Signifier	++	+	-
New Value	3	2	1

To produce a composite measure for the specialization of communication, the mean was calculated for the new values associated with the frequency of communication, the recognition of practice, and the specialization of discourse. From the table above, the mean of the new values is equal to [2]. According to the new scale, [2] translates into a (+), signifying fairly specialized communication. This procedure was carried out for all contexts of communication within the 11 schools, enabling the specialization of communication to be compared relatively and giving equal weighting to time, practice, and discourse.

4.5.2.5 Coding the form of communication relations

The second macro dimension for the analysis of teachers' social relations is the form of the communication relation. As conceived in Chapter 3, this dimension is defined as the regulatory system of the instructional order of the school. It is concerned with how instructional communication is enacted and the forms of social relations that facilitate this. Underlying rules for interaction and communication are based on the status of a role derived from the formalized normative order of the school's social structure. Formally, teacher roles are structured horizontally, given their shared status. Between teachers and management, roles are organized hierarchically, given their differential status relation. Communication is therefore constrained by rules of social order to a greater or lesser extent.

This part of the study examines the regulation on communication or nature of the 'flow' of instructional information between teachers and their colleagues. The aim is to understand how the circulation of knowledge may be controlled through different kinds of social relations, namely, the relations between teachers and the relations between teachers and management.

The analysis of the form of relation considers three inter-related dimensions or rules regarding the enactment of communication that pertains to *instructional topics* only:

- Initiation of when interactions may occur
- Selection of what topics may be discussed
- Negotiation of how topics may be discussed

These three conceptual indicators of the form of communication relation were developed empirically from multiple iterations of coding and analysis as the most significant forms of variation within the data. Together, the indicators constitute a form of relation, which I classify on a scale from *open relations* (relaxing of rules) to *closed relations* (observance of rules). The terms open and closed do not mean that communication, or the flow of information, is open or closed. Rather, open and closed refer to the extent that the rules for communication are relaxed or observed on the basis of status.

For the analysis of the initiation of *when* interactions may occur, I consider data relating to both teacher-initiated and other-initiated communication. The data concerns issues of control over when interactions occur. In this case, only *informal* interactions are considered for the analysis given that informal communication is less structured and occurs during unscheduled times. Where teachers initiate communication informally with their colleagues of their own volition, the rules for communication are teacher-controlled, or more open. Questions relating to the 'seeking out' of colleagues and whether colleagues initiate communication with teachers are considered. For instance, grade 3 teachers were asked:

> *Do you ever discuss teaching practices with other teachers in the school outside of team meetings? How often does this occur?*

I also utilize data from teachers' descriptions of their collegial work relations, such as:

> *How would you describe your relationship with the foundation phase HOD?*

In measuring initiation, variation is based on the *regularity* of the communication, as opposed to a measure of frequency.

In the selection of *what* topics may be discussed, I consider data relating to *formal* interactions and whether individual grade 3 teachers talk about topics of their choosing in the

context of a scheduled meeting. Questions relating to instructional discourse are considered for the analysis of selection, such as:

> *During a typical phase level meeting, what are some of the things that you normally talk about?*

From interviewees' descriptions of how topics are selected, I examined the extent that the teacher selects the topics or whether the selection of topics is based upon status. As an example, the HOD may potentially control what topics are discussed during a foundation phase meeting. From the perspective of the principal and HOD, questions pertaining to their role in relation to teachers' work were used to determine whether communication was based upon status, for instance, questions regarding observations of teachers' practice, assessment tasks, and learner books, as well as other kinds of meetings that pertained to instruction. To a greater or lesser extent, communication may be constrained by rules for who may speak and what may be said, particularly in contexts of formalized interaction.

Negotiation of *how* topics may be discussed serves as the third indicator for determining the form of communication relation. Negotiation is defined as the extent that a topic is developed or modified and an instructional outcome determined through the sharing of individual ideas, for instance, in developing a strategy for grade 3 classrooms or in the discussion of how best to teach a specific skill. Where topics are negotiated, the rules of communication are relaxed and achieved through interaction and discussion. Here, I am particularly interested in the extent to which teachers modify (or change) the meaning of a topic.

Though it was not explicitly distinguished in the analysis of the data, both written and oral forms of communication are explored. For instance, principals and HODs were asked questions relating to inspections of teachers' and learners' work as well as classroom observations, which entail both an oral and written component. In the case of grade 3 teachers, questions relating to feedback on their performance either elicited an oral or a written form of communication. Whether the communication occurred orally or in written form was inductively derived from the data, though it did not impact on whether the relation was coded as open or closed. Table 4.13 below summarizes the external language of description for the analysis of the form of teachers' communication relations.

Table 4.13. External language of description for the form of communication relations

Dimension	Domains of interaction	Conceptual indicator	Empirical indicators	Variation
Form of communication relation	- Amongst G3 teachers - Between G3 teachers and the FP - Between G3 teachers and the FP HOD - Between G3 teachers and the principal	Initiation of communication: *teacher-controlled*	Extent that the grade 3 teacher informally initiates communication pertaining to instruction with other teachers and with management	(2) Hardly ever; never (1) Sometimes; from time to time (0) Regularly, whenever the need arises
		Initiation of communication: *other-controlled*	Extent that other individuals, i.e. teachers, the HOD, or the principal, informally initiate communication pertaining to instruction with grade 3 teachers	(2) Hardly ever; never (1) Sometimes; from time to time (0) Regularly, whenever the need arises
		Selection of communication	Extent that the grade 3 teacher determines what instructional topics to discuss with other teachers and with management	(3) Most topics pertain to the status of the group and/or are determined by position or status (2) From time to time, a few topics are determined by the teacher (1) Some topics discussed are usually determined by the teacher (0) Most topics discussed are usually determined by the teacher
		Negotiation of communication	Extent that the grade 3 teacher negotiates instructional topics with other teachers and with management, i.e. extent that a topic is developed or modified and an outcome determined through the sharing of individual ideas (e.g. developing a pedagogic strategy for grade 3 classrooms)	(3) No evidence that topics are negotiated (2) Some evidence that a few topics are negotiated (1) Evidence that about half of the topics discussed are negotiated (0) Considerable evidence that the majority of topics discussed are typically negotiated

For each indicator of the form of relation, that is, initiation, selection, and negotiation, I make use of data from grade 3 teacher, HOD, and principal interviews from 2012 to 2014. Interviewee responses were triangulated with those from other interviewees as a means to develop a more complete account of the form of communication between them. In the coding of the data, descriptions were generated for the four contexts of communication for each of the 11 schools. The guiding question for generating these descriptions was:

- How is communication enacted?

The following is an example of a data description that includes narrative and extract for the analysis of the form of the communication relation. The coding of the data utilizes the external language from Table 4.13 and is applied *relatively* across schools within the sample.

School 9: Data description of the form of relation between grade 3 teachers and the HOD

When asked about their working relation, all grade 3 teachers report that they work very well with their HOD and depend on one another. Informally, teachers seek out their HOD for instructional support when a need arises. T9.5 talks to her HOD on a daily basis about instruction: *'If I have a problem in my class, I go to my HOD. She will assist'.*

Teachers also report that they learn a lot from their HOD about classroom teaching:

> *For example, I have a learner in my class who can't read or write. But [my HOD] made every effort to help the learner and now they can read and write. She always supports the learners and will come and ask me, 'How is he doing now?' If I am experiencing problems with a learner, then I will talk to her… When she comes to my class, she asks, 'How is this learner?'* (T9.2)

The HOD visits teachers' classrooms regularly once a term to conduct formal observations of teaching practice and to inspect learner books and assessment tasks. Meetings with the HOD mostly pertain to teachers' problems with teaching and learning and strategies to resolve these, through, for instance, an afterschool program.

The principal explains that the HOD assists and guides teachers in their curriculum delivery, e.g. with materials and in developing improvement initiatives. According to the HOD, her focus is to look at the weak areas and then talk about improvement strategies with the teachers: *'I ask teachers, what are their concerns?'*

Both the principal and HOD refer to the importance of the formal monitoring function of the HOD role to ensure teachers' work is '*being done'*.

With the HOD at School 9, grade 3 teachers regularly initiate communication pertaining to instruction whenever the need arises. The initiation of teacher-controlled communication is therefore coded with a [0]. The HOD similarly initiates instructional communication regularly with grade 3 teachers to both monitor and support teachers in their practice. The initiation of other-controlled communication is thus coded with a [0]. During formal

interactions and meetings, teachers are able to identify issues they experience in the classroom that require support. Some topics are usually determined by the teachers, thus the selection of topics is coded with a [2]. With the HOD, teachers develop improvement initiatives and instructional strategies. At other times, the HOD provides teachers with strategies to improve teaching and learning. There is some evidence that teachers negotiate a few topics with the HOD. The negotiation of communication is therefore coded with a [2].

To produce a composite measure of the form of the communication relation for the context depicted above, the sum of the coding was calculated. In the case described above at School 9, the sum is equal to [4]. While engaging with the data during the coding process, a data descriptor was developed for each context to classify the form of communication relation on a scale from open to closed. These descriptors were also used as reliability checks for the coding of the data in the same way that they are used for other dimensions of the study. Below is an example of a descriptor for classifying the form of communication relation between grade 3 teachers and the foundation phase HOD.

Table 4.14. Classifying the form of communication relations between grade 3 teachers and the foundation phase HOD

In the formal and informal interactions between grade 3 teachers and the foundation phase HOD	++	+	-	- -
	Closed relations (10 – 9)	Fairly closed (8 – 6)	Somewhat open (5 – 3)	Open relations (2 – 0)
	Teachers rarely, if ever, initiate communication with the HOD. Individual grade 3 teachers have little to no say in what topics are discussed. Most topics are determined by the HOD, or relayed from the principal by the HOD. There is little to no evidence of the negotiation of topics discussed with the HOD.	From time to time, teachers initiate communication with the HOD. A few of the topics discussed are determined by individual grade 3 teachers, although most topics are determined by the HOD, or relayed from the principal by the HOD. There is little to no evidence of negotiation of topics with the HOD.	Whenever the need arises, teachers initiate and receive communication from the HOD. Some or a few of the topics discussed are determined by individual grade 3 teachers. Other topics may be determined by the HOD or relayed from the principal. There is some evidence that a few topics are negotiated with the HOD.	Communication tends to be initiated and received between grade 3 teachers and the HOD on a regular basis, whenever the need arises. Individual teachers determine some or most topics for discussion with the HOD. There is also evidence that about half or more of the topics discussed are negotiated with the HOD.

In the analysis of data, I make a distinction between *teachers' horizontal relations*, or those between teachers, and *teachers' hierarchical relations*, or those between teachers and management. This distinction is based on the particular form of status relation described at the beginning of this section. The distinction between the two types of relation is critical to this study and has important implications for how knowledge is circulated within the school. I therefore aggregate measures of the form of relation in two ways:

- Relations between teachers, which includes those between grade 3 teachers and those between grade 3 and other foundation phase teachers in grades 1 and 2
- Relations between teachers and management, which incudes those with the HOD and those with the principal

In making this distinction, I am able to explore how the two types of social relation work together in the 11 schools. I do not generate an aggregate of the form of the relation at a school level, as this would mask important differences within and between schools.

When generating an aggregate measure, for instance, between teachers and management, it is important to remember that aggregates are produced by taking the mean of the numerical values for specific contexts of relation. This means that signifiers, such as (++) or (- -), do not necessarily represent equivalent numerical values. It follows that an aggregate measure may differ even when specific contexts of communication are classified with the same set of signifiers. The table below exemplifies this point.

Table 4.15. Classifying the aggregate form of teacher-management relation at School 8 and 9

In the kinds of formal and informal instructional interactions between…		Grade 3 teachers and the HOD	Grade 3 teachers and the principal	**Teacher-management aggregate**
Set 4	School 8	+	-	+
	School 9	-	+	-

Where the teacher-principal relation at School 9 scored a total of [6], the teacher-HOD relation at School 8 scored a [7]. Both numerical values, [6] and [7], fall within the range of values that classify fairly closed (+) relations as set out in the data descriptors. This discrete

variation in the coding between schools generates a teacher-management aggregate that is slightly higher at School 8, or more closed, relative to School 9. This approach allows for a more delicate classification of the aggregate form of relation for each school in the sample. The approach is applied in the same manner when generating aggregates of the frequency of communication, the recognition of distinct practice, and the specialization of instructional discourse.

In what follows, I conclude with a discussion of validity and reliability as it relates to the research methodology and design of this study. The discussion considers processes and decisions regarding the integrity of the research.

4.6 Validity, reliability, and understanding

The integrity of this study is strengthened by a consideration of three levels of understanding, from which different types of validity are derived in the process of description, interpretation, and explanation (Maxwell, 1992; 1996). My aim is to understand, both conceptually and empirically, how different schools are socially organized and how knowledge may be circulated as a resource for teaching and learning through communication. I therefore make explicit in this section how I address issues of description, interpretation, and theorization within the study in addressing this question.

At the outset, I selected a sample large enough to discern patterns across a variety of contexts or settings yet small enough to discern and describe, qualitatively, nuanced details of teachers' relations. The construction of matched sets enables a controlled comparison between demographically similar schools achieving relatively different academic outcomes. This strategy attempts to stabilize the social setting of the 11 schools to more confidently account for differences in academic performance. Though a controlled comparison for two or three schools could achieve a similar aim in ruling out unwarranted differences, a larger, more diverse sample allows for the discovery of principles of similarity across different socio-cultural contexts.

In the collection of data, two strategies were employed to address possible validity threats. The first is what Maxwell refers to as "intensive, long-term involvement," where the "sustained presence" of the researcher within the setting under investigation helps to rule out

"spurious associations" and "premature theories" (2009: 244). My involvement in each of the 11 schools commenced in 2012 as a research assistant and fieldworker on the SPADE project, from which this study evolved. I spent many weeks travelling across the Western Cape observing teachers' classrooms and conducting in-depth interviews with a variety of staff members in these schools.

From 2012 to 2014, I visited each of the 11 schools multiple times. A sense of familiarity and trust was established between myself and grade 3 teachers in particular. I was able to gain an understanding of the surrounding communities and the diversity between the communities in which these schools are situated. I developed an awareness of the unique problems, both social and economic, that each school faces and the ways in which staff understand their role in the context of their work. Over the three years, I engaged with various forms of data of what I observed. This allowed me to develop hypotheses from inductive observations of similarities and differences between the schools. The theoretical validity of this study is rooted in a long-term understanding of the teachers, the communities, and the schools.

The second related strategy for addressing validity in the collection of data pertains to the conduct of interviews. The interviewer and the setting in which the interaction occurs influences what the interviewee says and how the interviewee understands the context of the questions (Maxwell, 2009; Mishler, 1986). Though this 'reactivity' cannot be eliminated, for the purposes of this study, a carefully structured interview schedule was essential to understand my influence on the interviewee. Prior to entering the interview space, I developed conceptual categories for organizing responses to make explicit what information was required to confidently answer my research question. This was based on prior research as well as earlier interviews and analyses. What the interviewee says in response to how they understand a question is a function of the structure of the interview schedule.

The interview mode of inquiry utilized by this study offers a reported account of experiences within the school. The information obtained is therefore dependent on the respondent's form of elaboration. Hence, the study utilizes interview data obtained from a diverse range of individuals on similar topics, which exposes consensus and conflict, and therefore, a greater understanding of social relations within the school. Consensus between interviewees in this study emerges in different forms and strengths, for instance, whether all or a few teachers find the HOD to be instructionally supportive. By asking the same questions across a range of

respondents, the triangulation of multiple sources of information is possible. The strategy also addresses the accuracy of the account given by the interviewee, and therefore the descriptive validity of the acts or events depicted in their responses (Maxwell, 2009). Given that a limitation of this study is the small sample size of teacher participants, claims made at the 'school level' in Chapters 5, 6, and 7 refer specifically to grade 3 teachers *in relation to* other foundation phase teachers and management, as opposed to all staff members.

To address the reliability of the coding measures in this study, two strategies were employed. First, as depicted throughout this chapter, an external language of description was developed. This language has been explicated in terms of the rules for what counts as data and how the data is to be interpreted. Data descriptors served as a crucial reliability check in the coding of the data. This language enabled a more precise measure of variation and, therefore, the ascriptions of codes. It also produced a more robust conceptual framework over various iterations of analysis to revise the precision of the measures. The second strategy entailed informal reliability checks in the coding of the data by another researcher on the SPADE project. Throughout the analysis stage, and for each dimension of the study, reliability checks enabled a refinement of the criteria for making accurate judgments about the data.

With respect to the external validity of the research, this dissertation draws *analytic* generalizations within the context under investigation (Maxwell, 1992). As opposed to generalizations based on probability sampling and statistical forms of inference, analytic generalization is "the extraction of a more abstract level of ideas from a set of case study findings – ideas that nevertheless can pertain to newer situations other than the case(s) in the original case study" (Yin, 2013: 325). In this way, the findings of this study are generalized to the theory set out in Chapter 3, which was underpinned by hypotheses derived from prior research. The organizational conditions found to facilitate or impede the circulation of knowledge may be applicable to particular types of schools situated in similar contexts of poverty. Findings may therefore be tested in other similar educational contexts.

4.7 Conclusion

This chapter has presented the research design of the study and the methodological approach for the collection, interpretation, and analysis of the data. The procedures for school sample selection were outlined followed by relevant contextual and performance information for the

11 primary schools. How the interview instruments were structured to elicit particular kinds of information to address the research questions of the study was described in some detail. How the information collected was translated into data, organized, and described for further analysis was also made explicit. It was shown how the external language of description was developed alongside procedures of coding for the different dimensions of the study. Throughout the chapter, I presented the rules for what counts as data and how the data is interpreted for analysis.

The table below summarizes the analytical approach of the study and indicates the forms of analyses that are to follow in Chapters 5, 6, and 7.

Table 4.16. Summarizing the analytical approach of the study

Research Question	**Constructs**	**Conceptual indicators**	**Empirical Indicators**	**Form of variation**	**Chapter No.**
1. To what extent do grade 3 teachers communicate with their colleagues about instruction?	Specialization of instructional time	Frequency of instructional interaction	How often grade 3 teachers discuss topics that pertain to teaching and learning	High (++) frequency to very low (- -) frequency	5
2. To what extent are instructional forms of expertise recognized by grade 3 teachers?	Specialization of instructional practice	Recognition of distinct pedagogic practice	Whether formal and informal instructional tasks are allocated; how many teachers mark out distinct practice/expertise	High (++) recognition to no (- -) recognition	
3. To what extent are instructional forms of communication specialized for the purpose of pedagogic practice?	Specialization of instructional discourse	Specificity and depth of instructional discourse	Variety of strong and weak aspects of grade 3 pedagogy and relevant instructional strategies	Strongly (++) specialized discourse to very unspecialized (- -) discourse	
4. How is communication structured between teachers and their colleagues?	Form of communication relation	Initiation, selection, and negotiation of communication	Regularity of informal interaction; extent that the grade 3 teacher selects and negotiates instructional topics	Closed relations (++) to open relations (- -)	6
Primary research question: What organizational conditions facilitate the circulation of knowledge?	Modality of instructional order; basis of control; school type	Strength of specialized communication; Form of teachers' horizontal and hierarchical relations	All empirical indicators listed above with respect to research questions 1 to 4	Strong specialization with open or closed relations; Weak specialization with open or closed relations	7

Chapter 5

Specialization of instructional communication: Time, practice, and discourse

5.1 Introduction

This chapter explores the classificatory system of communication, conceived in Chapter 3 as one of two dimensions of the instructional order of the school. The specialization of communication establishes order in the school by organizing, classifying, and differentiating forms of instructional communication from other forms of communication. Differences in specialization strength are related to the form of teachers' relations, which are explored in the following chapter. Both dimensions are brought together in Chapter 7 for an analysis of the instructional order of the school and conditions for the circulation of knowledge.

Each section of this chapter works through an indicator of specialized communication utilizing the external language of description presented in Chapter 4 and derived from Chapters 2 and 3. These are:

- Frequency of instructional communication
- Recognition of distinct instructional practice
- Specialization of instructional discourse

The three indicators address the categories of time, practice, and discourse, respectively. Frequency of instructional communication measures the specialization of *time*, or the extent that grade 3 teachers communicate with their colleagues about instruction. The recognition of distinct *practice* measures the extent that instructional forms of expertise are marked out by grade 3 teachers. It entails an analysis of how teachers differentiate their colleagues and implies a division of instructional labor relating to grade 3. The specialization of *discourse* investigates the substance of the talk, or the different ways teachers talk about instruction. The indicator examines the extent that instructional forms of communication are specialized, through specificity and depth, for the purpose of pedagogic practice in grade 3.

Throughout the chapter, only data pertaining to *instructional* forms of communication are included, or that which relates to the transmission and acquisition of knowledge for grade 3. For each indicator of specialization, four contexts of communication are considered. These are the relations between grade 3 teachers and other grade 3 teachers, other foundation phase teachers in grades 1 and 2, the Foundation Phase Head of Department (HOD), and the principal. The analysis therefore considers contexts of teacher-teacher relations horizontally organized and contexts of teacher-management relations hierarchically organized.

Each section begins with a detailed analysis that contrasts two cases of schools and significant kinds of variation between contexts of communication. The discussion of contrasting cases is framed within a set of demographically similar schools as a means to stabilize the social setting. Following a consideration of cases, I present findings from an analysis of the full sample to examine broader patterns associated with different strengths of specialization and school performance. The chapter concludes with a discussion of the relations between the three indicators of specialization and how a composite measure of specialized communication varies across the 11 schools. The aim is to uncover the kinds of specialized time, practice, and discourse in schools.

5.2 Frequency of instructional communication

To what extent do grade 3 teachers communicate with their colleagues about instruction? This section examines how often knowledge is potentially accessed by measuring the extent of interactions about instruction. It is hypothesized that a higher frequency of instructional communication enables greater teacher access to knowledge resources within the school. Interview data pertaining to the following categories of interaction were included for analysis:

- Formal/scheduled meetings
- Classroom observations
- Inspections of learner books, assessment tasks, and teachers' work
- Informal/unscheduled interactions about teaching and learning

In measuring the extent that grade 3 teachers communicate with their colleagues about instruction, a 6-point scale was used in the first instance to measure each kind of interaction on a scale from daily [5] to none [0]. In classifying each context of communication, relative

to other contexts, an aggregate measure of frequency is produced by taking the mean of the reported frequencies for each kind of communication. The measure gives equal weighting to formal and informal types. In the second instance, aggregate frequency measures were used to generate data descriptors that classify the typicality of how often grade 3 teachers talk with their colleagues about instructional matters. Descriptors were generated for each of the four contexts of communication using a 4-point scale (see Appendix F). Each context within the 11 schools is therefore coded on a scale from high frequency (++), occurring more than once a week, to very low frequency (- -) occurring once a term or hardly ever.

5.2.1 Contrasting cases of frequency: School 3 and School B

Two cases of schools that form part of Set 2 are used to contrast differences in the frequency of instructional communication between teachers and their colleagues. The schools are situated in two different townships within the broader Cape Town area, where the mediums of instruction are isiXhosa and English. School 3 is classified as a relatively higher performing school and School B, a relatively lower performer. A data description of the frequency of communication is presented for each school, which includes narrative and extracts from interview transcripts. All four contexts of communication are considered.

School 3: Data description for the frequency of instructional communication

When asked how often grade 3 teachers meet formally as a team, both T3.3 and T3.5 agree that meetings occur regularly every Thursday once per week. During meetings teachers discuss instructional issues, such as planning what topics to teach and reflecting on their lessons from the week before.

Formal foundation phase meetings occur twice per month, or once every two weeks, during which teachers talk about issues with learner performance and improvement strategies. All foundation phase teachers participate in weekly 'staff development' meetings with teachers from the intermediate phase. These meetings occur every Tuesday. T3.5 explains:

> *Tuesdays we have staff development meetings, it's about the development of the school and the staff. The running of the school. We talk about the school improvement plan and the curriculum… how we assess, when to assess, how to set a task. Everyone comes up with different ideas and we come up with a plan or the best idea together.*

T3.5 interacts with other teachers in the phase on a daily basis about teaching practices. T3.3 emphasizes the importance of seeking out her 'grade mates' first, although she also discusses a number of instances during the school year where she informally seeks out grade 1 and grade 2 teachers for pedagogic support, e.g. a grade 3 learner who performs poorly in mathematics.

With the foundation phase HOD, formal inspections of learner books and assessment tasks occur once per term. The HOD conducts scheduled classroom observations twice a month to support teachers' pedagogy. Teachers also report informal communication with their HOD occurs at least once a week and often on a daily basis: '*If I have a problem, I will go and explain and she will come and help me'* (T3.5).

About once or twice a month, the principal visits grade 3 teachers' classrooms informally to observe their

practice and to provide feedback on their lessons. Formal staff meetings led by the principal occur about once a month or 2 – 3 times per term on issues of learner performance.

Amongst grade 3 teachers at School 3, communication about instruction occurs weekly during meetings and daily during informal interactions. This context is coded with a high measure of frequency (++), according to the data descriptors for classifying variations in frequency:

> **(++) In the formal and informal kinds of communication between grade 3 teachers:** Teaching and learning are typically discussed *more than* once per week and/or on a daily basis.

With other foundation phase teachers, instructional communication occurs twice per month during phase meetings and weekly during staff development meetings. There is some variation between teachers' remarks, although on average, informal talk pertaining to instruction with foundation phase teachers occurs about twice a month. There are three distinct opportunities for grade 3 teachers to communicate about instruction with other foundation phase teachers, typically occurring once a week. Frequency is therefore classified as moderate (+).

The HOD conducts classroom observations of teachers' practice about once every two weeks and inspects learner books and tasks once a term. Teachers also report informal discussions with the HOD on a daily basis about teaching and learning. Instructional communication is therefore classified as moderately frequent (+), or typically occurring once per week. With the principal, scheduled meetings occur once a month and classroom visits twice per month. Instructional communication with the principal therefore occurs at a relatively low frequency (-), or about once or twice per month.

School B: Data description for the frequency of instructional communication

Grade 3 teachers meet formally about once or twice per month to discuss circulars received from the department and the design of assessment tasks. TB.4 reports no informal communication with other grade 3 or foundation phase teachers about classroom instruction. TB.5 explains informal communication with other grade 3 teachers occurs daily: *'We share ideas, what's happening, our challenges'.*

Both TB.4 and TB.5 agree that formal phase meetings occur once a term, or about once every two or three months. Instructional issues concern resource allocation and curriculum 'differentiation' between grades. Teachers also report communication amongst foundation phase teachers mainly occurs during formal meetings: *'We have meetings as a phase, that is where we interact with each other' (TB.4).* Where TB.5 talks about teaching practices informally with a teacher in grade 2 about once a week, TB.4 offers a

different explanation about communicating with FP teachers: '*We share ideas amongst us as grade 3 teachers, amongst ourselves. I have a feeling that any other person in another grade may not be helpful because of the grade difference.'*

The HOD conducts formal classroom observations of grade 3 teachers and learner book inspections about once a term. TB.4 explains that it is not easy to interact informally with the HOD about teaching, and this happens about once a month. She adds: *'Most of the time, we do our own thing [separately from the HOD]. We teachers interact with each other'.* In contrast, TB.5 meets with her HOD informally once a week if she needs more information or has a teaching-related problem.

The principal visits grade 3 teachers' classrooms about once or twice a month. TB.4 and TB.5 agree that visits are unexpected to deliver announcements relating to instructional matters, e.g. a circular from the department or an upcoming workshop. Formal staff meetings with the principal occur once a month. Instructional matters pertain to learner performance and assessment results.

Grade 3 teachers at School B talk about instruction during formal meetings once or twice per month. Teachers' remarks relating to informal conversations with other grade 3 teachers significantly differ, however, suggesting variation in how an individual grade 3 teacher's time is instructionally specialized. On average, grade 3 teachers talk about instruction once or twice per month, which is classified as a relatively low measure of frequency (-). With foundation phase teachers, informal interactions about instruction occur once a month, and formal phase meetings about once per term. Within this context, instructional talk takes place at a relatively low frequency (-), where teaching and learning are typically discussed about once per month.

With the HOD at School B, formal classroom observations and inspections of learner books take place once a term. Grade 3 teachers talk informally with their HOD about twice per month regarding their instructional practice. In this context, frequency is classified as relatively low (-). Scheduled meetings with the principal happen once a month and informal visits to teachers' classrooms take place about every two weeks. On average, instructional communication with the principal occurs at a low frequency (-), or once or twice per month.

The table below summarizes differences in the frequency of instructional communication for the two cases presented in this section. Signifiers are used to represent measures from high (++) to very low frequency (- -) of instructional communication and to compare relatively between contexts and schools. The school level aggregate in the right hand column is calculated by taking the mean of the numerical values assigned to each context.

Table 5.1. Measuring the frequency of instructional communication at School 3 and School B

In the formal and informal kinds of communication between…		Grade 3 teachers	G3 and FP teachers	G3 teachers and the FP HOD	G3 teachers and the principal	**School level aggregate**
Set 2	School 3	++	+	+	-	+
	School B	-	-	-	-	-

From the table, the typical rate at which instructional communication occurs at Schools 3 and B varies between certain contexts and at a school aggregate level. At School 3, findings show there are more frequent opportunities for grade 3 teachers to talk about instruction with other grade 3 teachers, with foundation phase teachers, and with their HOD. Grade 3 teachers' time is more instructionally bounded or more strongly specialized within a variety of contexts. At School B, time is weakly specialized for discussions of teaching, learning, and pedagogy. How do these findings compare to the remaining schools within the sample? Are patterns in the frequency of instructional communication associated with school performance across varying sets of schools?

5.2.2 Investigating frequency of instructional communication across the sample

In what follows I present findings for each context of communication within the 11 schools regarding the frequency of instructional communication. Table 5.2 below puts these findings on display for interpreting variation within and between the schools on a scale from high (++) to very low frequency (- -), or from strongly to weakly specialized time. Within the sample, letters signify schools performing relatively lower than expected (e.g. School A), whereas numbers signify schools performing relatively better than expected (e.g. School 1). It is important to remember that these schools are situated within a low-performing and low-resourced education system when interpreting the findings. Schools that are depicted as higher and lower performing are performing relatively better than expected compared to similar schools in similar contexts.

Table 5.2. Measuring the frequency of instructional communication across the sample

In the formal and informal kinds of communication between…		G3 teachers	G3 and FP teachers	G3 teachers and the FP HOD	G3 teachers and the principal	**School level aggregate**
Set 1	School 1	+	- -	-	- -	-
	School A	-	-	- -	-	-
Set 2	School 2	+	+	-	-	-
	School 3	++	+	+	-	+
	School B	-	-	-	-	-
Set 3	School 4	++	-	-	+	+
	School 5	+	+	+	-	+
	School C	+	-	-	-	-
Set 4	School 8	-	+	++	-	-
	School 9	++	++	-	-	+
	School E	++	-	-	+	-

5.2.2.1 Frequency of instructional communication between teachers

At the majority of schools in the sample, grade 3 teachers talk about instruction at least once a week, either formally during meetings or informally when the need arises. At Schools A, B, and 8, instructional communication between grade 3 teachers occurs at a relatively lower frequency (-), or about once or twice per month. Of note is an absence of communicative contexts at Schools A and B where instructional matters are discussed at least once a week. Given these findings, I consider the extent that grade 3 teachers talk about instruction *in relation to* the extent of instructional communication within other contexts of the school. What, then, are the primary contexts in which instruction is discussed most frequently where time is more strongly specialized?

At two of the schools – 1 and C – instructional talk happens weekly amongst grade 3 teachers *only*, which is the primary context of instructional discussions. For instance, with foundation phase teachers at School 1, communication occurs at a very low frequency (- -), or once per term. Both T1.1 and T1.5 agree that grade 3 teachers work independently from the rest of the

foundation phase, citing "time" as the main reason. These patterns of interaction contrast starkly with other schools in the sample where grade 3 teachers talk about instruction on a weekly basis or at a high frequency with each other *and* with other teachers in grades 1 and 2. This pattern emerges across sets at Schools 2, 3, 5, and 9 – all relatively higher performing schools. There are some discrete differences, however, between these four schools and in relation to this finding.

About twice per month, grade 3 teachers at School 2 meet formally with each other and with the foundation phase to discuss instructional matters. Although, on a daily basis grade 3 teachers talk about pedagogy informally with each other and with other teachers in the phase. T2.6 elaborates on this relation: "We work very well and depend on one another, an excellent relation. I am not going solo. I get with the other teachers and go to them for any help and they come to you. There is togetherness."

In the previous discussion of contrasting cases in Section 5.2.1, instructional talk between grade 3 teachers and with foundation phase teachers at School 3 occurs at least once a week. This finding resembles the frequency communication amongst teachers at School 9, where specific days have been formally marked out during the week to discuss instructional topics. Similar to School 3, teachers at School 5 participate in weekly staff development meetings, which serve as an additional opportunity for grade 3 teachers to talk about instruction with other teachers in grades 1 and 2.

5.2.2.2 Frequency of instructional communication with management

With the foundation phase HOD and principal, differences emerge that may relate to school performance. At Schools 3, 5, and 8, grade 3 teachers talk to their HOD about instructional matters on a weekly basis. These three schools are all classified as relatively higher performing. At School 3, this takes the form of bi-weekly classroom observations and informal pedagogic support. At School 5 and School 8, the HOD provides feedback once a week to teachers on their lesson plans and assessment tasks and discusses other instructional matters with teachers when needs arise.

At most schools in the sample, grade 3 teachers talk to the principal about teaching and learning once or twice a month. There are two schools that deviate from this norm – Schools

4 and E. At School 4, formal meetings with the principal occur on a weekly basis. This is the only school in the entire sample where staff meetings occur at such a high frequency (excluding staff 'development' meetings). The principal at School 4 also conducts classroom observations once a week to identify and circulate teachers' pedagogic strategies. At School E, formal meetings with the principal take place once a month, though he visits grade 3 teachers' classrooms more than once per week to check on their "curriculum needs." While communication with the principal at School 4 and School E are similarly classified as moderately frequent (+), other differences are present in the data in the forms of instructional discourse. These differences are addressed in Section 5.4.

5.2.2.3 Frequency of instructional communication across the school

A standout finding from an analysis of the sample is the pattern of communication at Schools 3 and 5. Relatively higher frequencies of instructional talk span the grade 3, foundation phase, and HOD contexts of communication. In other words, there are three distinct contexts at Schools 3 and 5 where grade 3 teachers talk about instruction more frequently, or at least once a week. In these schools, teachers' time is more strongly specialized for instructional purposes. This suggests a stronger focus on pedagogy and more opportunities for teachers to access potential knowledge resources.

At a school aggregate level, moderate frequencies (+) of instructional communication are found at Schools 3, 4, 5, and 9. At these four relatively higher performing schools, grade 3 teachers talk about pedagogy at least once per week within a variety of contexts where time is instructionally specialized.

More strongly specialized time within the sample at schools performing relatively better than expected is significant in light of prior research revealing low national averages of time spent on instructional activities in South African schools (see Chisholm *et al*, 2005 or Taylor, 2009). The problem of time has been partly attributed to a demanding teacher workload due to changes in curriculum policy as well as the weak managerial capacity of HODs and principals. Findings from this study show, however, that in four relatively higher performing schools in the sample, there are more opportunities to talk about instruction between teachers and/or with management.

Higher frequencies of instructional communication also suggest the presence of stronger group cohesion or a stronger social tie between teachers and their colleagues. Where time is strongly specialized for instructional purposes, teachers may be more strongly embedded within particular social groupings in the school (Douglas, 1996). If higher frequencies of instructional interaction denote cohesion and trust, and trust facilitates the development of social capital (Coleman, 1988), then strongly specialized time for instructional purposes may facilitate the circulation of knowledge within the school. In the following section, I move to the second conceptual indicator of specialized communication to investigate the extent of epistemic diversity or differentiation within the school through an analysis of the recognition of expertise.

5.3 Recognition of distinct instructional practice

What constitutes a legitimate form of instructional practice? To what extent do teachers distinguish between and recognize the specialty that constitutes pedagogy (Bernstein, 2000), or forms of knowledge and expertise? This section investigates variation in the strength and basis of recognition, or the ways grade 3 teachers 'read' and 'mark out' the practices of their colleagues. Recognition may be formally and/or informally ascribed to particular roles and/or achieved through expertise, constituting a division of pedagogic labor (Ensor, 2001).

The strength of recognition was initially measured on a 6-point scale from an analysis of the variety of ways that a number of grade 3 teachers recognize distinct instructional practices of other teachers and of management. Instances of recognition include:

- The teaching of a specific skill
- The allocation of formal and/or informal instructional tasks
- The attribution of expertise

From the coding of the interview data, a set of data descriptors was generated to classify each context of communication on a scale from high recognition (++), denoting a variety of ways in which a number of grade 3 teachers mark out their colleagues, to no recognition (- -), denoting an absence of evidence that teachers mark out their colleagues on an instructional basis. The analysis of recognition is specifically concerned with grade 3 teachers' perceptions of practice as an indicator of where instructional resources for grade 3 may lie. This section therefore explores data from the 2012 and 2014 grade 3 teacher interviews.

5.3.1 Contrasting cases of recognition: School 5 and School C

Below are two contrasting cases of recognition at two peri-urban schools in the Western Cape province. Both schools are situated within neighboring impoverished communities near the coastal town of Hermanus. Some of the teachers who were interviewed reside within or very near to these communities. At both schools the medium of instruction is Afrikaans. The schools form part of the demographically similar grouping of Set 3. School 5 is classified as a relatively higher performing school and School C as a relatively lower performer. Within both data descriptions, grade 3 teachers express recognition principles, or different ways in which they 'read' or 'see' their colleagues as instructionally distinct.

School 5: Data description for the recognition of distinct instructional practice

Within grade 3, each teacher is responsible for designing and generating an assessment task for a learning area on a weekly basis: *'I am the one that does the maths assessment tasks. There are four grade 3 teachers. Each does a task for a subject'* (T5.3). T5.3 '*marks'* or grades the Annual National Assessments for numeracy because of her mathematics expertise. When asked whether there are any teachers that they would go to for instructional support, T5.3 and T5.4 agree that grade 3 teachers share an awareness of who knows what. According to T5.4: '*If I am good in maths, then I will help the other grade 3 teachers. Or literacy. I will ask them to help me. We work as a team in the grade'.* T5.3 describes how she supports the novice teacher in the grade: *'It is difficult for her to do mat work. So we give her activities that the learners can do'.*

'Learning Area Heads' have been appointed within the Foundation Phase for each subject. These heads are responsible for leading the phase meetings, during which they facilitate a subject-based discussion and address instructional problems that teachers experience in the classroom: *'The heads of literacy, maths, life skills, they get a chance to give something to the foundation phase grades. They share their strategies'* (T5.4). When necessary, a specific teacher is appointed during phase meetings to mentor and support a struggling teacher based on their needs. Class assistants have also been appointed to support teachers in the FP. Grade 3 teachers recognize the pedagogy of grade 2 teachers who provide activities to support low achieving grade 3 learners. When asked how she came to realize the practices of other FP teachers, T5.5 explains, *'We know their abilities… you ask around in staff meetings, sometimes teachers go to workshops. So you know'*.

T5.3 and T5.4 similarly recognize the instructional feedback that their HOD provides on their self-generated assessment tasks. If T5.4 needs help, the HOD provides her with activities to create the literacy assessments. She also seeks out the HOD for help with teaching: *'If there is something that I struggle with or don't understand, [my HOD] helps further'.* When asked about the principal and interactions relating to instruction, T5.4 emphasizes the feedback the principal provides following his '*special appointments'* or his scheduled classroom observations: *'He tells us where we lack and where to do better'.*

Grade 3 teachers at School 5 mark out their colleagues on the basis of pedagogic strengths: "If I am good in maths, then I will help the other grade 3 teachers." Assessment tasks are generated by specific teachers on the basis of their expertise and shared within the grade. This is an example of a distinct instructional task *informally* allocated amongst the teachers themselves. As a result, weekly assessment tasks are produced within a division of pedagogic labor. In this context there are a few teachers who recognize a variety of distinct instructional practices. According to the data descriptor generated to classify recognition strength, there is some recognition (+) of specialized pedagogic practice amongst grade 3 teachers:

> **(+) In relation to the instructional practice of grade 3 teachers:** A few grade 3 teachers recognize the instructional practice of other teachers as distinct and may attribute individuals with specific forms of instructional expertise. Particular teachers may carry out distinct pedagogic tasks on the basis of their expertise formally and/or informally.

Within the foundation phase, "Learning Area Heads" have been formally ascribed a title based on their subject expertise. They carry out the distinct tasks of supporting teachers' practice for a certain learning area and facilitating a subject-based discussion during meetings. In the phase, specific teachers may also be informally appointed to mentor those that struggle with a specific practice, for instance, novice teachers who struggle with "mat work." There is also recognition of the *remedial pedagogic strategies* of grade 2 teachers who support grade 3 teachers' practice. Within the data, several teachers recognize distinct practices, some are attributed with expertise, and others carry out tasks on an expert basis and mentor those who struggle. In this context, there is high recognition of distinct instructional practice (++).

The HOD is recognized for the distinct instructional task of evaluating teachers' work, including teachers' self-generated assessment tasks and learners' books, and for providing teachers with constructive feedback on their practice. The HOD is acknowledged for providing pedagogic support when teachers experience problems in the classroom and when teachers need help creating assessment tasks, for instance, what activities to use for a literacy assessment. Several teachers recognize a few distinct practices of the HOD; therefore, there is some recognition (+). In contrast, there is little recognition (-) of the distinct instructional practice of the principal; one teacher acknowledges the pedagogic feedback he provides based on classroom observations.

School C: Data description for the recognition of distinct instructional practice

TC.2 identifies her grade 3 colleague, TC.3, as someone she would approach for instructional support if she experienced problems in the classroom. When asked why, TC.2 explains: *'She is more experienced than me, she is skilled in everything. I have only been in the foundation phase for about 8 or 9 years'*. TC.3 describes a time when she supported TC.2 with a lesson on how to teach '*time*'. Each grade 3 teacher is responsible for creating a quarterly assessment task. Teachers create their own weekly assessments, or '*class tests*', independently from one another: *'I don't talk with the other teachers about my class tests'* (TC.3). For the afterschool program, teachers work with their own group of grade 3 learners.

Within the foundation phase, there are no subject or learning area heads. TC.2 recognizes the role of the HOD and the '*senior teacher*' as significant within the phase. Subject heads are allocated within the intermediate phase only. When asked about the working relation with other foundation phase teachers, and the extent that teachers depend on each other, both TC.2 and TC.3 similarly emphasize shared problems amongst FP teachers: *'We have the same problems in class and talk about methods to help the child'* (TC.3); *'We talk about the problems and the difficulties. There is no discipline, so we help each other with discipline. Learners aren't doing their work in class'* (TC.2). TC.1 recognizes grade 1 teachers for their hard working nature and satisfaction they express in their work.

Both TC.2 and TC.3 report that their HOD is '*somewhat supportive*'. TC.2 adds, *'In the meetings we talk about where are the problems, how to do halves and doubles. But I am not one on one with the HOD. The only person that I go to is [TC.3] if I'm struggling'.* Twice a year, the HOD and senior teacher give TC.2 constructive feedback on her work: *'In the report I learn more or less the same. How to do things, things that are working in their class*. *But we have different children in our classes'.* TC.3 recognizes emotional support received from the HOD: *'She is there if someone is in pain, or if something happened with family'.*

Both TC.3 and TC.2 describe the disciplinary or behavioral focus of the principal's role, particularly in relation to the learners, and his ability to liaise with parents: '*He talks about learners without manners and those who give problems in class. He talks to their parents and then they come to class and we talk all together*' (TC.3).

Grade 3 teachers at School C allocate distinct responsibilities in the production of assessment tasks. There is no evidence, however, to suggest an expert basis for this task allocation. Teacher C.2 espouses the importance of teaching experience, exemplified in her remarks when asked why she seeks instructional support from her colleague: "[TC.3] is more experienced than me, she is skilled in everything." To classify the basis of the recognition of experience we can distinguish between *how long* a teacher has practiced pedagogy and the specific practice that the teacher *enacts.* Because the former lacks a pedagogic basis (i.e. relating to the enactment of the transmission and acquisition of specific skills), the recognition of teaching experience is not classified as the recognition of distinct *instructional* practice. It has also been shown that greater teaching experience is not strongly associated with the quality of teaching and learning (Hanushek and Rivkin, 2012). Given these findings, there is little recognition (-) within the grade 3 teacher context at School C.

Other than a "senior teacher" who works alongside the HOD and provides feedback on teachers' practices, interviewees espouse a concern for what foundation phase teachers share in common: "We have the same problems in class." As a result of these findings, there is very little recognition (-) of foundation phase teacher practice. Distinct tasks tend to be assigned to individuals rather than achieved on the basis of expertise. In a similar way, the HOD's formal task of providing teachers with feedback on learners' work is recognized by one teacher, indicating little pedagogic recognition (-) of the HOD. Grade 3 teachers do not recognize any instructional tasks or practices of the principal, who is regarded for his moral role in the school and broader community. There is thus an absence of recognition (- -) of the principal's instructional practice and expertise at School C.

Variation in the recognition of practice between School 5 and School C is summarized in Table 5.3. At an aggregate level, across various contexts of communication, there is some recognition (+) at School 5 and a little recognition (-) at School C. The school-level aggregate measure of recognition was generated by taking the mean of the numerical values assigned to each context of communication.

Table 5.3. Measuring the recognition of distinct instructional practice at Schools 5 and C

In relation to the instructional practice of…		Grade 3 teachers	FP teachers	The FP HOD	The principal	**School level aggregate**
Set 2	School 5	+	++	+	-	+
	School C	-	-	-	- -	-

From the analysis presented on Schools 5 and C, four discrete bases of instructional recognition operating within these two schools are derived. These recognition principles are:

- Strengths and weaknesses relating to a specific skill or learning area/subject
- Remedial pedagogic strategies to support low-achieving learners; instruction that promotes academic development at a particular level or stage of learning
- Instructional tasks, either formal or informal, for instance, generating assessments for a specific learning area to share with other grade 3 teachers
- Provision of constructive feedback on classroom pedagogy

Each basis of recognition indicates the demarcation of legitimate (and non-legitimate) forms of instructional practice derived from particular instances of teachers' experience. Each of these forms largely falls within the category of 'pedagogical content knowledge' (Shulman, 1986), as specialized, 'for purpose' knowledge for teaching and learning. From the analysis of recognition and the different bases or principles of demarcation, knowledge is socially organized and positioned in different ways within Schools 5 and C. Some or high recognition of distinct practice is inferred from these findings to be a condition for teachers' access to knowledge resources. I now turn to a consideration of recognition patterns across the sample of 11 schools.

5.3.2 Investigating the recognition of distinct practice across the sample

How recognition varies across contexts and schools is presented below in Table 5.4 on a scale from high (++) to no (- -) recognition. In the discussion that follows, I explore patterns of recognition and provide empirical examples of the different bases that operate in schools and in relation to academic performance.

Table 5.4. Measuring the recognition of distinct instructional practice across the sample

In relation to the instructional practice of…		G3 teachers	FP teachers	The FP HOD	The principal	**School level aggregate**
Set 1	School 1	-	- -	- -	- -	- -
	School A	-	-	-	- -	-
Set 2	School 2	+	+	++	- -	+
	School 3	+	-	++	-	+
	School B	-	- -	-	- -	-
Set 3	School 4	-	-	-	+	-
	School 5	+	++	+	-	+
	School C	-	-	-	- -	-
Set 4	School 8	+	-	-	-	-
	School 9	+	+	+	-	+
	School E	+	-	-	- -	-

Overall, the recognition of distinct instructional practice is relatively low in its distribution across the sample. Most forms of recognition emerge in the context of grade 3 teacher communication, with very little to no principal recognition.

5.3.2.1 Recognition of distinct teacher practice

One of the most common bases of recognition amongst grade 3 teachers is strengths and weaknesses relating to a specific pedagogic skill or learning area/subject, which is found at Schools 2, 3, 4, 5, 8, 9, and E. At these schools, individuals are marked out as distinct within the group, and in some cases, are attributed with a specific form of expertise. Teachers' remarks below exemplify this basis of recognition:

> *I can't be Ms. Know-it-all. I will ask [the other grade 3 teachers] in certain aspects, how to approach teaching fractions, maybe I am not sure how to teach it. I will go to her and ask, 'how do you do it?' The teacher gives assistance by showing me and telling me how to do it. (T9.2)*

> *When I teach maths and have a problem, maybe with shapes, I will go to a colleague because I know she does it best. I find out how to introduce the content so it is easy for the kids and me. We work as a team. (T3.5)*

A second prevalent basis of recognition found in the grade 3 teacher context is the informal allocation of distinct instructional tasks. At Schools 3 and 5, assessment tasks are generated by the teacher who is seen as "strong" or most proficient in a subject area. As an example:

> *We know our strengths and weaknesses as teachers, who is strong in maths or language. When we plan, in the foundation phase there are four learning areas. Then we divide the tasks and allocate the tasks. For example if I am strong in maths, then I am responsible for the planning. When the grade meets, we discuss our challenges from class. The strong teacher, she will advise in that area. I can also go to that teacher. She will demo how to do that particular area where I encounter a problem. (T3.3)*

In other cases, teachers take turns designing an assessment task not necessarily based upon expertise. This is found at Schools B, C, 8, and E. Another kind of informal task allocation is revealed in the various afterschool programs that some schools develop to improve learner performance. School 9 exemplifies how teachers differentiate one another on the basis of expertise to informally establish a division of pedagogic labor for the afterschool program:

> *Each [teacher] will teach a particular concept, for example, time, which was a common problem on the [Annual National Assessment] for our learners… Then another teacher does graphs, another does creative writing. All teachers are present to observe the lesson. Maybe I am not teaching the concept properly in my class. (T9.2)*

At Schools 2, 3, 5, 8, 9, and E, there is some recognition (+) of the distinct practice of grade 3 teachers, which includes pedagogic strengths and weaknesses, the attribution of expertise, and/or and the informal allocation of tasks. Nearly all of these schools, except for School E, are classified as higher performing. To further understand this pattern of recognition in the sample, other contexts of communication will now be considered as they relate to grade 3 teaching and learning.

Foundation phase teachers are most commonly recognized in the sample on the basis of the remedial forms of pedagogy that they provide to grade 3 teachers for "struggling" learners. At Schools 2, 3, 5, and 9, four higher performing schools, interviewees describe how they depend on other foundation phase teachers in this regard. For instance, T9.5 explains: "If I have [grade 3] learners that are struggling, then I can go to a grade 1 teacher to ask her to help me with the grade 1 activities with that learner. I can also go to a grade 2 teacher if a learner in my class is working at a grade 2 level."

In utilizing the knowledge resources of other teachers in grades 1 and 2, instructional labor extends beyond the boundaries of grade 3. In the first instance, teachers recognize variation in grade 3 learner performance in terms of the level of academic proficiency for specific skills. In the second, teachers recognize that distinct or more specialized instructional resources may lie outside the immediate context of their work for remediating the weak reading, writing, or mathematics skills of certain students.

At other schools in the sample there is very little recognition of foundation phase teacher practice. At School A and School B in particular, grade 3 teachers explain why they do *not* typically communicate (nor recognize) the practice of their peers in grades 1 and 2. When asked to describe her working relation with other foundation phase teachers, TA.1 explains:

> *We work according to the curriculum guidelines. I don't ask [other foundation phase teachers] about teaching. I have my own things I must cover. If my children are not at the right number range in maths, I am not going to the grade 2's. I just move to a lower number range. We are trained to work on all the grade levels, from 1 to 3.*

At School B, an alternative explanation is provided: "We share ideas amongst us as grade 3 teachers, amongst ourselves. I have a feeling that any other person in another grade may not be helpful because of the grade difference" (TB.4). In the first explanation, TA.1 perceives

her work as *similar* to other foundation phase teachers and is therefore unable to recognize differences between her practice and others'. At School B, a weakly specialized division of instructional labor within grade 3 may impede the recognition of foundation phase teacher practice. Findings reveal that where recognition of foundation phase teacher practice is present in the sample, there is also recognition of grade 3 teacher practice. Where there is little to no recognition amongst grade 3 teachers, this may inhibit teachers' access to the specialized knowledge resources of other foundation phase teachers.

5.3.2.2 Recognition of distinct management practice

Across the sample, the principal and foundation phase HOD are mainly recognized for the provision of instructional resources, including material and human, but especially cognitive resources. Where the HOD is recognized as instructionally distinct at four higher performing schools in the sample, the principal is recognized at only one school.

At Schools 5 and 9, there is some recognition (+) of the instructional practice of the HOD, and at Schools 2 and 3 there is high recognition (++). In particular, the foundation phase HOD at School 2 is attributed with mathematics expertise on the basis of her students' assessment results. She has therefore been allocated the formal specialized task of teaching mathematics for all grade 3 classes. In this way, the status of the HOD role and her specialized knowledge and expertise 'shade into each other' or coincide. This example also shows that by making pedagogy visible through assessments of learning, teachers' expertise can be harnessed as a knowledge resource to improve learning (Hoadley and Muller, 2016). The division of pedagogic labor at School 2 is therefore more specialized for grade 3. At schools where there is little to no recognition of distinct HOD practice, grade 3 teachers tend to report a less instructionally supportive relation.

Patterns of recognition also reveal that the distinct practice of the HOD is recognized when grade 3 teacher practice is also recognized. This finding resembles the pattern associated with foundation phase teacher recognition when grade 3 recognition is present. Both patterns of recognition suggest that the recognition of difference amongst more immediate peers may facilitate, or be a condition for, the recognition of difference in other contexts of instructional communication.

There is little to no recognition of the principal's instructional practice and/or expertise at most schools in the sample. Such little recognition, captured from the teacher point of view, suggests that in this sample of schools, principals play less of an instructional role in relation to the work of grade 3 teachers and their classrooms, *relative to* other teachers and the HOD. Particular contexts of communication may therefore bear differently on grade 3 teacher pedagogy. At Schools 3, 5, 8, and 9, however, all higher performing schools, there is a little recognition (-), by one or two teachers, of the principal's expertise. In these four schools, the principal provides teachers with constructive feedback on their practice, and at School 8, the principal also shares relevant instructional strategies. This occurs in either verbal or written form.

At School 4, there is some recognition (+) of the principal's distinct practice. This principal may be classified as an outlier within the sample in that the recognition of her practice significantly deviates from the norm. According to T4.1, "The difference between the HOD and the principal is the HOD has a name badge, the principal is a teacher in the classroom." This teacher's comment exemplifies the distinction between a role that is ascribed on the basis of status and a role that is achieved on the basis of expertise. T4.3 acknowledges the provision of resources by the principal, who routinely provides teachers with examples of systemic test questions to incorporate into their lessons. The principal circulates pedagogic strategies amongst teachers that she observes from classroom observations, such as using flash cards to teach vocabulary. There is also recognition of strategic human resource allocation; T4.1 describes how she was appointed by the principal to teach grade 3 to "bring up" the systemic results in numeracy. This is another example of how assessments may be utilized to differentiate and identify where knowledge resources may be located.

To a significant extent the principal at School 4 plays an instructional role in the work of teachers in classrooms and enacts certain forms of pedagogic labor recognized by a few of the grade 3 teachers. What is interesting here is that although teachers recognize the distinct practice of their principal, there is little recognition of difference amongst the teachers themselves. I suggest this may be due in part to a particular form of social relation with the principal and with other teachers that regulates the extent that a practice may be recognized. The different forms of teachers' communication relations and how these relate to specialization will be explored further in Chapters 6 and 7. Alternatively, low recognition may be a consequence of a low ceiling of knowledge resources in the school.

5.3.2.3 Recognition of distinct practice across the school

At a school aggregate level, we see there is some recognition (+) of distinct instructional practice in various contexts at Schools 2, 3, 5, and 9, all relatively higher performing schools. At each of these schools, recognition extends across teacher and management contexts. Instructional practice is thus more specialized in these four schools, where more teachers recognize, in various ways, what constitutes legitimate pedagogic practice.

The analysis of recognition across the sample demonstrates a relation between the strength of recognition, or more strongly specialized instructional practice, and the potential for teachers' access to knowledge resources. Access is made possible through recognition, indicating where and how knowledge is organized amongst teachers and management. Findings also suggest that where differences are recognized between the grade 3 teachers, this may facilitate the recognition of difference in other contexts of instructional communication.

Though the problem of knowledge remains at the fore in South African schools (Venkat and Spaull, 2015; Van der Berg *et al*, 2016), findings from this investigation show that in some schools, despite the probability of a low ceiling of knowledge resources, differences in expertise are nonetheless recognized to improve teaching and learning in grade 3. Epistemic *differentiation* may therefore be key to the development of specialized practice, particularly in schools situated in low resource contexts. What is mostly recognized in these schools are forms of pedagogical content knowledge, or how to make knowledge comprehensible for students. It is a translation of specialized subject knowledge into pedagogy for the purpose of teaching and learning. In Section 5.4, I consider the substance of communication between teachers and their colleagues through which knowledge and pedagogic strategies may be shared and developed.

5.4 Specialization of instructional discourse

If communication serves as a channel for the circulation of knowledge, then to what extent are instructional forms of communication specialized for the purpose of pedagogic practice? The analysis undertaken in this section makes explicit the forms of instructional discourse that are shared and/or developed between teachers and their colleagues. The focus of the analysis is to illustrate nuances relating to varying strengths of specialization. Strength is measured relatively by the extent (or variety of ways) that specific aspects of grade 3

pedagogy and relevant instructional strategies are identified and/or developed as a means to address teacher practice and learner performance. By examining the specificity and depth of instructional discourse, the differentiation of pedagogic topics for analysis is put on display.

The analysis of discourse utilizes data from the grade 3 teacher, HOD, and principal interviews from 2012 to 2014 regarding forms of instructional communication exchanged formally and informally. In the first instance, the presence of an indicator of specialization was coded on a 3-point scale based on the extent of its development. Where a specific aspect of grade 3 pedagogy was identified and addressed strategically, the indicator was fully developed and coded with a [2]. Where an aspect of grade 3 pedagogy was discussed, yet was not necessarily specific or addressed strategically, the indicator was partially developed and coded with a [1]. Little to no evidence of the indicator entailed a code of [0]. Within the data, the presence of indicators ranges from none to at least four.

From the coding of the interview data, a set of data descriptors was generated to classify each context of communication on a 4-point scale from strongly specialized (++) to very unspecialized (- -). Where instructional discourse identifies a considerable variety of strong and weak aspects of pedagogic practice and relevant strategies, the discourse is strongly specialized (++). Where there is little to no identification of specific pedagogic aspects or relevant strategies, the discourse is very unspecialized (- -). Thus, the greater the variety of ways in which the discourse is specialized, the stronger the specialization of instructional discourse. This is not to say that teachers do not talk about instruction when the discourse is unspecialized, but rather, the instructional discourse varies in its specificity and depth.

5.4.1 Contrasting cases of discourse: School 8 and School E

In the discussion that follows, I contrast the strength of specialized discourse within two demographically similar schools, School 8 and School E. The former is located near the coastal town of Mossel Bay, and the latter situated within the Klein Karoo. These two peri-urban schools are about 100 kilometers apart. Both communities are predominantly isiXhosa-speaking, where the mediums of instruction are isiXhosa and English. Most teachers and learners live within the surrounding community and many of the learners walk to school. School 8 is classified as a relatively higher performer. School E is a lower performer.

School 8: Data description for the specialization of instructional discourse

Interviewees commonly refer to '*the curriculum'* throughout the interviews and that at least 80% of meetings must be about curriculum. At grade 3 meetings, teachers primarily discuss 1) learner performance on assessment tasks and 2) problems with teaching and learning and the sharing of teaching strategies. Regarding learner performance, T8.4 explains:

> *We mostly talk about our LitNum strategy. What we are doing. We have a program, and we check and see. Is it still working? What to do next, where to improve... After every assessment we do an analysis of each question. Each teacher does an analysis. If the learners didn't do well then we build it into a strategy.*

T8.3 also describes how performance is discussed based on the assessments they give every two weeks:

> *So we know where to focus our teaching… We identify those problem areas. We set targets, work with the learners in the afternoon, and then drill them on those problem areas… We use those tests for our planning. If learners don't know their adjectives or nouns, then in the planning you add in the topic as an intervention. You see that most didn't answer the question. Or they didn't understand.*

Formally and informally, teachers share problems they experience as well as strategies to support their practice, e.g. in mathematics: *'How did [another grade 3 teacher] do it? Then I will practice what she did'* (T8.4). Other typical topics for discussion include what contents to teach each week and which resources to use.

Amongst foundation phase teachers, '*departmental issues'* are typically discussed, or those that relate to grades 1, 2, and 3. Individual teachers provide feedback to the phase group on what they learnt from recent workshops. FP teachers talk about shared programs that run across all grades, including chess and the analysis of assessment tasks. Grades 1, 2, and 3 have a similar afterschool program where specific skills are taught. Problems that learners experience are shared with the group: *'Where the learners have problems*. *What are they struggling with? How can you deal with this?'* (T8.4). Either FP teachers will develop a strategy together, share an existing strategy, or share the issues with the School Management Team: *'It becomes a duty for all teachers to see, what can we do'* (T8.4). In relation to more informal kinds of communication, T8.4 gives an example of the last time this happened:

> *When it comes to our learners, they have a problem with packing out numbers in maths. When I taught with [a grade 2 teacher], I saw that she had a way that worked so that her learners could do it without struggling. So we sit down and look at how to do it.*

When asked about their relation with the HOD, T8.3 and T8.4 express different remarks. T8.4 reports an unsupportive relation where they rarely talk about teaching: *'Not in my case, I don't learn anything'.* T8.3 explains: *'I learn a lot from my HOD, like how to introduce something, doubling, halving, or fractions.*' The HOD gives her feedback on classroom observations: *'Add this to your lesson, or look at this learner. You didn't go to those learners; you only concentrated on so-and-so'.* The HOD sees herself as a mentor who supports teachers who are not performing well. According to the principal, the HOD evaluates teaching and learning in the phase, allocates instructional resources within the phase, and sets up workshops for teachers.

With the principal, grade 3 teachers meet formally to discuss their LitNum strategy: *'He will call us to his office… We come up with ways to help us as teachers. The principal will ask, 'What do you need? Do I need to call the curriculum advisor?' He will liaise with the curriculum advisor so she can come'* (T8.4). T8.3 explains: *'He asks where we are, where are the learners, are they ready? What are the problems? …He asks us for our strategies.'* The principal helps teachers come up with solutions during meetings, identifies specific contents, e.g. reading, to spend more time teaching based on an analysis of the LitNum results, and occasionally gives teachers feedback on their practice in written form.

Grade 3 teachers at School 8 identify specific aspects of pedagogy through the practice of assessment analysis: “If learners don’t know their adjectives or nouns, then in the planning you add in the topic as an intervention. You see that most didn’t answer the question. Or they didn’t understand (T8.3).” The assessment items that teachers identify as “problem areas” are used as “focus” areas for their teaching. This is referred to in the interview data as an “intervention,” where teachers develop strategies for improving specific skills of learners. Assessment analyses may be referred to as a *diagnostic practice* in that pedagogic problems are examined and identified by the teachers through testing.

Grade 3 teachers also discuss the impact of their instructional program and whether it is making a difference to learner performance. Specific pedagogic problems that teachers experience are shared for the exchange and development of strategies to support those problems. Thus, a variety of pedagogic aspects and relevant strategies are identified in the discourse for improving learner performance. Instructional discourse amongst grade 3 teachers at School 8 is therefore classified as strongly specialized (++):

> **(++) In the forms of instructional discourse exchanged between grade 3 teachers:** Teachers identify pedagogic strengths and weaknesses and share relevant strategies with one another in a variety of ways (i.e. 3 or more). Teachers typically analyze performance results on assessment tasks to identify specific contents or skills as focus areas for grade 3 classrooms. Strategic pedagogic approaches or programs are also discussed as a means to improve learner performance.

Teachers in grades 1 and 2 perform the same diagnostic practice or assessment analysis and talk about these issues at phase meetings. Each grade within the foundation phase is given an opportunity to share “where” their learners are struggling and “what” they are struggling with. Specific aspects of grade 3 pedagogy are therefore identified. Together, teachers talk about “how” to resolve the problem. Informally, there is some sharing of strategies based on problems with teacher pedagogy, such as “packing out numbers in maths” (or how to teach place value). There are several ways in which aspects of grade 3 pedagogy are identified and addressed strategically by foundation phase teachers. Instructional discourse at School 8 is therefore classified as fairly specialized (+).

There is some disagreement between interviewees in relation to communication with the HOD. Where T8.4 reports the absence of instructional talk, T8.3 depicts different kinds of communication that pertain to pedagogy. These include discussions of instructional practice from classroom observations, for instance, “You didn’t go to those learners,” and pedagogic

strategies regarding mathematical skills, such as "fractions." The HOD and principal refer to her mentoring role and the evaluation teachers' practice. There is no evidence of discussions about learner performance or focus areas for grade 3 teaching and learning. In this context of communication, a few aspects of teachers' pedagogy are addressed with strategies when necessary. Instructional discourse with the HOD is fairly unspecialized (-).

Communication with the principal concerns aspects of pedagogy that relate to teachers' specific needs as well as learners' and which contents are problematic: "He asks where we are, where are the learners, are they ready? What are the problems? …He asks us for our strategies (T8.3)." Together, the principal and the grade 3 teachers develop strategies relevant to these needs. The principal advises teachers on which contents to spend more time teaching based on an analysis of performance and provides written feedback at times on teachers' practice. From a variety of pedagogic aspects identified that pertain to grade 3 teaching and learning and relevant strategies, instructional communication in this context is classified as strongly specialized (++).

School E: Data description for the specialization of instructional discourse

The primary topics that grade 3 teachers discuss during formal meetings are 1) what topics to teach and activities to use, and 2) learner performance. Teachers prepare for the following week and discuss the theme for the lessons and which resources to use. They check how far they are with their '*preparation'* on certain tasks and '*do a recap'* if they return from workshops, e.g. on the Balanced Language Approach. Teachers also talk about instruction informally if, for example, they are surprised by a learner's performance or if someone experiences a problem. TE.1 explains how teachers talk about performance and assessment tasks:

> *We look at the assessment plan [schedule]. The tasks, when do they start and end? We do an analysis of the results and develop a strategy plan for the term… for the learners in the afternoon. Are [the learners] progressing? Do we have any repeaters? [During the afterschool program] they do the same work but at a lower level.*

According to TE.4, there are learners at a '*grade 1 level*' who need to '*progress through the grade'*. From discussions about problems teachers experience and the progress of these learners, they started the afterschool program to give '*extra time'* to the learners that '*struggle'*.

During foundation phase meetings, the HOD either relays feedback from the principal or subject advisor or she will talk about the scheduling of assessment tasks and how the assessment tasks were moderated. TE.4 explains: *'We talk about problems that we experience in our grades, learners that can't read and write.'* When asked whether teachers discuss solutions to those problems, TE.3 replies: *'No, no solutions'.* With foundation phase teachers, topics are primarily administrative (e.g. scheduling of meetings) and non-instructional (e.g. prepping for '*cultural day'*). The HOD adds that '*strategic planning'* is done in the phase meetings to address problems relating to hunger, parents and alcohol, and the Afrikaans-speaking learners. Informally, foundation phase teachers work more independently from one another. Communication primarily occurs during formal meetings.

There are very few instructional topics discussed between teachers and the HOD. TE.1 finds her HOD

instructionally unsupportive and reports that they rarely discuss classroom teaching. She desires more instructional attention from her HOD: *'I need someone to come and tell me, am I doing this right?'* TE.4 discusses teaching amongst other things with her HOD. In the past, the HOD helped TE.4 with a lesson on '*handwriting'*. From classroom observations, TE.4 explains that her HOD, *'tells me that I am confident and my learners are well-disciplined'.* According to TE.1, *'no one comes to see my practice.'* When asked about her role, the HOD emphasizes the importance of monitoring teachers' work and facilitating the phase meetings. According to the principal, the HOD does not fulfill her instructional management role in relation to teachers and the curriculum.

Almost every day, the principal pops into teachers' classrooms to ask them how they are and whether they have any '*curriculum needs'*, e.g. '*equipment'*. During formal meetings, the principal talks about administrative matters, e.g. the duty roster, and other issues relating to the code of conduct or the community, e.g. about parents or teacher late-coming. At times, the principal discusses phase-level reports. Teachers identify whether any progress has been made, their '*gaps'* and '*shortfalls'*, and their strategies for improving performance or '*to close the gaps'*. TE.1 and TE.4 agree that with the principal, communication is about the '*running of the school*'.

Grade 3 teachers at School E describe a different kind of "analysis" regarding assessment task results. Teachers talk about issues of learner progression and problems they experience with "struggling" learners. Rather than identifying specific skills or contents, teachers identify learners who are not performing at a grade 3 level and teach the same content after school at a lower level of cognitive demand. The afterschool program is thus a relatively less targeted instructional strategy. Teacher discourse does not identify, for example, which activities are appropriate, which skills to focus on, or how to teach a particular topic. There is some discussion amongst teachers around the instructional problems that they experience, but there is little evidence of relevant pedagogic strategies that address specific aspects of teaching and learning. Amongst grade 3 teachers at School E, instructional discourse is classified as fairly unspecialized (-):

> **(-) In the forms of instructional discourse exchanged between grade 3 teachers:** Teachers identify aspects of their practice and/or may share relevant strategies with one another in a few ways (i.e. 1 or 2). There is little development of strategic programs for improvement from discussions of learner results. Strategies are less targeted, and focus areas or specific contents are not clearly identified. Other topics concern more routine forms of instructional work; or, topics are non-instructional.

With other foundation phase teachers, communication typically concerns the process of assessment moderation, or issues of consistency in how teachers mark or grade assessment tasks. Similar to the instructional discourse amongst grade 3 teachers, foundation phase teachers talk about "learners that can't read and write" (TE.4). There is some discussion of problems, although these are not necessarily aspects of grade 3 pedagogic practice. There is no evidence of strategic or relevant solutions to resolve instructional problems within this

context or in relation to grade 3. Other topics tend to be non-instructional, such as preparing for "Cultural Day." Instructional discourse is classified here as unspecialized (- -).

There is little evidence amongst all interviewees of instructional communication with the HOD where specific aspects of teachers' practice and relevant strategies are identified. Much of the discourse between grade 3 teachers and their HOD is also non-instructional. Therefore, in this context of communication, instructional discourse is very unspecialized (- -).

With the principal, a few instructional topics are discussed. Grade 3 teachers identify their curriculum needs, including material equipment, and talk about the "phase-level report," which identifies progress, weaknesses, and improvement strategies. Though aspects of instruction are discussed with the principal in both cases, it is not clear whether or how teachers' curriculum needs are strategically addressed or whether the report specifically concerns *grade 3* pedagogy. Therefore, with the principal at School E, instructional discourse is classified as fairly unspecialized (-).

The analyses of instructional discourse at School 8 and School E reveal nuances in the ways teachers talk about instruction with their colleagues. Findings demonstrate that teachers may talk about instruction, but not in a relatively specialized way in which knowledge and expertise are shared and/or developed about teaching and learning in grade 3. Though slight, and relative to the context under investigation, the specificity and depth at which teachers discuss pedagogy varies between these two schools. Table 5.5 summarizes the findings for the specialization of discourse for Schools 8 and E.

Table 5.5. Measuring the specialization of instructional discourse at Schools 8 and E

In the forms of instructional discourse exchanged between…		G3 teachers	G3 and FP teachers	G3 teachers and the FP HOD	G3 teachers and the principal	**School level aggregate**
Set 2	School 8	++	+	-	++	+
	School E	-	- -	- -	-	-

Two notable patterns can be discerned from this table. The first is the organizational pattern of specialized discourse, where the spread of specialization is consistent across contexts.

Three out of four contexts at School 8 express stronger specialization strengths, whereas all four contexts at School E express weaker specialization strengths. The second is that the aggregate measure of specialization, which classifies instructional discourse at a school level, is stronger at the higher performing school. Where discourse within a variety of contexts is fairly specialized (+) at School 8, the discourse is fairly unspecialized (-) at School E. I explore both of these patterns below across the sample of schools.

5.4.2 Investigating the specialization of discourse across the sample

Broad patterns of specialization are displayed below for each context of communication in the 11 schools within the sample.

Table 5.6. Measuring the specialization of instructional discourse across the sample

In the forms of instructional discourse exchanged between…		G3 teachers	G3 and FP teachers	G3 teachers and the FP HOD	G3 teachers and the principal	**School level aggregate**
Set 1	School 1	+	- -	- -	-	-
	School A	-	-	- -	-	-
Set 2	School 2	++	+	++	-	+
	School 3	+	++	++	+	+
	School B	-	-	-	-	-
Set 3	School 4	++	-	-	++	+
	School 5	+	++	-	+	+
	School C	-	-	-	-	-
Set 4	School 8	++	+	-	++	+
	School 9	++	++	+	+	+
	School E	-	- -	- -	-	-

5.4.2.1 Specialization of teacher discourse

One of the more significant patterns from the findings presented in the table above is stronger (++/+) specialization of instructional discourse between grade 3 teachers at each of the relatively higher performing schools – 1, 2, 3, 4, 5, 8, and 9. At each of these seven schools, teachers talk about pedagogy at a relatively stronger degree of specificity and depth. At each of the relatively lower performing schools – A, B, C, and E, grade 3 teachers identify aspects of their practice, and may share strategies, yet there is little to no development of strategic practices or programs relevant to specific aspects of grade 3 pedagogy. Strategies are less targeted as particular focus areas or skills are not identified within the discourse.

Though discussions of learner performance are present in all of the schools, diagnostic-type discussions driven by analyses of tests emerge at each of the relatively higher performing schools. This finding manifests in a variety of contexts and in relation to grade 3 specifically. For instance, at School 4, all grade 3 teachers analyze learner results from weekly assessment tasks, identify specific contents to target, and develop strategies for remediating those skills. T4.3 characterizes teacher talk during grade 3 meetings, drawing attention to contents, or the 'what' of teaching and learning, which is unique within the sample of schools:

> *We talk about the activities we give for [the learners] on their levels. And how we can help the learners. We do revision every day before we start. We do times-tables, flashcards with sight words. Every day. [We focus on] what the learners are struggling in. Some of the work is at a grade 1 and 2 level, so we must do more revision. They struggle with their phonics. Some can't recognize certain words when you show the flashcard.*

T4.1 elaborates on how this process of content selection works:

> *[From the learners' marks] I know which learners didn't do well. Then we try to help them, we don't want to lose them. We look at those questions that they failed then give more attention. I put those topics in my lesson plan. It is so important. Assessment is not a loose thing. You must build the learners' weaknesses into your lesson planning, for example, functions in maths. If [the learners] did bad, then you must do it again, we build it into the lesson… Assessment prepares you for planning. It leads you to what to do. The other grade 3 teachers, we all analyze the assessments.*

When grade 3 teachers plan together at School 4, they select specific skills to incorporate into their daily lessons based on an analysis of assessment items (compared to an afterschool program at School 8).

In a similar way, grade 3 teachers at School 9 discuss areas of strength and weakness from formal assessment tasks and in relation to preparing for the "systemic test." T9.2 elaborates:

> *We have been talking about the systemic test and the problems our learners experience. For example, time and patterns in maths. They didn't do well on the assessment in those areas. In home language, they also struggle with creative writing… This week we are focusing on creative writing. No learners will be left behind… After learners finish their assessment tasks, we sit together as grade 3 teachers and look at the task and do an analysis of the results, 'How well did they do here?'*

At these and other relatively higher performing schools in the sample, grade 3 teachers identify specific skills in relation to learner proficiency and acquisition of knowledge. While these findings raise issues of 'teaching to the test', forms of test-driven teacher talk at these schools serve as an *instrumental* teaching practice within the context under investigation. The schools in this sample are similarly constrained by a low level of resources, particularly knowledge resources, and are located within a low-performing education system. However, variation is nevertheless present between these schools in the specialized nature of how teachers utilize tests to differentiate learners, to select curriculum contents, and to make pedagogy visible for evaluation.

The diagnostic-type form of specialized discourse is brought to light when contrasted with the ways teachers talk about performance at lower performing schools. In these schools, teachers' discussions of performance tend to concern issues of marking or grading, such as the weighting of marks, the scheduling of tasks, and how to set an assessment task. For instance, at School B, when asked to explain how teachers talk about learner performance and assessments, TB.4 explains: "We decide about the dates and the marks. How many tasks. The submission dates for the tasks. When exams will be starting. Dates to submit the recordings of marks. Everything is around assessment." When asked specifically what teachers do with their marks after giving an assessment task, both TB.4 and TB.5 explain that they look for which learners are "proceeding" or progressing, which learners are "struggling" and whether the learners' marks are lower than the previous term. Within the instructional discourse, aspects of pedagogy are not identified or relevant strategies to address issues of progression.

At School A, grade 3 teachers talk about whether marks are correct and whether the weighting is "okay." Teachers also identify specific learners to refer to the ELSEN teacher

(Education for Learners with Special Education Needs) at the school as an "intervention." While this is a relevant strategy for supporting particular learners, this does not speak to specific aspects of grade 3 teachers' pedagogy. At School C, grade 3 teacher instructional discourse concerns "problems in the learner workbooks," "disabled learners," "where learners are struggling," and issues of learner progression. With an emphasis on problems, there are few relevant strategies shared and/or developed to address aspects of pedagogy within the discourse. These forms of instructional discourse resemble the way teachers talk about "struggling learners" at School E, constituting a fairly unspecialized (-) discourse.

Alongside discussions of learner performance, grade 3 teachers also talk about their methods in different ways. A more strongly specialized form of instructional discourse regarding teaching methods is exemplified at School 4, where teachers demonstrate strategies for resolving pedagogic problems: "We give each other examples [of how to teach the content]… During meetings we stand in front at the board and show the method on the board [of how to teach the content]. It is the best way, to show them. Others do it as well (T4.1)." Teachers talk about specific aspects of pedagogy in depth and model their strategies through relevant demonstrations.

Alternatively, at Schools 2, 3, and 5, teachers routinely reflect on their practice from the week before and discuss particular challenges and how these can be resolved. At School 3, for example, T3.3 characterizes this talk as a "feedback session," where teachers consider a topic, such as "adding 3-digit numbers," and whether teachers were able to cover the content, whether their lessons went as planned, and any "shortcomings" that emerged from their experience. Teachers give "feedback" to individuals and together they discuss relevant strategies. At all 11 schools, teachers talk about their instructional "problems," yet the way in which teachers *identify* or recognize the problem varies and therefore the type of problem and the way different strategies are discussed also varies. At some schools, particularly Schools C and E, there is an emphasis on "problems" within teacher discourse, rather than solutions.

With foundation phase teachers, instructional discourse is more strongly specialized at Schools 2, 3, 5, 8, and 9, all higher performing schools. Communication is also more strongly specialized amongst grade 3 teachers in these schools. Of interest here are School 3 and School 5 that stand out from the rest. At both there are two distinct opportunities for grade 3

teachers to engage formally with other foundation phase teachers in a specialized way: phase meetings and staff development meetings. This context of communication is classified as strongly (++) specialized at both schools. As an example, at School 5, foundation phase teachers hold subject-oriented phase meetings alternating between mathematics and language. The Learning Area Heads are responsible for facilitating the discourse. In these meetings, each grade has an opportunity to identify and discuss specific issues with the group. Grade 3 teachers are given a voice within the context of a specialized subject-based discussion. During staff development meetings, foundation phase teachers meet again to address new pedagogic topics, for instance, "inclusive teaching." This is an opportunity for teachers to report back on what they learnt at workshops, share strategies, and identify aspects of pedagogy that require professional development.

Learner performance is discussed as a phase at almost all schools in the sample, excluding Schools 1 and E, where the instructional discourse is very unspecialized (- -). An issue that arises with discussions of performance at a phase level is that specific aspects of teachers' pedagogy (strengths and weaknesses) are not necessarily related to grade 3, but rather to the foundation phase as a whole, thus a relatively less specialized form of instructional discourse is present. At Schools A and B, information relating to learner performance is mainly relayed by the HOD, often stemming from conversations with the SMT and/or principal. Issues relating to performance on assessment tasks are not typically discussed amongst teachers.

At School C, a somewhat different way of talking about performance emerges. Foundation phase teachers are required to generate a phase-level strategy (similar to School E). Together teachers talk about the afterschool program as a strategy to improve performance on the systemic test. According to TC.3: "[We talk about] the marks for the learners and where we must do more revision. We repeat the work with the learners every day. We stay after school for one hour on Mondays and Wednesdays to drill the work." Although the instructional discourse identifies contents as focus areas and the strategy of "revising" and "drilling" the work after school, the program does not necessarily identify strong and weak aspects of grade 3 teachers' pedagogy. Teachers talk about foundation phase performance rather than the performance of each grade specifically. The instructional discourse in this context is classified as fairly unspecialized (-).

5.4.2.2 Specialization of teacher-management discourse

With the foundation phase HOD, instructional discourse is more weakly specialized at most schools in the sample. We find very unspecialized (- -) discourse at Schools 1 and E and fairly unspecialized (-) discourse at Schools B, 4, 5, C, and 8. At these schools, grade 3 teachers mainly talk to their HOD about routine aspects of their work, such as the moderation of assessment tasks and learner books, the scheduling of tasks, inspections of lesson plans, and reports generated by the HOD from IQMS classroom observations (Integrated Quality Management System). While there may be some instructional feedback provided by the HOD to individual grade 3 teachers, this is the extent of the more specialized forms of instructional talk between them. These findings suggest that the HOD role in this sample of schools may be carried out more on the basis of status, as opposed to expertise.

Schools 2, 3, and 9 stand out from the sample where instructional discourse with the HOD is more strongly specialized. At these three relatively higher performing schools, instructional discourse is also more strongly specialized amongst grade 3 teachers and with foundation phase teachers. This suggests stronger specialization of discourse may be an organizational norm at some schools. With the HOD at these three schools, aspects of grade 3 pedagogy and relevant strategies are identified in a variety of ways. For instance, at School 3, T3.3 details her relation:

> *We are thinking of ways that we can apply strategies so [the learners] can pass the systemic tests, and pass the [Annual National Assessment]…The HOD checks my work and she sees where I am not doing well. She asks when she can come to my class, and I say to her that I need help here. She is good in home language. There are certain tasks she moderates and she will advise about those tasks. She also analyzes the results [from assessment tasks] in meetings, so she can see who is performing well as a teacher.*

These remarks demonstrate how classroom observations, teachers' work, and assessment tasks may be used to differentiate teachers on the basis of what they know (or do not know). In this way, the HOD is able to identify where further instructional support is required for teachers. The HOD at School 3 explains how learner performance is analyzed: "After the first term, we do all the reports and records. Then we do an analysis for each grade; there are six classes in grade 1. Then we do the analysis as a phase, then as a school. We identify specific areas to focus for each grade."

Within more strongly specialized forms of instructional discourse with the HOD at Schools 2, 3, and 9, aspects of grade 3 teachers' pedagogy are identified through the analysis of learner performance results, classroom observations, and other forms of teachers' written work. The HOD talks to teachers about the strengths and weaknesses of their pedagogy, "I see a learner didn't understand when you used that strategy," and shares relevant strategies for improving teacher practice, at times, through demonstrations. HODs also support teachers in their work, for instance, in generating particular kinds of comprehension questions for assessment tasks.

With the principal, instructional discourse predominantly concerns the implementation of WCED policy and discussions of learner performance at all schools in the sample. What marks out the discourse as more specialized is the variety of ways specific aspects of grade 3 pedagogy are identified and addressed strategically at Schools 3, 4, 5, 8, and 9. For instance, during staff meetings with the principal at School 4, instructional discourse includes the sharing of teaching strategies, such as "problem solving strategies in mathematics," where teachers explain certain methods for how to teach a concept. The discourse also includes which topics to spend more time teaching, such as "literacy across the curriculum with a focus on writing." The principal also visits teachers' classrooms and identifies strengths and weaknesses of teachers' practice. She supports teachers' weak pedagogical skill through "team teaching" and modeling. According to the principal:

> *I translate the instructional stuff to teachers. I need to know what is going on… to monitor whether [the teachers] are doing [the strategies]. Also I initiated a book. Teachers have to write their strong and weak points for the year, to learn from each other. Teachers with specific problems, I can go in and teach with them. I re-workshopped every workshop… I work in the office, but my life is the curriculum. Got to monitor! I do it smart, small pieces of monitoring. You get those who do it right. Stop, then demo with the others.*

In a variety of ways, the principal differentiates teachers' pedagogy and relays relevant instructional strategies to improve teaching and learning. In the forms of instructional discourse exchanged between grade 3 teachers and the principal at School 4, the discourse is strongly specialized (++).

Other ways in which principals communicate about instruction in a more specialized manner includes the discussion of pedagogic strategies, such as "reading hour," afterschool programs, and methods for learner remediation; resources to support aspects of grade 3 teachers' pedagogy including workshops, NGOs, curriculum advisors, or other material resources; as

well as verbal and written feedback based on classroom observations, assessments tasks, and the evaluation of teachers' and learners' work.

5.4.2.3 Specialization of instructional discourse across the school

Aggregate measures of specialization at a school level reveal fairly specialized (+) discourse at Schools 2, 3, 4, 5, 8, and 9, all relatively higher performing schools. The anomaly in this sample is the relatively higher performing School 1, where the school's aggregate measure of instructional discourse is fairly unspecialized (-). Although there are lower frequencies of instructional communication and lower degrees of pedagogic recognition at this school, we find fairly specialized (+) instructional discourse in the discrete context of grade 3 teacher communication due to performance analyses from weekly assessment tasks, focus areas for teaching, and relevant strategies for supporting teachers' practice. We find less specialized discourse, however, within the other three contexts of communication in this school.

An organizational pattern of specialization is also present within the sample, where multiple contexts of communication are specialized to a similar extent. There are two contexts of more strongly specialized discourse at School 4, three contexts at Schools 2, 5, and 8, and four at Schools 3 and 9. At each of the relatively lower performing schools – A, B, C, and E – there is an absence of specialized discourse between grade 3 teachers and their colleagues. These findings suggest there may be different forms of instructional order within these schools, operating across contexts and controlling how and what kinds of information, and potentially knowledge, circulate through communication.

An investigation of instructional discourse has shown how communication is specialized for the purpose of pedagogic practice. Between teachers, this occurs largely through assessment analyses that differentiate learners and curriculum contents for remedial purposes. Between teachers and management, specialized discourse differentiates teachers and their pedagogy through classroom observations, learner performance on assessments, and other forms of teachers' work. Between teachers and with management, pedagogic strategies are relayed on the basis of instructional differentiation, though this occurs in different ways. Differences in *how* communication is structured are explored in the following chapter.

5.5 Specialization of instructional communication

In previous sections of this chapter, I examined how forms of instructional communication are organized, classified, and differentiated by measuring the frequency of interactions, the recognition of practice and expertise, and the specificity and depth of the discourse. Findings revealed how the categories of time, practice, and discourse, respectively, are differentially specialized within the sample of schools. Below, I consider how the three indicators might relate to each other and broader patterns of specialized communication across the sample.

5.5.1 Investigating the relation between time, practice, and discourse

To explore the relation between the three indicators of specialization, I consider the context of grade 3 teacher communication. The table below summarizes the coding and aggregates the codes in the far right column as a composite measure of specialized communication. The composite measure of specialization gives equal weighting to each of the three indicators.

Table 5.7. Measuring the specialization of communication amongst grade 3 teachers across the sample

In the forms of instructional communication between GRADE 3 TEACHERS…		Frequency of communication	Recognition of distinct practice	Specialization of discourse	**Specialization of communication**
Set 1	School 1	+	-	+	+
	School A	-	-	-	-
Set 2	School 2	+	+	++	+
	School 3	++	+	+	+
	School B	-	-	-	-
Set 3	School 4	++	-	++	+
	School 5	+	+	+	+
	School C	+	-	-	-
Set 4	School 8	-	+	++	+
	School 9	++	+	++	++
	School E	++	+	-	+

In the variety of ways in which time, practice, and discourse are specialized across the sample, there are two noteworthy patterns that reveal a tentative relation between the three dimensions. The first is the relation between the frequency of communication and the specialization of discourse. In cases where there is a higher frequency (++/+) of instructional communication, typically occurring once a week or more, instructional discourse is not necessarily more specialized. Grade 3 teachers may talk more frequently about teaching and learning though this may not be a sufficient condition for pedagogic differentiation or greater specificity and depth of communication. We see this pattern at School C and School E.

A second observation is that the specialization of discourse is stronger (++/+) when at least one of the other indicators of specialization is present – that is, time and/or pedagogic practice. This suggests in the context of grade 3 teacher communication, more strongly specialized discourse is associated with more strongly specialized time for instructional talk and/or a more specialized division of pedagogic labor. This pattern is present at each of the relatively higher performing schools. How time and practice are specialized may therefore be related to teacher discourse. I surmise that more frequent opportunities to talk about teaching and/or greater epistemic differentiation may enable greater specificity and depth in the forms of instructional communication.

5.5.2 Specialization of communication across the sample

How does the specialization of communication vary between contexts and between schools within the sample? Table 5.8 below aggregates each indicator of specialization for each context of communication, producing a composite school-level measure in the far right column.

Table 5.8. Measuring the specialization of instructional communication across the sample

In the forms of instructional communication between…		G3 teachers	G3 and FP teachers	G3 teachers and the FP HOD	G3 teachers and the principal	**School level aggregate**
Set 1	School 1	+	- -	- -	- -	-
	School A	-	-	- -	-	-
Set 2	School 2	+	+	+	-	+
	School 3	+	+	++	-	+
	School B	-	-	-	-	-
Set 3	School 4	+	-	-	+	+
	School 5	+	++	+	-	+
	School C	-	-	-	-	-
Set 4	School 8	+	+	+	+	+
	School 9	++	++	+	-	+
	School E	+	-	-	-	-

A question that emerges from these findings is whether specialization is an organizational phenomenon, occurring across a variety of contexts, or whether it is isolated to a particular context of communication. Findings demonstrate that distributed and isolated patterns of specialization are present, for example, the difference between School 1 and School 2. Where an organizational pattern of communication is present, we can discern a *relation between* the different contexts. Where communication is more strongly specialized with the HOD, we also find specialized communication with foundation phase teachers and between grade 3 teachers. This pattern emerges at Schools 2, 3, 5, 8, and 9, which suggests the instructional order of the foundation phase, as a broader context of communication, is more strongly specialized.

At a school aggregate level, communication is more strongly specialized at Schools 2, 3, 4, 5, 8, and 9, all higher performing schools. Across a variety of contexts in these schools, grade 3 teachers' instructional time, practice, and discourse are more strongly specialized. At Schools 1, A, B, C, and E the opposite pattern is found. The similarity between School 1 and School E

demonstrates how aggregating the three indicators of specialization can mask more discrete differences between the schools. Nevertheless, the two schools express similar patterns of specialized communication yet produce different measures of academic outcome in grade 3. This raises questions about the nature of teachers' social relations as a form of variation between the schools. It is surprising that only two schools express more strongly specialized communication with the principal, School 4 and School 8. Between grade 3 teachers and their colleagues, more specialized forms of communication occur without the principal in most schools within this sample.

5.6 Conclusion

This chapter explored one of two dimensions of the instructional order of the school. Each section of the chapter worked through an indicator of specialization to explore how the categories of time, practice, and discourse are organized, classified, and differentiated in schools. I presented an elaborated discussion of each indicator for particular cases of schools as well as broader patterns of specialization and how they relate to academic performance.

In the analysis of time, or the frequency of instructional communication, findings reveal more frequent opportunities for grade 3 teachers to talk about instruction within relatively higher performing schools. More frequent discussions about pedagogy typically occur between teachers rather than with management. Findings also reveal greater recognition of practice and expertise at relatively higher performing schools. Four discrete bases of recognition in the form of pedagogical content knowledge were derived and explored across the sample. It was argued that recognition is an indicator of epistemic differentiation in the way knowledge is socially organized. Across all relatively higher performing schools, findings show more strongly specialized instructional discourse between grade 3 teachers and more strongly specialized communication at a school aggregate level at Schools 2, 3, 4, 5, 8, and 9.

From an exploration of the relation between time, practice, and discourse and an analysis of patterns at an organizational level, findings suggest that higher frequencies of instructional communication and greater pedagogic recognition may be related to the development of specialized discourse. Where the specialization of instructional discourse is stronger, there is greater *differentiation* of time, practice, and expertise. In these cases, I argued the potential for teachers' access to knowledge resources is present. Differentiation is therefore conceived

as both a condition as well as a product of specialization. Composite measures of specialized communication are stronger at Schools 2, 3, 4, 5, 8, and 9, all classified as relatively higher performing schools. School 1 has emerged as an anomaly in the study in relation to school performance.

In the following chapter, I consider the form of teachers' relations, or how instructional forms of communication are structured between teachers and with management. The chapter reveals how meanings circulate through different forms of social relation. In Chapter 7, I bring the specialization of communication and the form of relations together to explore modalities of the instructional order of the school and implications for the circulation of knowledge.

Chapter 6

The form of teachers' communication relations

6.1 Introduction

The second dimension of the school's instructional order, the form of teachers' relations, regulates *how* communication is enacted. Teachers' relations are underpinned rules of social order thereby controlling the rules of interaction, responsibility, and decision-making. 'Form' signals a focus on social structure derived from a formal status arrangement in the school. The 'status' of a role, such as 'teacher', is a social category denoting a relationship to other roles within a division of labor. As a result, roles are organized relatively on the basis of an assigned status. This study considers two forms of role or status relations:

- Horizontal relations between teachers based on a shared status relation
- Hierarchical relations between teachers and management based on a differential status relation

The different roles and their relationships to each other constitute a communication system controlling the social organization of knowledge and the conditions for its circulation.

All schools in the study sample share the same status arrangement based on South African education policy[1]. The analysis therefore examines whether the enactment of instructional communication between the different roles follows the *assigned* rules based upon status that stem from policy and contract, or whether the rules are relaxed or *achieved* through discussion and negotiation. To classify the form of teachers' relations, three indicators or rules of communication are considered. These are:

- Initiation of when interactions may occur
- Selection of what topics may be discussed
- Negotiation of how topics may be discussed

[1] See the Education Labor Relations Council (ELRC) policy handbook (2003), and particularly the 'Duties and responsibilities of Educators'. A synthesis of educator responsibilities forms part of Chapter 2 in section 2.3.2.

Initiation of when interactions may occur measures the regularity of informal instructional communication between grade 3 teachers and their colleagues. Stronger regularity indicates greater teacher choice over when interactions may occur. In the selection of topics for discussion, the context of formal meetings is considered. Here, I am interested in the extent to which selection is based on the individual or the status of the role. The analysis of negotiation considers the extent that topics are developed and an outcome determined through the sharing of individual ideas, such as in the development of a pedagogic strategy to improve learner performance. Where the teacher negotiates instructional outcomes with others, this implies that the rules for communication are achieved.

Four contexts of communication are considered within this chapter for the form of teachers' relations. These are the relations between grade 3 teachers, between grade 3 and other foundation phase teachers, with the foundation phase HOD, and with the principal. To do justice to each of the two forms of status relation, I make a distinction between horizontally and hierarchically organized status relations in the presentation of data and subsequent interpretation. The distinction allows for a more precise analysis of a specific form of social relation, that is, a shared status relation and a differential status relation. The analysis utilizes data pertaining to instructional forms of communication from the 2012 and 2014 grade 3 teacher interviews, the 2012 HOD interviews, and the 2012 and 2013 principal interviews.

Within each section below, I discuss contrasting cases of the form of relation followed by an investigation of broader patterns across the sample of 11 schools. The analysis classifies variation between contexts and between schools on a scale from closed (++) to open (- -) relations. Importantly, the terms open and closed do *not* refer to whether information flows; rather, open and closed indicate the extent that the rules for communication are relaxed or observed based upon status. Where open relations are present, the rules for communication are more negotiated and achieved. Teachers may potentially challenge the boundaries or rules of instructional communication, implying greater potential for change in how meanings are circulated. Where closed relations are present, the rules for communication are more stable and assigned. Boundaries are typically maintained through rules associated with the formal status of roles, implying greater stability in how meanings are circulated. In both open and closed forms of relation, some form of ideology is at play (Bernstein, 2000). Some form of regulation is structuring the form of teachers' relations, shaping the form of instructional communication.

6.2 The form of teachers' horizontal relations

As part of the school's instructional order, teachers are assigned the formal responsibility of coordinating and controlling the academic program for a subject or set of subjects at a specified grade level outlined in curriculum policy (ELRC, 2003). Scheduled meetings also serve as an assigned rule for communication in which discussions of curriculum typically occur, such as the preparation of lessons and selection of what contents to teach. In this section, I examine the form of teacher relations by investigating the initiation of instructional interactions, the selection of what topics may be discussed during meetings, and the extent that topics are negotiated between teachers. I consider the relations between grade 3 teachers and those with other foundation phase teachers in grades 1 and 2. The section begins with a detailed analysis of two cases of schools to demonstrate and contrast the different rules of communication that emerge within a horizontal social structure. I then explore broader patterns of teacher relation across the sample and how these relate to academic performance.

6.2.1 Contrasting cases of teacher-teacher relations: School 2 and School B

The following analysis is based on two urban, isiXhosa and English medium schools, School 2 and School B. The two schools are situated about a kilometer apart within the same large township outside the city center of Cape Town. Though the schools are close in proximity, drawing from similar catchment areas of learners and resources, the schools produce different academic outcomes and exhibit different forms of teacher relation. School 2 is classified as a relatively higher performing school, and School B, a relatively lower performer.

School 2: Data description for the form of teacher-teacher communication relations

When asked about grade 3 teachers' working relation, T2.6 explains that she goes to other grade 3 teachers for help with teaching: *'If I ask for an approach on something from the other fellow teachers, I can just go to them and they will explain… they advise me a lot on the CAPS curriculum'.* Similarly, T2.5 seeks out grade 3 teachers first, when in need of support with teaching: *'We feel free to go into each others' classes and see how she does, how she introduces… I ask how she does sharing [in maths]'.* Other grade 3 teachers also seek out T2.6 for support: '*I go to them for help, and they come to you. There is togetherness'*.

Grade 3 meetings occur regularly where individual teachers share challenges they are facing and other teachers offer advice on how to resolve the problem: *'How about dramatizing it?'* (T2.6). Together, teachers reflect on curriculum coverage and lessons from the week before: *'We see if we are on the same page'* (T2.5). Teachers make decisions on which topics to spend more time teaching (e.g. *'We emphasize reading')* and which strategies to use for the afterschool program, e.g. reading groups and the mixing of learning levels. According to T2.2 and T2.1, teachers at School 2 work as a 'team' and as a 'family'.

The HOD explains that teachers discuss problems they experience in the classroom, share solutions with each other, and also develop intervention strategies together: *'There is teamwork amongst educators, to discuss, and to work together'.* According to the HOD and the principal, the HOD has a work schedule of the grade and phase meetings, and grades meet regularly each week.

T2.6 also seeks out teachers from other grades when she experiences a problem with her teaching practice: *'If I need to know something… it is an everyday occurrence.'* She approaches the grade 1 and grade 2 teachers if she needs an activity for a grade 3 learner who is at a grade 1 level, e.g. in maths, *'How do I approach this learner?'* At times, foundation phase teachers ask grade 3 teachers for resources, *'If they see something in your class, they will sometimes ask for those resources… There is talking and chatting every day*. *Teachers talk about each other'* (T2.6). If grade 3 teachers can't help T2.5 with teaching, then she seeks out other teachers in the phase for support. T2.5 '*feels free*' to talk to other phase teachers, *'How can I help this learner? Which activities?'* There is some exchanging of ideas and lessons between grade 3 and other foundation phase teachers.

Foundation phase teachers meet regularly to discuss problems with teaching and learning and to share strategies with one another: '*The school is all about learning and support'* (T2.6); *'We share ideas, what we encounter and a way forward, we come up with strategies'* (T2.5). T2.6 characterizes phase meetings as '*similar'* to the grade meetings. Other topics include issues of communicating with parents about learner performance and the assessment reports for the term. Teachers '*share ideas'* and '*come up with strategies*' as a phase to improve learner performance.

Discussions about teaching and learning between grade 3 teachers occur regularly when an instructional need arises: "We feel free to go into each other's classes." This includes both teacher-controlled (when the teacher initiates) and other-controlled (when other grade 3 teachers initiate): "I go to them for help, and they come to you." During meetings, individual teachers select most of the topics for discussion pertaining to their own problems of practice; other teachers suggest solutions for resolving these. Strategies are negotiated, such as how best to organize learners into different reading groups or how to teach a specific skill. Grade 3 teachers' relations at School 2 are therefore classified as open (- -), where the rules for communication are *achieved* through discussion and negotiation.

With foundation phase teachers, the form of the relation resembles that of grade 3 teachers. There is regular initiation of interaction and sharing of cognitive and material resources, including the exchange of written lessons and activities between the grades: "If they see something in your class, they will sometimes ask for those resources." During meetings, grade 3 teachers select some of the topics for discussion: "How do I approach this learner?" Other topics are based on the status of foundation phase teachers, for instance, assessment reports on learner performance. In the development of improvement strategies for the phase, there is some negotiation between teachers: "We share ideas, what we encounter and a way forward, we come up with strategies." According to the data descriptors, the form of relation with foundation phase teachers at School 2 is fairly open (-):

(-) In the formal and informal interactions between grade 3 teachers and other foundation phase teachers: Whenever the need arises, teachers initiate and receive communication from others. Some or a few of the topics discussed are determined by individuals, some pertain to group matters, and at times, a few may be determined by the HOD/principal. There is some evidence that a few topics are negotiated amongst teachers.

School B: Data description for the form of teacher-teacher communication relations

From time to time, TB.4 talks about teaching with another grade 3 teacher informally: *'I have a feeling that any other person may not be helpful because of the grade difference'.* Informally, teachers discuss problems amongst themselves and share ideas: *'One of us will come with ideas about the problem. We sit and work it out as a group'* (TB.4). When asked whether TB.5 seeks out other teachers for support, she explains: *'No, not really. Those that I do, they were appointed.*' Occasionally, she talks about her ideas and challenges with other grade 3 teachers, e.g. '*Are your kids at that level?*'

If grade 3 teachers hear new information from someone at another school, then they will share this with the group. If TB.5 can't come to school because she is sick, then she will talk to the other grade 3 teachers about dividing up her learners. According to TB.3, there is '*cooperation'* between teachers.

Formal grade 3 meetings are '*called'* and run by the HOD in her classroom. The HOD discusses issues relating to the assessment tasks, e.g. *'We talk about the assessment tasks that need to be planned for the learners. The HOD gives us duties, who does which tasks'* (TB.5). Similarly, TB.4 explains:

> *We only meet when we discuss assessment tasks. We decide about the dates and the marks. How many tasks, submission dates of tasks, when exams will be starting, dates to submit recordings… You must take the scripts and marks to the HOD before you can record formally.*

A teacher may call a meeting if there is a problem with a learner. During grade 3 meetings, the HOD checks learner books to monitor the levels at which teachers are teaching the content. Interactions also occur when a circular comes in and says that teachers need to meet to discuss a topic. The HOD explains that planning is done in the grade teams, but teachers do not always complete their work on time; however, teachers do plan together, communicate, support each other, and take advice from others.

Foundation phase teachers do not typically interact informally during unscheduled times. Most interactions occur during scheduled meetings. This is where teachers are informed by the HOD of '*class allocations*', which resources need to be divided amongst the grades in the phase, '*differentiation'* between grade levels in terms of content covered, and any upcoming excursions. They also talk about extra-mural activities. At times, a grade 1 or 2 teacher will report back on what happened at a '*school cluster meeting*' if grade 3 wasn't invited. The HOD explains that the phase teams schedule the assessment tasks and talk about learner performance twice per year. According to the principal, during phase meetings, teachers plan for the term and the HOD conveys School Management Team (SMT) meeting decisions.

Amongst grade 3 teachers at School B, the initiation of interactions about teaching and learning occurs sometimes, or from time to time: "One of us will come with ideas about the problem. We sit and work it out as a group." Thus, negotiation occurs informally. For TB.5, initiation of interaction is based on the "appointment" of the teacher, which suggests teacher roles are more strongly framed by status. The HOD typically controls when meetings occur, though at times, teachers may "call" a meeting if a problem arises with a learner. Most of the topics discussed during meetings are either selected by the HOD or based on the shared status

of grade 3 teachers: “We only meet when we discuss assessment tasks. We decide about the dates and the marks. How many tasks, submission dates of tasks…” Other meetings are dependent on WCED circulars that stipulate an issue for discussion. The form of communication relation amongst grade 3 teachers at School B is classified as fairly closed (+) where the rules are mainly assigned:

> **(+) In the formal and informal interactions amongst grade 3 teachers:** From time to time, teachers initiate communication with other teachers. A few of the topics discussed are determined by individual teachers, although most topics pertain to group matters. The HOD, and/or the principal, may determine some of the topics. There is little to no evidence of negotiation amongst teachers.

Interviewee remarks indicate an absence of teacher-initiated communication with other foundation phase teachers. TB.4 highlights “grade difference” or status as a reason for this. During meetings, the HOD relays information and decisions from the School Management Team (SMT), distributes resources, and allocates learners for the following year. Topics conveyed by teachers tend to relate to the phase as a whole, such as information from school cluster meetings if grade 3 teachers were not invited. Grade 3 teachers rarely, if ever, initiate informal interactions with other foundation phase teachers and have little say in what topics are discussed. Matters mainly pertain to the phase and are controlled by the HOD (through the SMT). The form of relation with other foundation phase teachers at School B is classified as closed (++). Relations are based upon the status of teachers. Communicative boundaries are maintained through underlying rules for who may speak to whom and what may be said.

At School 2 and School B, the different forms of teacher relation are summarized in the table below. These classifications signify the extent of the structuring of initiation, selection, and negotiation of instructional communication on a scale from closed (++) to open (- -) relations. The teacher-teacher aggregate was produced by taking the mean of the numerical values associated with each context of communication.

Table 6.1. Classifying the form of teacher-teacher relations at School 2 and School B

In the kinds of formal and informal instructional interactions between…		Grade 3 teachers	G3 and FP teachers	**Teacher-teacher aggregate**
Set 2	School 2	- -	-	- -
	School B	+	++	+

When comparing Schools 2 and B, the table reveals within-school similarities and between-school differences in the form of relation between teachers. This implies that within each school, teacher relations are regulated by a particular phase-level communicative orientation. At School 2, teachers tend to achieve the rules for communication through discussion and negotiation of individual ideas. At School B, a contrastive pattern emerges. Instructional communication is more strongly framed by the formal status of grade 3 teachers in relation to others. These two schools demonstrate distinct communicative orientations, rules achieved and rules assigned. How do these findings compare with other schools in the sample, and to what extent are forms of relation associated with measures of academic performance?

6.2.2 Investigating the form of teacher-teacher relations across the sample

The table below presents findings for the form of teacher-teacher relations across the sample on a scale from closed (++) to open (- -). The aggregate form of teacher-teacher relation was generated by taking the mean of the numerical values assigned to each teacher context.

Table 6.2. Classifying the form of teacher-teacher relations across the sample

In the kinds of formal and informal instructional interactions between…		G3 teachers	G3 and FP teachers	**Teacher-teacher aggregate**
Set 1	School 1	+	++	+
	School A	-	+	+
Set 2	School 2	- -	-	- -
	School 3	- -	-	-
	School B	+	++	+
Set 3	School 4	- -	+	-
	School 5	-	- -	-
	School C	-	+	+
Set 4	School 8	- -	-	-
	School 9	- -	-	-
	School E	-	++	+

At most schools, with the exception of School 1 and School B, more open relations (-/- -) are present amongst grade 3 teachers. Similar to School B, grade 3 teachers at School 1 sometimes seek out their peers for instructional support. When asked whether discussions of teaching practice occur outside of team meetings, T1.5 explains, “No, I don’t have any teaching friends. Not really.” In contrast, T1.1 interacts informally if a problem arises but cites time as an issue. During grade meetings, teachers select a few topics to negotiate with the group, such as problems with teaching and how to improve learners’ marks. The ‘grade head’ tends to control some of the topics under discussion, including “directives” from the HOD and “certain aspects to focus on.” Communication relations are also structured on the basis of teachers’ home language: “We meet weekly but separately. English teachers meet together and Afrikaans teachers meet together” (T1.5). The communication relation between grade 3 teachers at School 1 is framed by teachers’ status within the grade, constituting a fairly closed (+) form of relation.

Between grade 3 teachers at Schools 2, 3, 4, 8, and 9, relations are classified as open (- -). At each school there is regular interaction about teaching and learning when a need arises. For instance, T4.1 at School 4 describes her relation with other teachers in the grade: “Some teachers come to observe and learn from me. Two grade 3 teachers have come to observe me. They will say, ‘Can I see?’ We have an open relation.” At School 9, T9.2 explains her relation: “I will ask [the other grade 3 teachers] in certain aspects, how to approach teaching fractions, maybe I am not sure how to teach it. I will go to her and ask, ‘How do you do it?’” At these five schools, grade 3 teachers select most topics to discuss during meetings, such as, how to teach 3-digit addition. Some topics are also negotiated, for instance, how the grade can improve assessment tasks. Compared to other schools in the sample, the rules for instructional communication between grade 3 teachers at these five schools are more relaxed.

At Schools A, 5, C, and E, the form of relation between grade 3 teachers is fairly open (-). Though informal interactions about instruction occur regularly in all four schools, teachers have relatively fewer choices about what topics to discuss during meetings. Some of the topics are routinized, based on the shared status and instructional responsibilities of teachers, such as, the marking of assessment tasks, how many pages to cover in the workbook for the following week, or how many days to spend teaching a topic. Individual teachers select some or about half of the topics for discussion, and a few of these are negotiated. Where relations

are fairly open (-) between grade 3 teachers, findings reveal individual teacher choice is partly framed within a structured communication relation according to a shared status.

In the form of relation between teachers of a shared status, within-school similarities are present at most schools in the sample. At Schools 2, 3, 5, 8, and 9, teacher relations demonstrate a more open communicative orientation within the foundation phase as a whole. At Schools 1 and B, teacher relations demonstrate a more closed communicative orientation within the phase. Within-school similarity in the form of teacher relation excludes Schools A, 4, C, and E, where grade 3 teacher relations are more open while those with other foundation phase teachers are more closed.

Interviewee remarks espouse a more independent working relation with foundation phase peers at Schools A, 4, C, and E: “We don’t really work together outside of meetings… When we plan, we are supposed to sit as a phase, but it is not happening. Each grade does their own planning” (TE.1). There is some variation in the rules for communication amongst teachers in the different grades at these schools. At Schools A, C, and E, the HOD selects some or most of the topics during phase meetings that concern shared phase matters. Where there is little to no informal interaction with foundation phase teachers at Schools A, C, and E, there is occasional interaction at School 4. During phase meetings, grade 3 teachers at School 4 select a few topics for discussion, although T4.1 explains: “I wish that we could talk more about our work in the different grades… I say to the foundation phase, we must talk more about schoolwork.” Her remarks indicate the complexity of challenging the boundaries or rules for what topics may be discussed in particular contexts of communication.

Aggregate forms of teacher relation at each of the 11 schools reveal variation between most relatively higher and lower performing schools. Fairly closed teacher relations (+) are present at Schools 1, A, B, C, and E. The opposite pattern emerges at Schools 2, 3, 4, 5, 8, and 9, where communication relations are fairly open or open (-/- -). These findings imply more open relations between teachers, with a shared status of instructional responsibility and authority, are associated with relatively higher measures of academic performance. In these schools, the rules for instructional communication are achieved through discussion and negotiation. Where relations are more closed between teachers, the boundaries of legitimate instructional communication are relatively more stable for when interactions occur, what may be said, and how topics are discussed. The following section considers the different forms of

teacher-management relations, structured hierarchically according to a differential status relation.

6.3 The form of teachers' hierarchical relations

The school's division of labor, as Ingersoll argues, is fundamentally a hierarchical division of power (1991). Teacher relations with management constitute a hierarchical relation where the HOD and principal are positioned at a higher status with a greater degree of authority in the implementation of instructional policy and practice. The principal is formally responsible for a variety of instructional functions that differ from the HOD and teachers. These include instructional leadership; provision of guidance and advice on the work and performance of staff according to policy; and development of staff training programs (ELRC, 2003). The HOD is responsible for the effective functioning of their department; organization of phase-level activities; development of policy; coordination of assessments; appraisal of teachers' practice; assessment of the division of work amongst staff; and provision of guidance to teachers on pedagogic methods, evaluation, practice, and remediation (*ibid*).

This section explores the hierarchical, differential status relation between teachers and management. I investigate whether the formal status of management roles regulates the rules for communication with teachers, or whether teachers are afforded choices in how to interact with management. The section begins with a detailed analysis of teacher-management relations in two schools. This is followed by an investigation of the forms of teacher-management relations across the sample. Variation in the form of relation with management is classified on a scale from closed (++), where the rules for communication are based upon status, to open (- -), where rules for the initiation, selection, and negotiation of instructional communication are more relaxed.

6.3.1 Contrasting cases of teacher-management relations: School 8 and School 9

Two demographically similar schools are examined below. Both schools are situated in peri-urban coastal towns where the medium of instruction is isiXhosa and English. While the academic outcomes of these schools are both relatively higher than similar schools in similar contexts, the form of teacher-management relations differs. Within the analysis, I consider grade 3 teachers' relation with the HOD and with the principal regarding the initiation,

selection, and negotiation of instructional communication. I examine the extent that the rules for communication with those in positions of authority are observed and/or relaxed.

School 8: Data description of the form of teacher-management relations

Teacher 8.4 reports an unsupportive relation with the HOD; sometimes they work well together and other times they don't. With the HOD, T8.4 '*rarely*' talks about teaching. When teachers experience *'challenges'* in their work, these are brought up at phase meetings so that the HOD can report them to the School Management Team (SMT) or to the principal. T8.3 classifies her relation as '*supportive'*: *'If there is something I need, I just go to her class. If she needs something, then she calls me'.* Both teachers receive instructional feedback from the HOD based on formal classroom observations (IQMS), e.g. '*add this to your lesson'*. There is no discussion of the lesson or the feedback.

According to the HOD, she manages her department, monitors teaching and learning, and mentors educators. Each Friday, grade 3 teachers submit their lesson plans with four learner books to the HOD for inspection. These are returned the following Monday with written feedback. The principal explains that the HOD manages the foundation phase. She checks whether teachers' work is being done, teachers' assessment tasks each term, whether books and stationary are needed, and sets up workshops for teachers to attend.

With the principal, teachers visit his office informally to talk about instructional matters, e.g. if there are problems that the HOD cannot resolve. About once a term, the principal visits teachers' classes for about 10 minutes to provide feedback. Once a month, grade 3 teachers '*sit'* with the principal in his office to discuss their LitNum strategy. According to T8.4, '*It is a very open meeting'.* Teachers tell the principal what resources they need and which areas in the curriculum need more support. With the principal, teachers '*come up with ways'* to support their teaching and to improve learning. The principal also evaluates learner books and assessment tasks in relation to policy, and he provides teachers with written feedback. According to T8.3, the principal's encouragement contributes to the school doing well.

The HOD states that the principal and SMT are respected by staff. All staff members relate to each other well, explains the principal. He describes his main role in the school as working with people: *'To create good working relations*, *especially with teachers*. *Sometimes I am a principal, sometimes a colleague. We are all a member of a team here'.* During formal staff meetings, teachers share issues that were discussed during phase meetings, e.g. assessments and learner results. T8.4 explains: *'The principal will sit with us and check if we are encountering any problems. He will help us come up with solutions'*

Occasionally, grade 3 teachers at School 8 seek out the HOD for support. There is some disagreement between interviewees on the regularity of communication, where T8.4 rarely talks to the HOD about instruction and T8.1 does if a need arises. At times, the HOD "calls" teachers to her classroom "if she needs something." During formal meetings, grade 3 teachers share "challenges" with the HOD to bring to the attention of the SMT or principal, though solutions are not necessarily negotiated. The HOD emphasizes monitoring and management of teachers' work as functions of her role, providing both verbal and written feedback. At School 8, teachers' relation with the HOD is mostly framed by status, where the HOD determines when to interact, what topics to discuss, and whether topics may or may not be negotiated. At times, teachers initiate communication and select a few topics to discuss

during meetings. The form of the relation with the HOD at School 8 is classified as fairly closed (+).

With the principal, instructional communication is teacher-initiated from time to time and principal-initiated regularly to discuss grade 3 teaching and learning. T8.4 characterizes interactions as "very open," during which teachers identify their instructional areas of need, including cognitive and material resources, and develop strategies to improve learning. Teachers regularly receive written feedback from the principal on their practice. During staff meetings, grade 3 teachers are afforded opportunities to share "challenges" that arise from phase meetings. At these meetings, the principal "helps [teachers] come up with solutions." In his remarks, the principal emphasizes the importance of relations: "[My role is] to create good working relations, especially with teachers. Sometimes I am a principal, sometimes a colleague. We are all a member of a team here." The distinction between "principal" and "colleague" is one of differential status, indicating that the hierarchical rules for communication are relaxed at regular points in time for instructional purposes. The form of the teacher-principal relation at School 8 is fairly open (-), according to the data descriptor:

> **(-) In the formal and informal interactions between grade 3 teachers and the principal:** When a need arises, grade 3 teachers initiate and receive communication from the principal. Some or a few of the topics discussed are determined by individual grade 3 teachers. The principal determines some topics during informal interactions and meetings. There is some evidence that a few topics are negotiated with the principal.

School 9: Data description of the form of teacher-management relations

Both grade 3 teachers report that they work very well with their HOD, depend on one another, and have an instructionally supportive relation. Informally, teachers seek out their HOD for pedagogic support. T9.5 talks to her HOD on a daily basis about instructional matters, e.g. with a struggling learner: *'If I have a problem in my class, I go to my HOD and she will assist'.* Teachers also report that they learn a lot from their HOD about classroom teaching:

> *For example, I have a learner in my class who can't read or write. But [my HOD] made every effort to help the learner and now they can read and write. She always supports the learners and will come and ask me, 'How is he doing now?' If I am experiencing problems with a learner, then I will talk to her... When she comes to my class, she asks, 'How is this learner? (T9.2)*

T9.5 describes a similar form of relation where the HOD supported her in '*how to deal with learners with learning barriers*'. The HOD visits teachers' classrooms regularly once a term to conduct formal observations of teaching practice and to inspect learner books and assessment tasks. According to the principal, the HOD assists and guides teachers in their curriculum delivery, e.g. with materials and in developing improvement strategies or '*initiatives'*. The HOD explains: *'My focus is to look at the weak areas and then talk about improvement strategies with teachers'.* During phase meetings, the HOD relays a few topics from the SMT meetings to teachers. Meetings mostly pertain to teachers' problems with teaching and learning and strategies to resolve these, e.g. an afterschool program. The HOD explains: *'I*

ask teachers, what are their concerns? We ask their concerns and their challenges.' Teachers from the different grades then share their strategies with the group.

At least once a month the principal visits grade 3 teachers' classrooms. He will ask to see the learner books and tasks or the learners' portfolios. Teachers sometimes know when he is coming for a visit. The principal gives teachers feedback on their work and makes notes in the books. He follows up on this feedback during his next visit.

At formal staff meetings, the principal develops an agenda on issues that pertain to learners and learning. For example, the principal will discuss how well the school performed based on an analysis of results from assessment tasks. He also relays information to teachers outlined in reports from the education department and from the curriculum advisor. He updates teachers on up-coming assessments and other issues discussed by the SMT. At times, teachers '*speak freely*' about their problems with '*struggling learners'* and other teachers in the school share their improvement strategies, e.g. an afterschool program. According to the HOD, '*[teachers] might not be helped, but they can speak'.* T9.2 remarks that the principal contributes to the school's better performance. According to the principal, he ensures teachers adhere to policy and implement the curriculum.

At School 9, there is consensus between grade 3 teachers that they work very well with their HOD and have an instructionally supportive relation. Informal interactions occur regularly between teachers and the HOD regarding instruction: "If I am experiencing problems with a learner, then I will talk to [the HOD]." Teachers identify issues that require support: "how to deal with learners with learning barriers." The HOD provides teachers with pedagogic advice and follows up by visiting their classrooms. During meetings, teachers select some of the topics for discussion, including instructional problems and strategies to resolve these, for instance, organizing an afterschool program. The HOD supports teachers' improvement initiatives by developing strategies with teachers. The form of relation with the HOD is therefore classified as fairly open (-).

The principal regularly visits grade 3 classrooms to inspect teachers' and learners' work. He provides written feedback, though this is not necessarily discussed. Teachers do not typically initiate informal interactions with the principal about instruction. During meetings, the principal determines the agenda of items to be discussed, most of which pertain to learners and learning. He relays information to teachers from the education department and from the SMT with an emphasis on assessment, including reports generated by the curriculum advisor. At times, grade 3 teachers are given an opportunity to "speak freely" about problems with teaching. Other teachers from other grades may share a strategy for resolving the problem. With the principal at School 9, instructional communication constitutes a fairly closed (+) form of relation according to the data descriptor:

(+) In the formal and informal interactions between grade 3 teachers and the principal: From time to time, teachers initiate and/or receive communication from the principal. Grade 3 teachers select a few of the topics for discussion, although the principal selects most of the topics for discussion during informal interactions and during formal meetings. There is little to no evidence of negotiation of topics discussed with the principal.

From the analyses of teacher-management relations at Schools 8 and 9, there is variation both between and within each school in the form of relation with the HOD and with the principal. Findings are summarized in the table[2] below.

Table 6.3. Classifying the form of teacher-management relations at School 8 and School 9

In the kinds of formal and informal instructional interactions between…		Grade 3 teachers and the HOD	Grade 3 teachers and the principal	**Teacher-management aggregate**
Set 4	School 8	+	-	+
	School 9	-	+	-

Schools 8 and 9 exemplify nuanced ways in which different forms of authority relations regulate instructional communication. With the HOD at School 9, some of the rules for communication are negotiated, including when to interact and what topics to discuss during meetings. Teachers tend to identify their own instructional needs and receive or develop strategies with the HOD. At School 8, interactions with the HOD are more strongly framed by status in terms of when interactions occur and what topics are discussed, especially in the forms of instructional feedback provided to teachers on their work. With the principal at School 8, teachers initiate interaction, receive regular feedback, identify their instructional needs, and negotiate strategies to improve learner performance; the status of the principal is relaxed at times. At School 9, the principal-teacher relation is more strongly regulated by status in terms of when interactions occur and what kinds of feedback are provided. Within each school, the form of relation with the HOD and principal differs.

The aggregate form of teacher-management relation at Schools 8 and 9 varies, given that the numerical values associated with each context differ. The discrete variation in the coding between schools generates an aggregate that is slightly higher at School 8, relative to School

[2] Chapter 4 offers a detailed explanation of how aggregate measures are calculated using this particular example as a case in point. See Section 4.5.2.5.

9. Thus, the form of hierarchical relation between teachers and management is more strongly framed by status at School 9, relative to School 8.

6.3.2 Investigating the form of teacher-management relations across the sample

How is instructional communication enacted with the foundation phase HOD and with the principal across the 11 schools? Variation in the findings for each context of teacher-management relation is displayed below.

Table 6.4. Classifying the form of teacher-management relations across the sample

In the kinds of formal and informal instructional interactions between…		Grade 3 teachers and the HOD	Grade 3 teachers and the principal	**Teacher-management aggregate**
Set 1	School 1	++	++	++
	School A	-	+	+
Set 2	School 2	+	+	+
	School 3	-	+	-
	School B	+	++	++
Set 3	School 4	+	+	+
	School 5	+	+	+
	School C	+	-	+
Set 4	School 8	+	-	+
	School 9	-	+	-
	School E	+	+	+

Across the sample, there is a predominance of fairly closed (+) relations with the HOD and principal. This is not surprising given the nature of the work required of management roles. At most schools, instructional communication is regulated by the hierarchical status of the HOD and principal. This means that the flow of information between teachers and management is mostly controlled by the HOD and/or principal. The rules for when interactions occur, what topics are discussed, and whether these may be negotiated are

relatively more stable, implying the maintenance of communicative boundaries, or greater stability in how meanings are circulated. These findings also suggest that the form of relation is not a strong discriminator between schools. More significant kinds of variation in the form of teacher-management relation may be revealed in the following chapter when a measure of specialization is also taken into consideration. Nonetheless, some variation does emerge in certain contexts within the sample.

Similar to teachers' relation with the HOD at School 8, there are fairly closed (+) relations with the HOD at Schools 2, B, 4, 5, C, and E. This form of relation manifests at both relatively higher and lower performing schools. In each school, the initiation of instructional communication occurs informally, from time to time, between grade 3 teachers and the HOD. Teachers are afforded the opportunity to select a few topics for discussion, especially problems with teaching and learning, though there is little to no negotiation of those topics. The HOD determines what kind of feedback is provided to teachers on their practice and what strategies teachers should use. On closer inspection, the regularity of teacher-HOD interaction is stronger at Schools 2 and 5, relative to Schools B, 4, C, and E.

The form of relation with the HOD at School 1 is closed (++), which stands out from other teacher-HOD relations in the sample. At this school, communication with the HOD is rare. During meetings, teachers select a few topics to discuss, yet these are not negotiated. T1.5 describes an impediment to the reception of information from the HOD: "There is no HOD [who is a teacher] in the grade, so we are the last to hear about changes in our work." T1.2 expresses a similar viewpoint: "[Teachers] feel they are not getting support from the HOD. Teachers are not getting the support they need and want. HODs go to workshops and don't communicate back. We are not informed well ahead of time." According to the HOD, communicating with teachers about instruction is difficult because of time: "I can't go in and see and help. I can only tell on paper how teachers are doing. I have other things to do after school."

At Schools A, 3, and 9, communication with the HOD deviates from the pattern of closed relations (+). At these three schools, relations are fairly open (-). Informal interaction between grade 3 teachers and the HOD occurs regularly. Teachers select some of the topics to discuss during meetings and at times, negotiate these with the HOD. For instance, at School 3, teachers seek out the support of their HOD when an instructional need arises: "We

work together. If I have a problem, I will go and explain and she will come and help me… If I need to prepare a lesson and need more help, then I will go and tell her what I need for that lesson" (T3.5). At School A, and unique to the sample, TA.3 supports the HOD at times with instructional matters, for example, how to teach different sounds during a phonics lesson. At Schools A, 3, and 9, the status of the HOD is fairly relaxed with respect to discussions about teaching and learning.

Where nearly half of the schools in the sample demonstrate a closed form of relation with the HOD and the principal, there are no schools in the sample where both contexts of teacher-management relations are fairly open (-) or open (- -). There is *at least* one context at each school where instructional interactions with management are framed by the teacher's status within the hierarchical relation. In other words, there is at least some stability, based upon status, in how instructional communication is enacted with the principal and/or the HOD at all schools in the sample.

At School C, teacher-principal communication exhibits a fairly open (-) form of relation. Teachers informally interact with the principal and initiate discussions about instruction from time to time: "We can go to him with our problems" (TC.3). According to the HOD, "Teachers are not scared of [the principal]. He is very approachable and will help and support teachers." During meetings, the principal asks teachers what they "think" about certain issues: "I say to my colleagues, 'What should we do?' Where teachers need assistance, they receive it." TC.2 remarks, "Anyone can speak at the [staff] meeting." The principal sits in on teachers' phase meetings to listen to their discussions of instructional problems. With the principal at School C, the boundaries or rules for communication are relaxed at times, constituting a fairly open (-) relation.

At most schools in the sample, the hierarchical form of the teacher-principal relation is maintained on the basis of status. Where fairly closed (+) relations are present at Schools A, 2, 3, 4, 5, 9, and E, the principal typically initiates communication with teachers by visiting their classrooms. During meetings, teachers are given a few opportunities to speak about instructional matters, such as problems with teaching and learning. For instance, during staff meetings at School 2, the principal facilitates a discussion between teachers of different grades: "We share ideas on learner performance and talk about the report on the assessment tasks. If so and so gets a certain percent then we come up with a strategy" (T2.5). At these

seven schools, the principal selects most topics for discussion, especially new instructional policies or reports from the education department; feedback from 'principal meetings'; assessment results on internal and external tests, such as the systemic test (WCSE); the implementation of instructional strategies; and feedback in both verbal and written form based on observations of teaching and teachers' work. Principals make more communicative decisions at these schools in contexts of communication with grade 3 teachers.

The aggregate form of teacher-management relation is fairly closed (+) at the majority of schools. This includes Schools A, 2, 4, 5, C, 8, and E, where the HOD and/or principal regulate how instructional communication is enacted. At School 1 and School B, the aggregate form of relation with management is closed (++), where the status of the HOD and the principal maintains strong boundaries of instructional communication. At Schools 3 and 9, the aggregate form of relation is fairly open (-). These two schools stand out within the sample as deviations from the norm. At these two schools, communication with management is framed less by status and more by negotiation in the structuring of the communication relation.

How do the forms of teacher-management relation compare to the forms of teacher-teacher relation across the sample of schools? In what ways are the forms of relation similar and/or different? To more fully understand how communication is structured between teachers and their colleagues, the chapter concludes with a comparison of the structure of teachers' horizontal and hierarchical relations.

6.4 Comparing the form of teachers' horizontal and hierarchical relations

In previous sections, findings show that the form of teachers' relation with other teachers is predominantly more open, while the form of teachers' relation with management is predominantly more closed. In the discussion that follows, I explore how particular schools deviate from this pattern and whether different modes of teacher relation are associated with academic performance.

The table below compares aggregates of the form of teachers' horizontal relations with the form of teachers' hierarchical relations. I maintain this distinction in order to privilege two distinct kinds of status relation in the school. It is hypothesized that each type of status

relation differentially controls how information, and potentially, knowledge, is circulated. Hence, I do not generate an aggregate form of teacher relation at a school level, as it would mask important differences in the way communication may be structured. Table 6.5 below summarizes the findings thus far.

Table 6.5. Classifying the forms of teachers' horizontal and hierarchical communication relations across the sample

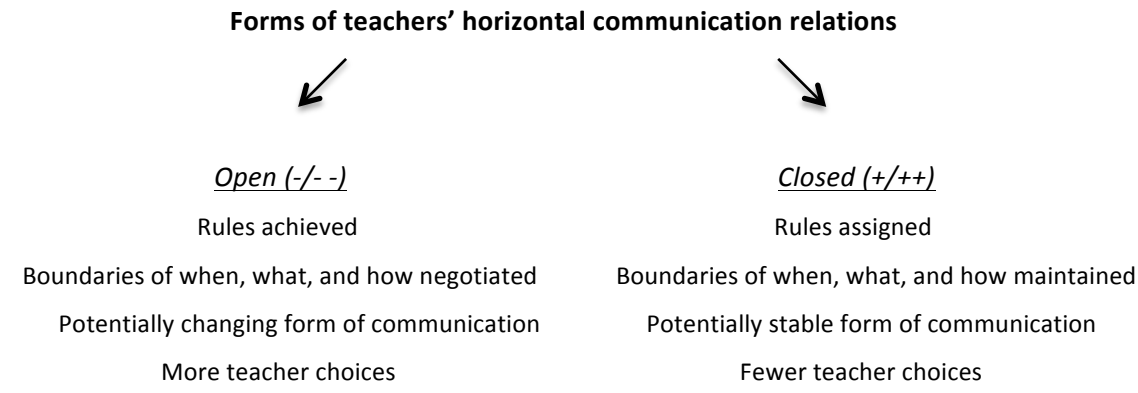
In the kinds of formal and informal instructional interactions between…		Teachers horizontally organized (shared status relation)	Teachers and management hierarchically organized (differential status relation)
Set 1	School 1	+	++
	School A	+	+
Set 2	School 2	- -	+
	School 3	-	-
	School B	+	++
Set 3	School 4	-	+
	School 5	-	+
	School C	+	+
Set 4	School 8	-	+
	School 9	-	-
	School E	+	+

Two discernable patterns emerge in the table above when comparing the two types of status relation. In some cases, where the form of relation between teachers is fairly closed (+), the form of relation between teachers and management is also fairly closed (+) or closed (++). This mode of relation is present at each of the relatively lower performing schools and at School 1, considered an anomaly within the sample. In contrast, the remaining higher performing schools express a different pattern of relation. Where the form of relation between teachers is fairly open (-), the relation between teachers and management is either fairly open (-) or fairly closed (+).

These findings lead me to hypothesize that *relatively higher academic outcomes are associated with more open relations between teachers and either open or closed relations between teachers and management*. In each case, the form of relation may potentially enable the circulation of knowledge. This hypothesis is tested in the following chapter by examining how specialized forms of communication are socially structured.

Based on findings from this chapter, I further surmise that different types of status relation entail different conditions for how communication is structured, or regulated, and how knowledge may or may not be circulated. In the forms of relation between teachers, an open relation may facilitate the circulation of knowledge. Through discussion and negotiation, the rules for communication may be achieved. This implies the negotiation of boundaries in terms of when, what, and how communication is enacted and, as a result, the potential for change in the form of communication. Where relations between teachers are closed, communicative boundaries are typically maintained for when interactions occur, which topics are appropriate for discussion with whom, and whether topics are negotiated. Through greater stability in the forms of instructional communication between teachers and fewer choices in how communication is enacted, the circulation of knowledge may be impeded. Figure 6.1 models the two possible forms of communication relation between teachers.

Figure 6.1. The forms of teachers' horizontal communication relations: Open and closed



In the forms of relation between teachers and management, a different set of conditions may apply. Given that the status of HODs and principals carries a greater degree of instructional authority, the data suggests that the circulation of knowledge within a hierarchical relation is

possible through both open and closed relations. For instance, pedagogic strategies may be developed with management through negotiation and the sharing of ideas; or, management may determine which instructional strategies are most appropriate and relay these to teachers. The differential status of the HOD and principal has the potential to reinforce boundaries of instructional communication as well as the potential to interrupt the boundaries of when, what, and how communication is enacted. In this way, there is potential for change *and* stability in the forms of instructional communication between teachers and management.

6.5 Conclusion

This chapter explored the second dimension of the instructional order of the school through an analysis of the form of teachers' relations. The chapter examined how communication is structured through rules for when interactions may occur, what topics may be discussed, and the extent that those topics may be negotiated. Variation in the form of relation was classified on a scale from closed (++) to open (- -), denoting the extent that the status of roles is observed and/or relaxed and the rules for communication are assigned and/or achieved.

Two types of status relation were considered as primary systems of communication through which knowledge may be socially organized and shaped in different ways. In the forms of relation between teachers of a shared status, communicative orientations emerged within particular schools at a foundation phase level. Findings revealed a tentative association between higher academic outcomes and an open form of relation between teachers. In the hierarchical relation between teachers and management based on a differential status, it emerged that the form of the relation was not a strong discriminator in terms of school performance. It was suggested that different status relations entail different rules for how communication is structured and for the circulation of knowledge. Further examination of specialized communication and its relation to social structure is required.

The analysis carried out in the previous chapter was mainly concerned with *what* kinds of knowledge and expertise are socially organized within the school. This chapter investigated *how* communication is socially structured and possible conditions that enable knowledge to be circulated. In the following chapter, I bring together the 'what' and the 'how' to discern modalities of the school's instructional order. As a result, conditions for specialization and for the circulation of knowledge are put on display.

Chapter 7

The instructional order of the school

7.1 Introduction

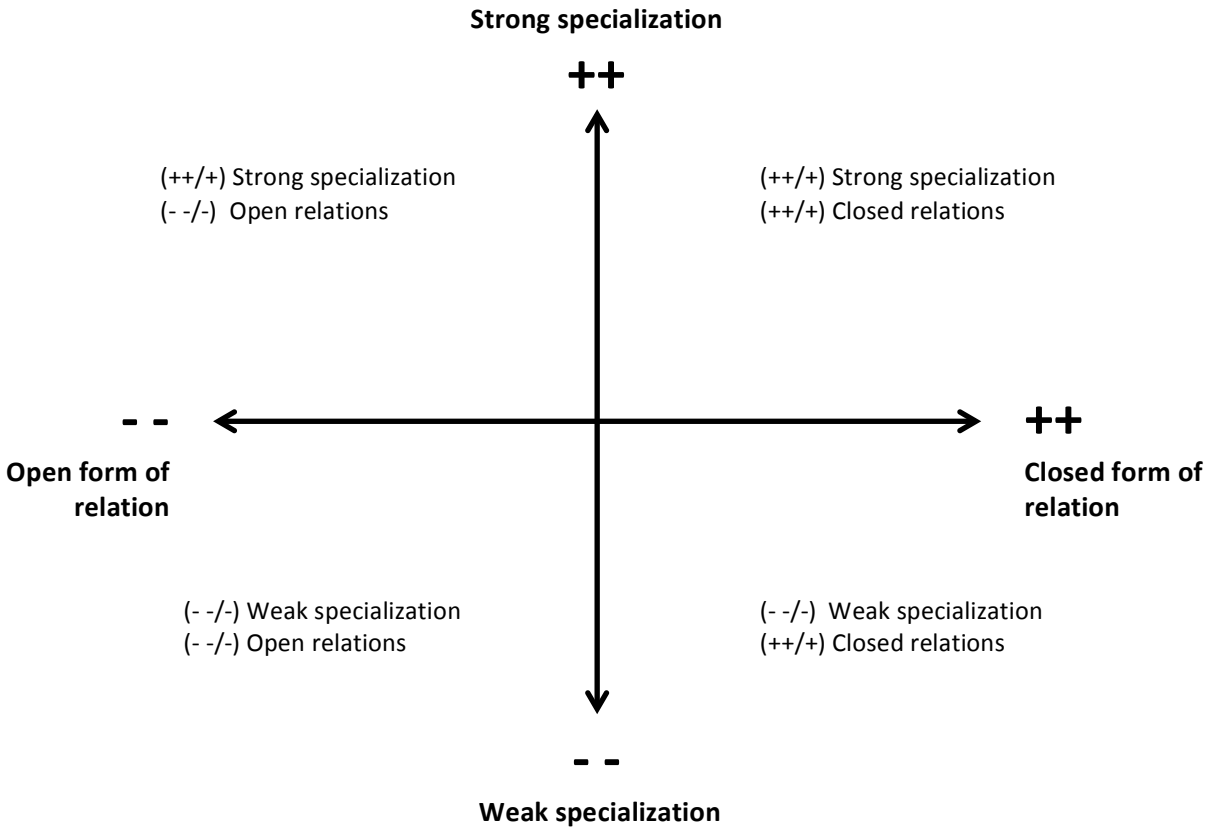
This chapter brings together the findings from Chapters 5 and 6 on the specialization of instructional communication and the form of teachers' relations. Where specialization organizes, classifies, and differentiates knowledge within the school's communication system, the form of teacher relation regulates the enactment of the communication. In bringing together the two dimensions, a modality of instructional order is generated. The term 'modality' refers to the manner in which instructional communication is enacted and specialized. The aim of this chapter is to discover what modalities of instructional order may govern the circulation of specialized knowledge and how particular modalities relate to the academic outcomes of the 11 schools in the sample.

Variation between schools was revealed in previous chapters in two important ways. First is the way that instructional time, practice, and discourse are specialized to a greater or lesser extent. Chapter 5 showed that differentiation, or marking out differences between forms of knowledge and expertise, is a condition for specialized communication. Second is the way communication is structured through forms of open negotiated relations and through closed status-based relations. These variations were explored across the sample of schools while maintaining a distinction between teacher-teacher and teacher-management relations. This distinction is preserved throughout Chapter 7 to privilege two distinct types of status relation in schools, horizontal and hierarchical. Drawing on prior analyses, this chapter elucidates how different modalities of instructional order manifest in different contexts within the school, how different types of status relation facilitate specialized communication, and what organizational conditions, or modalities of instructional order, 'unlock' the distribution of specialized knowledge.

To explore different modalities of instructional order, a model is used to classify each context of communication along two axes of variation. In classifying the instructional order, variation is discerned along lines of specialization, strong to weak, and the form of the relation, closed

to open. Generating descriptions in terms of the two axes allows for comparative analyses between and across different contexts of communication. Figure 7.1 models the two axes of variation and the four possible modalities or types of instructional order. The four modalities are used to classify relations that are horizontally and hierarchically organized.

Figure 7.1. Classifying the modality of instructional order



7.2 The instructional order of teachers' horizontal relations

Relations between teachers are organized horizontally on the basis of a shared or equivalent status of instructional authority and responsibility, what Parsons refers to as a 'company of equals' (1947b). It follows that the instructional ends of teachers' work are also shared. To what extent, then, are the means to achieve these ends specialized and circulated? In contexts of horizontally organized relations, I suggest the conditions for specialization and the circulation of knowledge are related to the underlying rules that regulate interaction.

To explore the relation between the strength of specialization and the form of the relation between teachers, Table 7.1 brings the dimensions together. The two dimensions, or axes of variation, generate a modality of instructional order. In the table below, relations between grade 3 teachers and with foundation phase teachers are considered. To classify teacher-teacher relations at an aggregate level, a modality of instructional order is generated in the right-hand column. The aggregate is produced by taking the mean of the numerical values associated with the two discrete contexts of teacher-teacher relation.

Table 7.1. Discrete modalities of the instructional order of teacher-teacher relations

In the forms of instructional communication between…		*G3 teachers*		*G3 and FP teachers*		***Teacher-teacher modality***	
		Specialization	*Relation*	*Specialization*	*Relation*	*Specialization*	*Relation*
Set 1	School 1	+	+	- -	++	-	+
	School A	-	-	-	+	-	+
Set 2	School 2	+	- -	+	-	+	- -
	School 3	+	- -	+	-	+	-
	School B	-	+	-	++	-	+
Set 3	School 4	+	- -	-	+	+	-
	School 5	+	-	++	- -	+	-
	School C	-	-	-	+	-	+
Set 4	School 8	+	- -	+	-	+	-
	School 9	++	- -	++	-	++	-
	School E	+	-	-	++	-	+

From the table above, four modalities of instructional order between teachers are discerned. Amongst grade 3 teachers, a particular modality predominates across the sample. At Schools 2, 3, 4, 5, 8, 9, and, E, the modality of instructional order between grade 3 teachers is strongly specialized communication with an open form of relation. At these seven schools, nearly all of which are relatively higher performing, grade 3 teachers have more opportunities to talk about instruction, recognize the expertise of their colleagues, and/or share relevant strategies

that address specific aspects of their pedagogy. Although the manifestation of each discrete indicator of specialization varies between these schools, instructional communication is more strongly specialized and is associated with more open or negotiated rules for communication. At these schools, teachers typically determine when to seek out their immediate peers for support, select topics of their choosing for discussion, and negotiate those topics to develop pedagogic strategies.

Alternate modalities of instructional order are present to a lesser extent between grade 3 teachers. For instance, at Schools A, B, and C, three relatively lower performing schools, communication is weakly specialized with open relations at Schools A and C and closed relations at School B. This suggests in the context of both open and closed relations, weak specialization of instructional communication is possible. A fourth modality of strong specialization and closed relations is present at School 1. At this relatively higher performing school, the extent that teachers talk about instruction and share relevant strategies occurs on the basis of teachers' status. At this school, the rules for communication are relatively more fixed.

With other foundation phase teachers, two modalities of instructional order are discerned across the 11 schools. The first is where specialization is weak, the form of relation is closed. This pattern is present at Schools 1, A, B, 4, C, and E, where the enactment of when interactions occur and what topics may be discussed are based on the status of teachers and of the HOD. Alternatively, strong specialization is present in the context of open relations with foundation phase teachers at Schools 2, 3, 5, 8, and 9, all of which are relatively higher performing schools. These findings suggest a tentative association between specialization strength, the form of the relation, and academic outcomes at the teacher level.

Though differences do emerge in certain schools between the two contexts of teacher interaction, the aggregate modality of instructional order classifies the overall pattern of the relation between teachers. Where weak specialization is present, we find closed relations at Schools 1, A, B, C, and E, most of which are relatively lower performing schools, excluding School 1. In contrast, an aggregate of strong specialization and open relations is present at Schools 2, 3, 4, 5, 8, and 9, all relatively higher performing schools. These findings imply a relation between specialization, teacher relations, and academic performance.

7.2.1 Conditions for specialization of communication between teachers

From the patterns of instructional order that emerge in contexts of teacher-teacher interaction, I suggest open teacher relations, in most cases, are a necessary condition for the *development* of specialized communication. Through open or negotiated relations between teachers, differentiation in the forms of teacher expertise and the recognition thereof is made possible. Through epistemic differentiation, greater specificity and depth may be achieved in the forms of instructional discourse. When the form of relation between teachers is closed, assigned rules of interaction based upon status may impede the recognition of differences in expertise as well as the achievement and development of specialized communication. Schools 1, A, and C demonstrate exceptions to this conclusion.

Strongly specialized communication between grade 3 teachers at School 1 is present within a closed form of relation. In this case, grade 3 teachers are differentiated on the basis of status and the home language of the teacher (English or Afrikaans). The specialization of teachers' time and discourse is made possible through the status of the grade head who determines when meetings occur and what topics are discussed with whom. Recognition of differences between teachers in the forms of expertise may therefore be impeded. I therefore suggest a closed form of relation between teachers *maintains* (or reproduces) the form of instructional communication, whether strongly or weakly specialized. A closed form of relation may not necessarily facilitate the development of more specialized communication between teachers.

At Schools A and C, weakly specialized communication is associated with an open form of relation. Though it is possible that differences in teacher expertise are nonexistent, it is presumed within this study, given how the school sample was selected, that the 11 schools are equally constrained by limited resources, including teachers' knowledge resources. For these reasons, I suggest in the case of Schools A and C, both of which are lower performing, an unobserved variable is impeding the recognition of difference and thus the development of specialized communication. An open form of relation may therefore be a necessary yet insufficient condition for the recognition of epistemic differences and for the development of specialization.

In sum, stronger specialization is associated with open relations in the forms of instructional communication between teachers. Specialization is made possible through the negotiation of

instructional boundaries, facilitating more opportunities for differences in expertise to be recognized and specialized communication to be achieved. This constitutes a developmental process through greater teacher choice over the rules of interaction. There are two exceptions to this theory. The first is that open relations are a necessary yet insufficient condition for specialization, as we see at Schools A and C. The second is that closed relations between teachers are associated with specialized discourse at School 1. In this case, I suggest a closed form of teacher relation maintains boundaries of specialized communication based on the assigned rules for when interactions may occur and what topics may be discussed. The development and sustainment of specialized forms of communication between teachers may therefore be inhibited.

7.2.2 The circulation of knowledge and development of pedagogic strategies

Patterns of instructional order across the sample reveal differences between relatively higher and lower performing schools. If we consider the aggregate teacher-teacher modality of instructional order, we find strong specialization and open relations at only higher performing schools. Aggregates of weak specialization and closed relations are present at all relatively lower performing schools and at School 1. As a relatively higher performing school that deviates from a discernable pattern of instructional order, School 1 is classified as an anomaly within the sample. What is interesting about School 1 is that specialized forms of communication are present at the grade 3 level, suggesting that in some way, the status and expertise of grade 3 teachers coincide, thereby making some knowledge resources available to grade 3 teachers for teaching and learning. Or, alternatively, School 1 may be on a downward trajectory in terms of performance, and/or there may be contextual differences unaccounted for that are external to the school and that contribute toward relatively better academic outcomes, for instance, greater parental involvement.

What are the conditions that facilitate the circulation of specialized knowledge between teachers of a shared status? To what extent are the means to achieve instructional ends circulated between teachers? Based on findings, the form of the relation, open or closed, is related to a form of communication, strongly or weakly specialized. For knowledge to circulate between teachers, I suggest specialized communication, in which knowledge and expertise are differentiated, is a necessary condition. Where teachers interact more frequently about instruction with their peers, know where knowledge resources are located within the

school, and share or develop strategies to address aspects of pedagogy, the potential for teachers' access to knowledge resources is made possible. Given that stronger specialization is associated with open relations between teachers and higher academic outcomes, I suggest an open form of communication relation is the first necessary condition for circulation.

Under conditions for the circulation of knowledge at the teacher level, that is, strong specialization and open relations, I suggest a potential for *change* in the form of instructional order. Because the 11 schools in this study are situated within impoverished communities and faced with a scarcity of resources, the work of teachers may require instructional *adaptation* or innovation to resolve complex pedagogic issues. In these schools, teachers are faced with the task of regularly resolving instructional problems, such as procuring resources, remediating learners' literacy and numeracy skills, and increasing parental involvement. Within low-resourced contexts, specialized communication and open relations may facilitate the maximization of expertise whereby the form of teacher relation constructs the boundaries of the discourse and enables its circulation. In this way, a range of possible combinations and re-combinations in the forms of instructional communication may generate novel strategies for the improvement of teaching and learning (Bernstein, 1971). Thus, the discourse is potentially *generative* or productive, facilitating the development of teachers' pedagogic repertoire.

In the following section I explore the relation between teachers and management, how communication is specialized, and the conditions under which knowledge may be circulated within a hierarchical relation.

7.3 The instructional order of teachers' hierarchical relations with management

The relation between grade 3 teachers and management is structured hierarchically based on a differential status of instructional authority. Formally, the HOD and principal form part of the schooling system's bureaucratic structure, positioned within the administrative or managerial domain of the school. Management roles assume a set of specialized functions that require a different set of skills and expertise, relative to classroom teachers. The hierarchical relation thus enables the potential for various ends to be achieved on the basis of authority.

In the analysis of a school's social structure, particularly in the relation between teachers and management, a tension point arises between authority based upon status (or office) and authority based upon expertise. Put another way, a distinction can be drawn between the specialized tasks of the principal and HOD and the specialized knowledge, skills, and expertise characteristic of the individual. Though the bureaucratic set up assumes technical competence (Weber, 1947), management roles do not necessarily exercise authority on the basis of their expertise. Be that as it may, management roles are located in an ideal position for expertise to be deployed within the school. How the status and the expertise of the HOD and/or principal do or do not 'shade into each other' (Parsons, 1947b) is explored in the analysis below. It follows that hierarchical relations between teachers and management entail a different set of conditions for specialization and the circulation of knowledge, which will be explored throughout this section. Table 7.2 brings together the strength of specialization and form of hierarchical relation revealed in Chapters 5 and 6. Together, the strength of specialized communication and form of relation generate a modality of instructional order.

Table 7.2. Discrete modalities of the instructional order of teacher-management relations

In the forms of instructional communication between…		*G3 teachers and the FP HOD*		*G3 teachers and the principal*		***Teacher-management modality***	
		Specialization	*Relation*	*Specialization*	*Relation*	*Specialization*	*Relation*
Set 1	School 1	- -	++	- -	++	- -	++
	School A	- -	-	-	+	-	+
Set 2	School 2	+	+	-	+	+	+
	School 3	++	-	-	+	+	-
	School B	-	+	-	++	-	++
Set 3	School 4	-	+	+	+	+	+
	School 5	+	+	-	+	+	+
	School C	-	+	-	-	-	+
Set 4	School 8	+	+	+	-	+	+
	School 9	+	-	-	+	+	-
	School E	-	+	-	+	-	+

Different patterns of instructional order emerge across contexts of teacher-management communication, relative to those found between teachers. With the HOD, instructional communication is weakly specialized with a closed form of relation at Schools 1, B, 4, C, and E. This particular modality is the predominant mode of instructional order in the relation between teachers and HODs across the sample. This suggests much of the communication between teachers and HODs is concerned with instructional *procedure*, for instance, monitoring learner book coverage or the scheduling of assessment tasks. We find one instance of weak specialization and an open relation with the HOD at School A, indicating greater teacher control in relation to their work and relatively weaker monitoring structures in place.

Where strongly specialized communication with the HOD is present, the form of the relation is either open or closed. Findings do not suggest a particular mode predominates over the other. At Schools 3 and 9, strong specialization is found in the context of open relations with the HOD. In these two schools, the hierarchical rules are more relaxed, where teachers are afforded greater choice over when to interact with the HOD and what topics are discussed. At Schools 2, 5, and 8, strong specialization is found in the context of closed relations with the HOD. On the basis of authority, the HOD at these three schools typically determines when interactions occur, such as classroom observations or the evaluation of teachers' work, and what topics are discussed, especially feedback relating to pedagogy. These findings suggest that *specialized instructional communication may be facilitated through conditions of either open or closed hierarchical relations.*

In the relation between teacher and principal, a predominant modality of instructional order is present at most schools in the sample. At Schools 1, A, 2, 3, B, E, 9, and E, a set of relatively higher and lower performing schools, communication is weakly specialized with a closed form of relation. At these eight schools, interaction with the principal follows rules of a hierarchical relation. The principal determines when interactions occur and most topics for discussion, often relating to learner performance reports and education policy. One instance of weak specialization with an open form of relation is present with the principal at School C. Similar to the HOD at School A, the relation between principal and teacher at School C suggests relatively weaker monitoring structures in place relating to classroom instruction.

Two instances of strongly specialized instructional communication with the principal are present in the sample. At School 4, communication is strongly specialized with a closed form of relation. At School 8, stronger specialization is associated with an open form of relation. At each of these schools, though in different ways, grade 3 teachers have more opportunities to talk about instruction with their principal, recognize the specialized expertise of the principal, and receive and/or develop relevant instructional strategies to improve aspects of their practice. How can we account for these two standout contexts of principal-teacher communication? Relations with the HOD and with the principal imply that both open and closed relations potentially facilitate specialized communication. If the form of the relation is an insufficient condition for specialization, what is the necessary condition or variable that facilitates specialized communication within a hierarchical relation? In the ways that time, practice, and discourse are specialized through both open and closed management relations, I infer the condition that facilitates the potential for specialized communication is *expertise*. I infer expertise is a requirement for specialized forms of communication.

7.3.1 Hierarchy, expertise, and the specialization of communication

To explicate differences between modes of open and closed relation associated with strong specialization, I discuss an instance of each below and implications for the circulation of knowledge. I first consider an open form of teacher-HOD relation followed by a closed form of teacher-principal relation. Both cases reveal how specialized communication is made possible in different ways through expertise. Because these two cases were analyzed in previous chapters, I do not go into empirical depth here.

With the HOD at School 3, grade 3 teachers are afforded opportunities to interact informally about instructional issues. In the context of these interactions, the teacher identifies or recognizes aspects of her own practice as a means to acquire the support of the HOD. On a regular basis, teachers select an aspect of their practice and determine when the HOD should observe for evaluation purposes. The HOD provides instructional feedback from observations and is recognized by teachers for her expertise in literacy pedagogy. Strategies are developed and negotiated through the contribution of ideas by teachers and by the HOD. At times, the HOD determines the rules for communication and conveys relevant instructional strategies and information to teachers. The HOD shares her analyses of learner performance and identifies aspects of teachers' practice in order to provide instructional support.

The open form of communication relation between teachers and the HOD at School 3 enables specialization with greater teacher control. The teacher regularly determines when support from the HOD is needed through informal interaction, identifies aspects of her own practice that require support, and negotiates strategies for improvement. The teacher also receives relevant strategies and information for improving aspects of instruction and performance based on the expertise of the HOD. Time, practice, and discourse are all strongly specialized in the context of more open relations between teachers and the HOD at this school. In this case, specialization and the circulation of knowledge are possible through open relations with management on the basis of expertise. I now move to an exemplary instance of strongly specialized communication in the context of closed teacher-management relations.

Grade 3 teachers regularly interact with the principal at School 4 during staff meetings. Here the principal transmits relevant strategies for improving teachers' practice. Grade 3 teachers are afforded a few opportunities to share their own individual strategies with the principal and other staff members. On a regular basis the principal determines when to visit teachers' classrooms to observe and to identify strong and weak aspects of teachers' practice. Where strong practices are identified, the principal circulates these strategies amongst other teachers within the school. Where weaknesses are identified, the principal 'team teaches' with the teacher to develop the practice though demonstrations and coaching. The principal is recognized for her pedagogic expertise as a foundation phase classroom teacher. She strategically distributes and allocates resources within the school, including cognitive, material, and human, to improve learner performance.

Interactions with the principal at School 4 demonstrate a hierarchical relation where instructional communication is specialized and achieved on the basis of status *and* expertise. At this school, hierarchy and expertise coincide; the principal carries out specialized tasks utilizing her instructional expertise. The principal regulates the when, what, and how of interactions, during meetings and in classrooms, through which she identifies aspects of teachers' pedagogy for circulation and development. Though the rules for communication are relaxed at times for teachers to share relevant strategies, the dominant form of relation is closed. On the basis of status and expertise, the principal initiates interaction to evaluate the enactment of teachers' practice and transmits specialized knowledge and strategies to teachers. This mode of relation serves as the second of two possible modes of instructional

order in the context of teacher-management communication that facilitates conditions for specialization and the circulation of knowledge.

7.3.2 Instructional ends of the hierarchical relation

The hierarchical relation between teachers and management, or the bureaucratic structure more generally, has been described as one of the most efficient and rational forms of social organization designed to achieve predictability, stability, and efficiency (Tyler, 1988). Through the standardization of procedure and impersonal rules, principals and HODs fulfill important accountability functions that regulate and coordinate teachers' work. Systematic routines and monitoring processes ensure school functionality and lay a stable foundation for teachers' pedagogic practice (Dixon and Dornbrack, 2015). The principal and HOD are well positioned hierarchically to *maintain* a sense of order, routine, and stability within the school on the basis of status. In other words, status-based rules of communication serve a stabilizing function.

From the findings of this study, I infer the hierarchical relation may also serve a second instructional end or purpose that relates to knowledge. Under conditions for specialized instructional communication, exemplified clearly at School 3 with the HOD and at School 4 with the principal, a hierarchical relation facilitates the potential for the circulation of pedagogic strategies to teachers for the *development* of classroom practice. Based on the different modalities of instructional order within the school sample for teacher-management relations, I suggest the hierarchical relation may serve two instructional ends:

1. Maintenance of instructional order and stability through routinized procedures
2. Development and/or circulation of pedagogic strategies through expertise

Where the maintenance of instructional order may be achieved on the basis of status, its development is fundamentally based upon expertise. Maintenance of instructional order lays the foundation for its development, and thus, the circulation of knowledge and pedagogic strategies. In developing teachers' pedagogic repertoire, change in the forms of instructional communication between teachers is possible through the circulation of new information and strategies emanating from the school's reservoir of knowledge.

The distinction between maintenance and development of instructional order parallels two arguments made within the literature reviewed in Chapter 2. First is Elmore's (2008) model of knowledge-based leadership. On the one hand, the maintenance function of the hierarchical relation relates to the 'internal accountability' of teachers' instructional work, for instance, in monitoring curricular coverage and learner performance, coordinating texts and other material resources, regulating the utilization of time, and implementing instructional policies. On the other hand, the development and circulation of pedagogic strategies potentially increases the 'capacity' or the reservoir of knowledge and skills of the school. The second argument, made by Hargreaves (1995), is that schools need both stability and change. Hargreaves conceives that stability in schools may be maintained by a bureaucratic structure, producing order and continuity. Organizational change and development, however, may utilize either a bureaucratic structure or may 'devise' alternative social structures through which instructional change may occur.

If we consider the aggregate modalities of instructional order for the teacher-management relation, we find three distinct types. Though the form of relation is predominantly closed in most schools in the sample, the strength of specialized communication varies between relatively higher and lower performing schools. At Schools 1, A, B, C, and E, where specialization is weak and relations are closed, I suggest instructional communication with management primarily serves a maintenance function concerned with instructional order and stability in the school.

At Schools 2, 4, 5, and 8, all relatively higher performing schools, an aggregate of strongly specialized communication is present in the context of closed relations with management. I suggest at these schools, the hierarchical relation facilitates the potential to achieve both instructional ends, that is, the maintenance of order and the development of teachers' pedagogy through the circulation of expertise. Alternative to the predominance of closed relations with management, we find strongly specialized communication in the context of open relations at Schools 3 and 9. At both schools, the form of relation with the HOD is open while the form of relation with the principal is closed. This finding raises two significant points.

First is the possibility of a *professional* orientation or a specialized, open mode of relation with the HOD, given the relaxing of the HOD status, the recognition of expertise, the

negotiation of communicative rules, the development of instructional strategies, and teachers' self-regulation of pedagogic practice. While professional and bureaucratic forms of social organization share similar attributes, including that of expertise and specialized work (Blau, 1968), findings suggest a different basis of control on the communication relation is present. The second point is the tension between too much and too little control in the enactment of communication with management, suggesting the possibility of a form of organizational equilibrium in the extent of control or regulation. Both points will be explored in the following section as I bring together teacher-teacher and teacher-management relations. The section explores the relation between the two domains of work by putting forward a typology of the school. It also considers the implications for academic performance, the circulation of knowledge, and change in the forms of instructional communication.

7.4 Modalities of the instructional order of the school

The school's division of labor is formally differentiated according to a status arrangement, which I have termed teachers' horizontal relations and teachers' hierarchical relations with management. As I have shown, the two differentially structured relations demonstrate systems of instructional communication that facilitate the potential for specialization and for the circulation of knowledge in different ways. Between teachers, an open form of relation facilitates the potential for specialization and circulation of knowledge by enabling the recognition of differences in expertise. Between teachers and management, specialization is possible through both open and closed forms of relation. Through closed relations, however, two instructional ends may be achieved. These are the maintenance of order and the circulation of knowledge through expertise. For these reasons, I maintain the distinction between horizontal and hierarchical relations for the remainder of the chapter and explore how these two sets of relation work together.

Rather than presenting the findings in tabular form, I utilize Figure 7.1 to organize the teacher-teacher and teacher-management modalities into types. In this way, each school can be classified relative to other schools in the sample while still maintaining the distinction between the two sets of relation. Figures 7.2 and 7.3 below categorize each set of relation as one of four possible types according to the modality of instructional order between teachers and with management, respectively. Letters represent schools performing relatively lower than expected, while numbers signify schools performing relatively better than expected.

Figure 7.2. Classifying the modality of instructional order *between teachers*

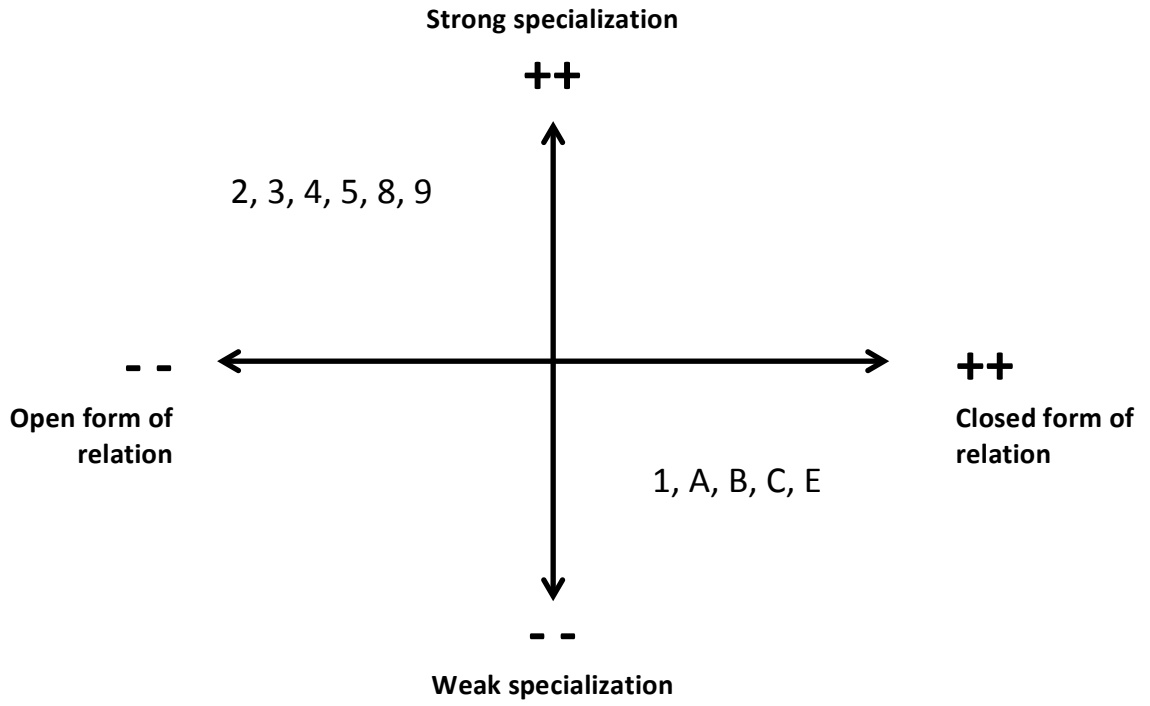
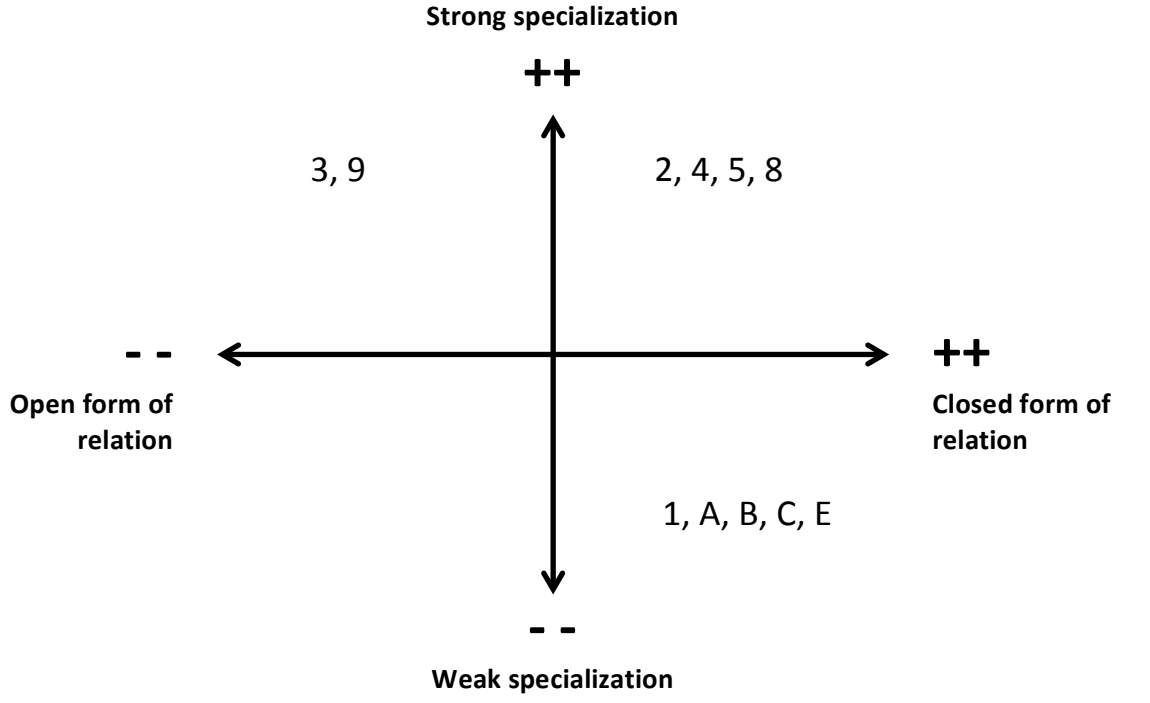


Figure 7.3. Classifying the modality of instructional order *between teachers and management*



In the modalities of instructional order between teachers, two types predominate. These are strong specialization with open relations and weak specialization with closed relations. These two types differentiate between the relatively higher and lower performing schools, apart from the anomaly of School 1. Between teachers and management, three types of instructional order manifest in the sample. In a similar way along lines of specialization, these types also differentiate the schools in terms of their performance. Thus, in different ways and for different purposes, more specialized communication is realized in nearly all relatively higher performing schools in the forms of communication between teachers and between teachers and management. It is important to remember that differences in specialization are relative to the schools under investigation located within a low-resourced education context.

7.4.1 A typology of instructional order

To understand how the two sets of relation work together, each school can be further classified into a type by pairing the mode of horizontal and hierarchical relation together. In this way we generate a type of instructional order for each school relative to other schools in the sample. Three distinct school types can be distinguished from the figures above, which I will now explicate in more detail.

The first type of school exhibits strongly specialized communication between teachers *and* with management where relations between teachers are open and relations with management are closed. Schools 2, 4, 5, and 8 demonstrate this particular type of school order. At these four schools, teachers have more opportunities to talk about instruction and recognize the pedagogic expertise of their colleagues. In a variety of ways, aspects of grade 3 pedagogy are identified and addressed through relevant strategies. Between teachers, conditions for the circulation of knowledge are facilitated through open negotiated relations. With management, findings indicate rules for communication are based upon status, and forms of instructional communication are specialized through the expertise of the HOD and/or the principal.

The complex of open and closed relations at these four schools, which facilitates the potential for specialization and the circulation of knowledge, can be typified into two orders of relation. I suggest the relations between teachers are orientated toward a more *professional* mode of relation. This mode is indicated by the recognition of differences in expertise and the

sharing or development of instructional strategies relevant to strong and weak aspects of practice. In this way, collegial relations between teachers serve as a major reference for the regulation of instructional work (Hall, 1968). I am not suggesting that teachers' relations in these schools constitute a professional organization; rather, they are orientated toward a professional mode of relation or disposition. In the relations with management, expertise, inferred through strongly specialized communication, is integrated within a bureaucratically organized social structure. Through closed relations, instructional order is both maintained through routinized processes and developed through the expertise of principals and HODs. In this way, specialized expertise and hierarchical status coincide; the one does not displace the other. I therefore suggest teachers' relations with management are oriented toward a *bureaucratic* mode of relation on the basis of status and expertise.

The second type of school, though rare within the sample, exhibits strongly specialized communication and open relations between teachers *and* with management. Schools 3 and 9 demonstrate this particular type of instructional order. Relative to other schools in the sample, teachers at Schools 3 and 9 are afforded greater choice in how communication is enacted with other teachers and with management. The relaxing of hierarchical rules, the recognition of differences in expertise, the identification of strong and weak aspects of practice, and the sharing of pedagogic strategies to maintain standards of practice similarly indicate an orientation toward a professional mode of relation.

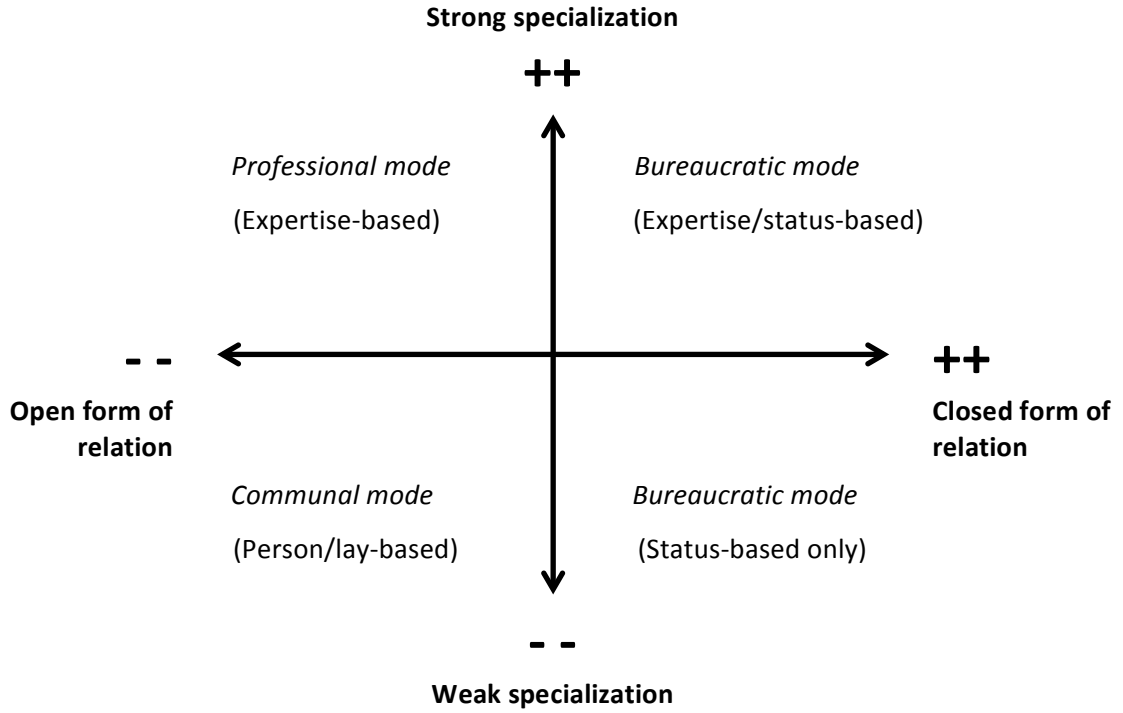
Schools 1, A, B, C, and E exhibit a third type of instructional order. At these five schools, instructional communication between teachers *and* with management is weakly specialized within a closed form of relation. This type of school demonstrates an instructional communication system largely based upon status. This mode of relation serves to establish functionality and maintain instructional order through more routinized processes. I suggest the instructional order in these schools is, in a sense, 'frozen', given that the communication system is largely regulated by status only, which displaces expertise and impedes the possibility for change and development. I therefore suggest that the relations between teachers and with management in these five schools are oriented toward a bureaucratic mode of relation on the basis of status.

In sum, three distinct types of the instructional order of the school have been distinguished. These are:

Type 1: Professional and bureaucratic mode on the basis of expertise
Type 2: Professional mode on the basis of expertise
Type 3: Bureaucratic mode on the basis of status

Two dominant bases of social relation can be further distinguished from the three school types, that is, relations based upon knowledge and expertise and relations based upon status. In other words, each school is organized around a particular social base or a different order of relation. I surmise from these findings that each mode of relation, either between teachers or with management, can be positioned within a typology of instructional order. Figure 7.4 presents the typology, which may be applied to either set of relation, and/or at a school level.

Figure 7.4. Typology of instructional order



From the typology of instructional order, three out of four types manifest in the sample, that is, the professional mode and both types of bureaucratic mode. None of the schools in the sample demonstrate a communal type at the teacher-teacher or teacher-management levels of

analysis, which suggests a degree of control based upon status regulating the 'how' of communication in all 11 schools.

7.4.2 The circulation of knowledge and the potential for change

What types of instructional order facilitate the circulation of knowledge and pedagogic strategies for teaching and learning? Given the relation between relatively higher performing schools and stronger specialization on the basis of expertise, I contend the professional mode of relation between teachers and the bureaucratic mode on the basis of expertise between teachers and management facilitate the potential for circulation. Schools 2, 4, 5, and 8 demonstrate a hybrid of these two modes of relation (i.e. Type 1). I infer from the typology, that this particular school type facilitates greater potential for the circulation of knowledge and pedagogic strategies. It implies a balance in the forms of control that regulate instructional communication, where a degree of control may be a condition for specialization to develop. In this way, the two modes of relation in the Type 1 school work inter-dependently within a kind of network structure. Both horizontal and hierarchical lines of communication are set up to carry information, and potentially, pedagogic knowledge. Change in the forms of instructional communication may then come from both the top and from the bottom of the hierarchy.

In the case of Schools 3 and 9, oriented toward the professional mode at both the teacher and management levels, different control relations are present. While both sets of relation are oriented toward the professional mode, it is interesting that in both schools, the principal-teacher relation is weakly specialized and closed. This points to the bureaucratic mode of relation based upon status. I suggest in this type of school, the principal fulfills an instructional maintenance function in relation to the work of teachers, ensuring stability through routinized processes. Although there is relatively greater teacher control within the school, the principal may stabilize the instructional order of communication through hierarchical rules. This further suggests the necessity of a degree of control as a condition for specialization. Between teachers and with the HOD, the potential for the circulation of strategies is made possible along lateral lines of communication where differences in expertise are recognized. In these Type 2 schools, change in the forms of instructional communication may primarily originate from the bottom.

At the remaining schools in the sample, that is, Schools 1, A, B, C, and E, a bureaucratic mode of relation based upon status predominates across both teacher and teacher-management contexts. Specialized communication is generally weak, and there is little to no recognition of expertise. I suggest a Type 3 school rationally organized on the basis of status only may impede the circulation of knowledge and pedagogic strategies. A predominance of closed relations between teachers and with management would therefore inhibit the development of specialization. Information in this school tends to move along hierarchical lines of communication, which suggests any pedagogic strategies or change in the forms of instructional communication may come from the top. Given that four of these schools are relatively lower performing, it may be that the status-based bureaucratic mode is utilized as a lever for achieving school functionality, internal accountability, and instructional stability. Once achieved, I suggest this mode may serve as the foundation for the development of specialization and for the circulation of knowledge, moving from a status-based to an expertise-based organization. Alternatively, this mode may serve to maintain a 'low level equilibrium' or a more stable, yet mediocre form of instruction (Hoadley, Levy, Shumane, and Wilburn, 2016).

Type 1 and Type 2 schools demonstrate alternative modes of relation where conditions for instructional stability, specialization, and the circulation of knowledge are present. While findings show that the grade 3 teacher context may deviate from the organizational norm, as we see at School 1 and School E, Type 3 schools primarily demonstrate conditions for the maintenance of instructional order at the teacher and management levels. For these reasons, I suggest the tipping point between the relatively higher and lower performing schools lies in the establishment of an instructional order that maintains functionality through status and that facilitates specialized communication and the circulation of knowledge based upon expertise. Where status serves as a principle of order and stability, expertise serves as a means to achieve the specialized purpose of the school and for achieving instructional change and development. In this way, through status and expertise, the pedagogic resources of the school are maximized for the improvement of teaching and learning, contributing toward relatively higher academic outcomes.

7.5 Conclusion

This chapter has brought together the principles of specialization and the form of relation to explore implications for 'what' and 'how' knowledge may circulate within the school. It was shown that in contexts of horizontal or shared status relations between teachers, open negotiated relations facilitate the recognition of epistemic differences and the conditions for specialization enabling the circulation of knowledge. Hierarchical relations, on the other hand, may facilitate the development of specialization on the basis of expertise through either open or closed relations. Two instructional ends were put forward that could be achieved through a hierarchical relation. These are the maintenance of instructional order and the development and circulation of pedagogic strategies. It was argued that the former lays the foundation for the latter.

By bringing together the two sets of relation between teachers and with management, I developed a typology to classify each school as a type relative to other schools in the sample. From the analysis, I discovered a relation between the academic performance of the schools and the particular type of instructional order. In this sample, the professional and the bureaucratic mode of relation, both organized on the basis of expertise, facilitate conditions for specialized communication to develop and the circulation of knowledge for teaching and learning. I suggest in the relatively higher performing schools within this sample, pedagogic resources for teaching and learning are maximized as expertise serves as a basis for teachers' social relations with other teachers and with management.

In the concluding chapter of this dissertation, I reflect on the findings of the study, discuss limitations and further questions that the study has raised, and suggest a way forward in consideration of future research on the social organization of schools situated in contexts of poverty.

Chapter 8

Conclusion

8.1 Introduction

This dissertation was motivated by the problem of teacher knowledge in association with educational inequality along lines of socio-economic status. Hence, the study set out to explore how knowledge is socially organized, and potentially maximized, in schools located in low-resourced contexts of poverty. It was hypothesized that schools performing better than expected make the most of their available knowledge resources, given that the acquisition of knowledge is a primary purpose of the school (Young and Muller, 2016). This chapter reflects on the major findings of the study and what the findings mean to the field of education. The dissertation concludes with a consideration of how future research on the school as a social organization might build on the limitations and contributions of this work.

8.2 A reflection on the thesis

8.2.1 The development of a language of description

The aims of this dissertation were two-fold. First, the research aimed to develop a language of description to identify and classify nuanced differences and similarities in the forms of social organization between schools. In the development of the language, and in generating hypotheses of where to look empirically, I reviewed literature on teachers' social relations. From the fields of school organization, effectiveness, and culture; school leadership and management; and teacher professionalism, various shortfalls came to light, largely in the silencing of the role of knowledge in the school. Tension points were discerned from the literature between formal structure and informal control, between bureaucratic and professional relations, and between cohesion and diversity. These points are discussed in greater detail below in Section 8.3.

The literature usefully pointed toward four empirical domains for how knowledge might be socially organized. These were how often knowledge is made accessible, where expertise is located in the school, what kinds of knowledge are made available through communication, and how the circulation of knowledge is controlled through teachers' relations.

Communication came to be viewed as a central organizational process and a medium through which knowledge is made available. Instructional forms of communication were therefore explored as a channel for school leadership and teacher professionalism.

The study was designed to discover the naturally occurring conditions through which knowledge may circulate. Eleven South African primary schools were purposefully selected from within a low-performing, low-resourced sub-set of the education system. It was therefore presumed that the schools selected were equally resourced and constrained by the unequal distribution of knowledge. By selecting schools performing relatively better and worse than expected, based on longitudinal measures of learning, nuanced differences between these schools enabled an analysis of the tipping point for academic performance. The construction of the study sample also enabled the stabilization of the social, economic, and cultural setting to control for extraneous variables that might contribute toward academic performance. The sample was both large enough to capture broader patterns operating across contexts yet small enough to capture, qualitatively, some of the complexity of teachers' relations.

Semi-structured interviews were conducted with a variety of participants over a three-year period, which made possible the triangulation of interviewee perceptions and experiences. The study's empirical language of description, developed partly from the literature and partly from the data itself, produced a set of rules for reading and interpreting the interview data. This approach allowed for greater precision of description throughout the analysis. The language also made explicit what counts as an empirical realization of the theoretical concepts utilized within the study, enabling the description of schools at an empirical and at a conceptual level. In this way, I suggest the findings of the research can be generalized to the theory of how knowledge is socially organized and circulated within the school. The generation of a theory for how knowledge circulates serves as the second aim of this dissertation and is discussed in further detail below.

8.2.2 The social organization of knowledge

One of the primary contributions of this work is the development of a theory that explains how knowledge circulates through forms of communication. The theoretical approach was inspired by Durkheim's intellectual lineage, traced through the writings of Bernstein and

Douglas. Both privilege a descriptive mode of inquiry in the study of social order. Durkheim offered a robust foundation in understanding what the 'social' realm entails. To some degree, his concept of solidarity resolves the tension between cohesion and diversity through intellectual specialization and interdependent social relations. Knowledge is understood as differentiated from the everyday world as a sacred, specialized domain of understanding. It follows that knowledge and its growth necessarily depend on social and symbolic boundaries, and thus, a degree of regulation or control.

Bernstein's sociology offers the analytical tools to explore how knowledge is circulated and shaped by social structure, communication, and control. From Bernstein, I recruited the concept of instructional order as an analytically distinct mode of relation through which knowledge and skills may be organized and specialized in different ways. In a Durkheimian vein, Bernstein views knowledge boundaries as a symbol of power relations but also as a fundamental requirement for intellectual enhancement. The rules of communication, or how different roles relate to each other, serve to reproduce and/or interrupt the boundaries of what knowledge is made available. I therefore take from Bernstein that educational change is made possible through communication that modifies the boundaries of knowledge and the circulation of meanings.

In a similar Durkheimian spirit, Douglas conceives social order as dependent on a system of cultural categories and boundaries. For Douglas, a stable system of social order depends on a stable form of control, and it is only through stability of order that a cultural system of categories, and therefore a system of knowledge, is made possible. It follows that for specialized knowledge to develop and circulate, a system of control is necessary to maintain order. Where Bernstein and Douglas offer the tools for examining the degree of control that underlies the order of social relations, Weber offers the tools to examine the substantive basis of control or the nature of the claim to exercise authority. By incorporating this aspect of Weber's framework into a theory of social organization, this study was able to explore the tension between social structure, authority, and expertise as well as the possibility for change.

From the profound intellectual contributions of these scholars, I derive two social dimensions as key to understanding how social collectivities function, and particularly, how knowledge is socially organized. These are a classificatory system of communication in which boundaries are established for social and symbolic categories, and a regulatory system that controls how

communication is structured and enacted. This study explored the categories of time, pedagogic practice, and discourse as key social organizers of knowledge. Taken together, the dimensions of boundary and control, through specialization and forms of relations, constitute the instructional order of the school in regulating the 'what' and 'how' of communication. The dimensions enable the circulation of meanings and generate conditions for the circulation of knowledge. When expertise serves as the basis for control, the potential for change is made possible in the form of communication.

From empirical operationalization of the framework, the theory was further developed to explain conditions for specialized communication, conditions for the circulation of knowledge, and differences in the academic performance of the 11 schools. In what follows, I provide a summary of the major findings of this study.

8.2.3 What conditions facilitate the circulation of knowledge in schools?

This dissertation set out to address the following over-arching question: What organizational conditions facilitate or impede the circulation of specialized knowledge for teaching and learning within differentially performing primary schools in poor communities?

As one dimension of the school's instructional order, the 'what' of communication was examined in the ways that time, practice, and discourse are specialized. Findings revealed that time, or the extent that teachers discuss instructional matters with others, was more strongly specialized at four relatively higher performing schools in the sample. At these schools, teachers have more opportunities to tap into the reservoir of the school's knowledge resources with teachers in grades 1, 2, and 3, with the foundation phase HOD, and/or with the principal. More frequent instructional interactions at particular schools suggest a stronger degree of cohesion or trust between teachers and their colleagues. It was argued, however, that while time may provide opportunities for knowledge to circulate, it is not a sufficient condition for the recognition of expertise or for knowledge to circulate.

Analyses of the extent that teachers differentiate their colleagues revealed a variety of ways in which particular forms of knowledge come to be recognized. In some cases, expertise is signaled through the formal ascription of a specialized task. At other schools, expertise is signaled by a title, such as 'Mathematics Head' of the foundation phase who supports

teachers in their pedagogy. Through communication during meetings, classroom observations, verbal and written feedback on teacher's work, and the seeking out of advice, knowledge also comes to be recognized. At some schools, teachers work interdependently on the basis of who knows what, for instance, in the design of assessment tasks or in the planning and teaching of lessons for an afterschool program.

Through instructional communication, two kinds of expertise that pertain to grade 3 teaching and learning are derived as most prevalent within the sample. These forms are also associated with schools achieving relatively higher academic outcomes:

- How to teach and/or assess a specific skill within a particular subject area
- How to remediate low-achieving learners to promote academic development at a particular stage of learning

The recognition of expertise indicates the social organization of knowledge in schools and signals the play of positions within an intellectual field (Bernstein, 2000). Different roles may therefore be *achieved* on the basis of knowledge. It was argued that epistemic differentiation, made possible through communication, enables specialized discourse to develop and facilitates access to knowledge resources in the school.

From analyses of the substance of instructional communication, differences emerged between schools in the specialization of discourse. Strongly specialized discourse was evidenced by the differentiation of grade 3 pedagogy into topics for analysis and development. In other words, communication was specialized for the purpose of pedagogy. This occurred through the identification of strengths and weaknesses and the sharing and/or development of relevant strategies for teaching and learning. Strategies are shared verbally, in written form, or are modeled through demonstrations. Identification of strengths and weaknesses occurred through classroom observations, analyses of performance results, and regular evaluations of curriculum coverage, learner books, teachers' lesson plans, and the design of assessment items. Assessments were utilized instrumentally by staff as the basis of communication in two important ways. The first is to differentiate teachers and learners in terms of what they know. The second is to select specific contents and skills that require more time spent teaching and/or alternative pedagogic strategies. This approach was termed a *diagnostic* instructional practice.

Findings revealed that where instructional discourse was more strongly specialized, there is greater *differentiation* of time, pedagogy, and expertise. Differentiation is therefore found to be a principal condition for the development of specialized communication and for the circulation of knowledge in schools.

As the second dimension of the school's instructional order, forms of communication relations were found to facilitate the development of specialization and the circulation of knowledge in different ways. Between teachers horizontally organized, according to their shared status, more open and negotiated relations in which teachers have more control over how topics are discussed were found to enable the recognition of difference and thus, the development of specialized communication. Through an open form of relation and strongly specialized communication, the circulation of knowledge is made possible between teachers. It was argued that the potential for change in the forms of discourse is made possible through the negotiation of instructional boundaries. This was termed a *generative* form of instructional communication through which novel strategies for teaching may be developed.

The hierarchical relation between teachers and management entails a different set of conditions. It was found that specialized communication with the HOD and with the principal is associated with two forms of relation. These are open negotiated relations and closed status-based relations. Through either form, the key condition that facilitates specialized communication between teachers and management was found to be *expertise*.

From differences observed between the 11 schools, two instructional ends of the hierarchical relation were put forward. These are:

- *Maintenance* of instructional order and stability through routinized procedures
- *Development* and/or circulation of pedagogic strategies through expertise

Each instructional end is dependent on a particular social basis for control; the achievement of the latter necessarily depends on the achievement of the former. Where instructional order may be maintained and kept stable on the basis of status, the development of pedagogic strategies and circulation of knowledge are fundamentally dependent on the expertise of HODs and principals. The instructional order of the school therefore depends on status as a principle of order *and* expertise as the means to achieve the purpose of the school. In this

way, status and expertise cannot part ways. A degree of control emerges as a central condition for the development of specialized forms of instructional communication.

It was found that the 11 schools in the sample could be differentiated in terms of their academic performance based on the type of instructional order between teachers and with management. Aside from the anomaly of School 1, all relatively higher performing schools demonstrated a form of instructional order based upon expertise at the teacher and management levels. Type 1 schools expressed a *professional* mode between teachers and a *bureaucratic* mode between teachers and management, both organized around expertise. Type 2 schools, though more rare within the sample, were largely organized around a professional mode of relation at both the teacher and management level on the basis of expertise. Type 3 schools, which included all relatively lower performing schools and School 1, demonstrated a bureaucratic mode of relation between teachers and with management organized on the basis of status only.

Findings of the study imply a relation between relatively higher academic outcomes and conditions for the circulation of knowledge within the schools under investigation. This leads me to suggest that the tipping point in the academic performance of schools located in a low-resourced, low-performing educational context is the maximization of available knowledge resources through forms of specialized instructional communication. Below, I discuss how these findings speak back to the underlying framework of the study set out in Chapter 3.

8.2.4 School solidarity and the division of pedagogic labor

A central theoretical concern, which inspired the conceptual framing of this dissertation, is Durkheim's notion of solidarity, or the basis of social integration and cohesion within the school. What the findings of the study suggest is that Durkheim's distinction between *organic* solidarity, based on diversity, specialization, and interdependence, and *mechanical* solidarity, based on similarity, conformity, and collectively shared norms, is not clear-cut. Rather, the study suggests that school solidarity may exhibit both differentiating and communalizing features. For instance, professional or collegial relations between teachers, where expert authority is exercised amongst peers within a 'company of equals', express a form of cohesion based upon similarity, or a shared orientation to teaching, as well as difference in the forms of pedagogic expertise. In other words, differentiation may manifest

within a collegial context. Between teachers and school managers, the division of pedagogic labor enables an alternative basis for social integration. Findings suggest that specialized communication may be regulated by formal status and expertise, both of which rely on difference and are features of bureaucratic organization and organic solidarity. I therefore suggest that solidarity, at the school level, has the potential to express 'unity in diversity' in ways that blur the distinction between organic and mechanical forms of the social bond.

In the following section, I consider what the empirical findings of the study mean to the themes and points of tension identified in the literature reviewed in Chapter 2, which informed the empirical hypotheses of this study.

8.3 Implications of the study

8.3.1 On the social structure of the school: Bureaucracy and profession

Within the literature, formal or status-based structures tend to be problematized as reasons for the 'loosely-coupled' nature of the school, for the inability of instructional policy to effect change in classrooms, or as an inappropriate mode of control given the 'non-routine', 'ambiguous', and 'uncertain' nature of teachers' professional work (e.g. Gamoran *et al*, 2000; Miller and Rowan, 2006). If knowledge is a central organizational resource, and its acquisition a primary purpose of the school, then a theory of social structure without a theory of knowledge falls short in its explanatory power. When knowledge is foregrounded, the social structure of the school takes on a different meaning or purpose by controlling the organization of knowledge resources through communication.

As a medium for control, communication is found to serve various regulatory functions in the school through different forms of social structure. Though bureaucracy and profession are often held in tension within the literature, this study shows that hierarchical and horizontal forms of relation in schools optimize the circulation of specialized knowledge, while at the same time, maintain the stability of the school's instructional order. This means that formal structure and informal control may work together to achieve inter-related instructional ends. Of most importance is that while a school's social structure may provide optimal conditions to enhance teaching and learning, structure alone cannot account for the displacement of expertise. When expertise is present, and serves as a basis for control, the social structure of the school potentially acts as an instrument of institutional stability *and* change.

8.3.2 On management and leadership in schools

It was identified early on within the dissertation that a school's managerial capacity potentially enables or constrains how resources in schools are utilized. Prior research on South African schooling shows that some of the most important management practices associated with performance are the regulation of instructional time, the monitoring and support of curriculum planning and delivery, and the quality assurance of tests and assessment results (e.g. Taylor, 2007; Taylor *et al*, 2013; Hoadley and Ward, 2009). From an investigation of the forms of communication between teachers and management, this study offers a qualitative explanation as to how knowledge resources feature in the processes of instructional management. The role of school management is found to serve an important organizational function in the maintenance and stability of a school's instructional order.

This study offers a complementary perspective on leadership in bringing together a theory of knowledge, communication, and control within the school. While instructional order enables school stability, findings show that change is most likely to occur through specialized forms of communication. If leadership is conceived as an influence, promoting change or improvement in the school (Heck and Hallinger, 2005), then a fundamental quality of instructional leadership is expertise. It follows that communication is the medium through which leadership may be achieved based upon expertise. I therefore suggest that change in the school's instructional order may occur in the relations between teachers and/or between teachers and management on the basis of expertise. As a result, instructional leadership may originate from the bottom and from the top of the hierarchy through specialized forms of instructional communication.

8.3.3 On teacher collegiality

As Bridwell-Mitchell argues: "Whether teachers' collegial interactions maintain or change institutionalized practices depends on two specific features of their interactions – the degree of cohesion and the degree of diversity" (2015: 151). What tends to predominate across the literature on teachers' professional community however is a normative concept of collaboration that privileges cohesion and/or commitment as a form of control, setting aside differences between teachers in their intellectual diversity. Though cohesion and diversity may be necessary aspects of social order, this study found that *differentiation* – that is, the recognition of differences – is a key condition for the development of specialization.

Recognizing differences in teachers' expertise enables specialized knowledge to circulate in schools. Further, a degree of organizational control on the basis of status was found to be a necessary condition for specialized communication to develop. This suggests that a balance between cohesion and diversity may be as important as a balance between status and expertise as a basis for organizational control in maintaining standards of practice and in facilitating the development of teachers' pedagogy.

8.3.4 On knowledge and pedagogy

Although this study did not test teachers' knowledge or observe teachers' pedagogy directly, a few conclusions can be drawn based on the form of teachers' instructional communication. Most forms of knowledge shared, developed, and/or utilized within the schools in the sample may be classified as specialized *for the purpose* of teaching and learning (Young and Muller, 2014), or as pedagogical content knowledge (Shulman, 1986). This form of knowledge may not directly address the systemic constraint of weak subject knowledge; however, findings suggest that some schools are making the most of what knowledge resources they have to efficaciously deploy the school's reservoir of expertise (Dreeben, 2005). As Ronfeldt *et al* suggest, "individuals benefit from seeking out and taking advantage of available collaborative resources, regardless of how rich these resources may be" (2016: 509). There may be a limit, however, as to what schools can do that are faced with a severe scarcity of social, economic, and intellectual forms of capital. On pedagogy, the study substantiates what Ronfeldt *et al* (2015), Hoadley and Muller (2016), and Brodie (2013) put forward as a significant pedagogical practice: the use of student test data to make pedagogy 'visible' to teachers in order to develop strategic instructional 'responses'.

8.4 Limitations of the study

8.4.1 Limits of the methodology

The study sample was purposively selected to investigate, and hence, draw conclusions about particular types of schools. A focus was set on grade 3 teachers' relations with other grade 3 teachers, with foundation phase teachers, with the HOD, and with the principal. This approach offered a particular kind of organizational perspective on grade 3 teaching and learning. The research is therefore able to make claims about grade 3 teachers' relations in 11 South African primary schools located within an under-performing, low-resourced 'system'.

I would expect differences to emerge in the forms of instructional communication between teachers and their colleagues in different socio-economic contexts. In the study of middle and high schools, differences may also emerge given that knowledge domains are more clearly bounded by subject. I elected to focus only on the social relations internal to the school, bracketing off potential external resources, such as the education district office, NGOs, other schools in the area, and other kinds of community organization and involvement. Nonetheless, differences were found between the schools on the basis of how knowledge resources are organized and circulated *within* the school.

The study did not directly observe forms of teacher collaboration or communication within the schools. Because I was interested in how individuals position themselves and categorize their experience, I decided to conduct interviews with various members of staff. This mode of inquiry provided a unique perspective on how knowledge circulates within the schools in the sample and of instructional forms of communication. In building on the findings of this research, it would be interesting to restrict the sample size to perhaps two or four schools and conduct qualitative observations of the different forms of teacher collaboration. A discourse analysis could expose in greater depth how knowledge and pedagogic strategies come to be known, shared, and developed. It would not necessarily reveal, however, differences in the circulation of knowledge at a school level and the forms of social relation that facilitate this. Alternatively, the theory generated by this study could be tested on a broader scale in similar types of schools located in similar socio-economic contexts to examine the relation between academic outcomes, the specialization of communication, and the form of teachers' relations.

8.4.2 Questions raised by the study

While conditions for the circulation of knowledge have been revealed by this study, I did not include a theory of organizational learning or whether and how teachers *acquired* the knowledge that was circulated within the school. This question could be taken up in future by drawing on Bernstein's (1999) concept of the 'pedagogic relation'. Understanding how teachers acquire forms of knowledge through different kinds of social relations within the school would have implications for teacher education. Moreover, understanding how teachers acquire knowledge within an organizational set up could also have implications for how pedagogy changes over time or remains unchanged through communication and interaction.

It was conceived in Chapter 3 that school order is constituted by two analytically distinct orders of relation – the instructional and the regulative order. I decided to explore the instructional order only to focus the investigation on teachers' relations that organize knowledge and skills. The nature of the regulative order that converges the school as a collectivity was not considered for the purposes of this study. Conceived to be the dominant mode of relation, the regulative order could expose different social bases of control, teachers' professional commitment to moral and ethical standards of conduct, as well as the expectations, ideals, and values associated with teaching and learning. A more complete understanding of the nature of social relations within the school would need to bring the instructional and regulative orders together.

8.5 Conclusion

This dissertation makes its contribution in two ways. The first is by offering a language that enables greater descriptive understanding of how schools are socially organized. By bringing knowledge and expertise to the fore, the language offers a different way of thinking and talking about issues of school leadership and teacher collegiality. Second, the dissertation develops a theory of how schools might interrupt patterns of inequality through forms of communication. The research brings communication back into the conversation as both a medium of control and as a potential agent of educational change.

References

Abbott, A. (1988) *The system of professions: An essay on the division of expert labor.* Chicago: The University of Chicago Press.

Andrews, D. and Lewis, M. (2007) Transforming practice from within: The power of the professional learning community. In L. Stoll and K. S. Louis (eds.) *Professional learning communities: Divergence, depth, and dilemmas*. New York: Open University Press, pp. 132 – 147.

Atkinson, P. (1985) *Language, structure, and reproduction: An introduction to the sociology of Basil Bernstein.* London: Methuen.

Babbie, E. (2001) *The practice of social research (9th edition)*. California: Wadsworth.

Ball, S. (1995) Intellectuals or technicians? The urgent role of theory in educational studies. *British Journal of Educational Studies*, vol. 43, no. 3, pp. 255 – 271.

Barber, M. and Mourshed, M. (2007) *How the world's best performing school systems come out on top*. McKinsey & Company. Retrieved from: http://mckinseyonsociety.com.

Barr, R. and Dreeben, R. (1983) *How schools work.* Chicago: The University of Chicago Press.

Berger, P. and Luckmann, T. (1966) *The social construction of reality: A treatise in the sociology of knowledge.* New York: Anchor Books.

Bernstein, B. (1962) *Family role systems, socialization, and communication*. Manuscript, Sociological Research Unit: University of London Institute of Education.

Bernstein, B. (1971) *Class, codes, and control, vol. I: Theoretical studies towards a sociology of language*. London: Routledge & Kegan Paul.

Bernstein, B. (1975) *Class, codes and control, vol. III: Towards a theory of educational transmissions*. London: Routledge & Kegan Paul.

Bernstein, B. (1987) Class, codes, and communication. *Sociolinguistics: An international handbook of the science of language and society, vol. 1*. Berlin: Walter de Gruyter.

Bernstein, B. (1990) *Class, codes and control, vol. IV: The structuring of pedagogic discourse*. London: Routledge.

Bernstein, B. and Solomon, J. (1999) Pedagogy, identity, and the construction of a theory of symbolic control: Basil Bernstein questioned by Joseph Solomon. *British Journal of Sociology of Education*, vol. 20, no. 2, pp. 265 – 279.

Bernstein, B. (2000) *Pedagogy, symbolic control, and identity*: *Theory, research, critique.* London: Taylor and Francis.

Bertram, C. (2011) What does research say about teacher learning and teacher knowledge? Implications for professional development in South Africa. *Journal of Education*, no. 52, pp. 3 – 26.

Bidwell, C. (1965) The school as a formal organization. In J. March (ed.) *Handbook of organizations*. Chicago: Rand McNally & Co, pp. 972 – 1022.

Bidwell, C. (2006) Varieties of institutional theory: Traditions and prospects for educational research. In H. Meyer and B. Rowan (eds.) *The new institutionalism in education.* Albany: State University of New York Press, pp. 33 – 50.

Blau, P. (1968) The hierarchy of authority in organizations. *American Journal of Sociology*, vol. 74, no. 4, pp. 453 – 467.

Bolam, R. (1999) Education leadership, administration, and management: Towards a research agenda. In T. Bush, L. Bell, R. Bolam, R. Glatter, and P. Ribbins (eds.) *Educational management: Redefining theory, policy, and practice.* London: Paul Chapman, pp. 193 – 205.

Bourdieu, P. (1986) The forms of capital. In J. Richardson (ed.) *Handbook of theory and research for the sociology of education.* Westport: Greenwood, pp. 241 – 258.

Bridwell-Mitchell, E. (2015) Theorizing teacher agency and reform: How institutionalized instructional practices change and persist. *Sociology of Education*, vol. 88, no. 2, pp. 140 – 159.

Bridwell-Mitchell, E. and Cooc, N. (2016) The ties that bind: How social capital is forged and forfeited in teacher communities. *Educational Researcher*, vol. 45, no. 1, pp. 7 – 17.

Brodie, K. (2013) The power of professional learning communities. *Education as Change*, vol. 17, no. 1, pp. 5 – 18.

Brookover, W, Schweitzer, J, Schneider, J, Beady, C, Flood, P, and J. Wisenbaker (1978) Elementary school social climate and school achievement. *American Educational Research Journal*, vol. 15, no. 2, pp. 301 – 318.

Brown, A. and Dowling, P. (1998) *Doing research/reading research: A mode of interrogation for education.* London: The Falmer Press.

Bryk, A, Camburn, E, and K. S. Louis (1999) Professional community in Chicago elementary schools: Facilitating factors and organizational consequences. *Educational Administration Quarterly*, vol. 35, no. 5, pp. 751 - 781.

Burns, T. and Stalker, G. (1961) *The management of innovation.* London: Tavistock.

Bush, T. and Glover, D. (2009) Managing teaching and learning: A concept paper. Johannesburg: Matthew Goniwe School of Leadership and Governance.

Bush, T, Joubert, R, Kiggundu, E, and J. van Rooyen (2010) Managing teaching and learning in South African schools. *International Journal of Educational Development,* vol. 30, no. 2, pp. 162 – 168.

Bush, T. (2008) From management to leadership: Semantic or meaningful change? *Educational Management, Administration, and Leadership*, vol. 36, no. 2, pp. 271 – 288.

Carnoy, M, Chisholm, L, and B. Chilisa (2012) *The low achievement trap: Comparing schooling in Botswana and South Africa.* Cape Town: HSRC Press.

Carnoy, M. and Chisholm, L. (2008) *Towards understanding student academic performance in South Africa: A pilot study of grade 6 mathematics lessons in Gauteng province.* Cape Town: HSRC.

Chick, J. (1996) Safe-talk: Collusion in apartheid education. In H. Coleman (ed.) *Society and the language classroom.* Cambridge: Cambridge University Press, pp. 21 – 39.

Chisholm, L. (2005) The state of curriculum reform in South Africa: The issue of Curriculum 2005. In J. Daniel, A. Habib, and R. Southall (eds.) *State of the nation: South Africa 2003 – 2004.* Cape Town: HSRC Press, pp. 268 – 289.

Chisholm, L, Hoadley, U, Kivilu, M, Brookes, H, Prinsloo, C, Kgobe, A, Mosia, D, Narsee, H. and S. Rule (2005) *Educator workload in South Africa*. Cape Town: HSRC Press.

Chitty, C. (1997) The school effectiveness movement: Origins, shortcomings, and future possibilities. *The Curriculum Journal*, vol. 8, no. 1, pp. 45 – 62.

Christie, P. (1998) Schools as (dis)organisations: The 'breakdown of the culture of learning and teaching' in South African schools. *Cambridge Journal of Education*, vol. 28, no. 3, pp. 283-300.

Christie, P, Butler, D, and M. Potterton (2007) Schools that work: Ministerial committee report. Pretoria: South African Department of Basic Education.

Clewell, H. and Campbell, P. (2007) *Good schools in poor neighborhoods: Defying demographics, achieving success*. Washington, DC: The Urban Institute Press.

Cohen, E, Deal, T, Meyer, J, and W. Scott (1979) Technology and teaming in the elementary school. *Sociology of Education*, vol. 52, no. 1, pp. 20 – 33.

Coleman, J, Campbell, B, Hobson, C, McPartland, J, Mood, A, Winefeld, F and R. York (1966) *Equality of educational opportunity report*. Washington, DC: United States Government Printing Office.

Coleman, J. (1961) *The adolescent society: The social life of the teenager and its impact on education.* New York: The Free Press of Glencoe.

Coleman, J. (1988) Social capital in the creation of human capital. *American Journal of Sociology*, vol. 94, Organizations and Institutions: Sociological and Economic Approaches to the Analysis of Social Structure, pp. S95 – S120.

Cooper, B. (1976). *Bernstein's codes: A classroom study*. University of Sussex, Education Area, Occasional Paper no. 6.

Creswell, J. (1998) *Qualitative inquiry and research design*. London: SAGE publications.

Crouch, L. and Mabogoane, T. (2001) No magic bullets, just tracer bullets: The role of learning resources, social advantage, and education management in improving the performance of South African schools. *Social Dynamics: A Journal of African Studies*, vol. 27, no.1, pp. 60 – 78.

Dixon, K. and Dornbrack, J. (2015) Dead-lines: Teachers' bureaucratic habitus and disciplinary writing in three South African schools. In G. Enriquez, E. Johnson, S. Kontovourki, and C. Mallozzi (eds.) *Literacies, learning, and the body: Putting theory and research into pedagogical practice.* New York: Routledge, pp. 236 – 251.

Douglas, M. (1996) *Natural symbols*. London: Routledge.

Douglas, M. (1966) *Purity and danger: An analysis of concepts of pollution and taboo.* London: Routledge.

Douglas, M. (1982) The effects of modernization on religious change. *Daedalus*, vol. 111, no. 1, pp. 1 – 19.

Douglas, M. (1999a) *Implicit meanings.* London: Routledge.

Douglas, M. (1999b) Four cultures: The evolution of a parsimonious model. *GeoJournal*, vol. 47, pp. 411 – 415.

Douglas, M. (2007) A history of grid and group cultural theory. Toronto: University of Toronto. Retrieved from: http://projects.chass.utoronto.ca/semiotics/cyber/douglas 1.pdf. [May 2014].

Dreeben, R. (2005) Teaching and the competence of occupations. In L. Hedges and B. Schneider (eds.) *The social organization of schooling.* New York: Russell Sage Foundation, pp. 51 – 71.

Durkheim, É. (1933) *The division of labor in society*. New York: The Free Press.

Durkheim, É. (1961) *Moral education: A study in the theory and application of the sociology of education*. New York: The Free Press of Glencoe.

Durkheim, É. (1973) *On morality and society: Selected writings.* In R. Bellah (ed.) Chicago: The University of Chicago Press.

Durkheim, É. (1995) *The elementary forms of religious life.* New York: The Free Press.

Durkheim, É. and Mauss, M. (1963) *Primitive classification.* London: Cohen & West.

Edmonds, R. (1979) Effective schools for the urban poor. *Educational Leadership*, vol. 37, no. 1, pp. 15 – 24.

Education Labour Relations Council (2003) *Policy handbook for educators.* In C. Brunton & Associates (eds.) Pretoria: Department of Basic Education.

Edwards, A. D. (1976). *Language in culture and class.* London: Heinemann.

Elmore, R. (2008) Leadership as the practice of improvement. In B. Pont, D. Nusche, and D. Hopkins (eds.) *Improving school leadership, vol. II: Case studies on system leadership*. Paris: OECD, pp. 37 – 67.

Elmore, R. (2000) *Building a new structure for school leadership*. Washington, DC: The Albert Shanker Institute.

Ensor, P. (2001) From preservice mathematics teacher education to beginning teaching: A study in recontextualizing. *Journal for Research in Mathematics Education,* vol. 32, no. 3, pp. 296 – 320.

Fiske, E. and Ladd, H. (2004) *Elusive equity: Education reform in post-apartheid South Africa*. Washington, DC: Brookings Institution Press.

Fleisch, B. (2008) *Primary education in crisis: Why South African schoolchildren underachieve in reading and mathematics*. Cape Town: Juta and Co.

Freire, P. (1970) *Pedagogy of the oppressed.* New York: Continuum.

Fullan, M. (2001) *The new meaning of educational change*. London: Routledge Falmer.

Gamble, J. (2014) 'Approaching the sacred': Directionality in the relation between curriculum and knowledge structure. *British Journal of Sociology of Education,* vol. 35, no. 1, pp. 56 – 72.

Gamble, J. and Hoadley, U. (2011) Positioning the regulative order. In G. Ivinson, B. Davies, and J. Fitz (eds.) *Knowledge and identity: Concepts and applications in Bernstein's sociology*. New York: Routledge.

Gamoran, A, Gunter, R, and T. Williams (2005) Professional community by design: Building social capital through teacher professional development. In L. Hedges and B. Schneider (eds.) *The social organization of schooling.* New York: Russell Sage Foundation, pp. 111 – 126.

Gamoran, A, Secada, W, and C. Marrett (2000) The organizational context of teaching and learning. In M. Hallinan (ed.) *Handbook of the sociology of education.* New York: Kluwer Academic/Plenum Publishers, pp. 37 – 63.

Glewwe, P, Hanushek, E, Humpage, S, and R. Ravina (2011) School resources and educational outcomes in developing countries: A review of the literature from 1990 to 2010. National Bureau of Economic Research Working Paper No. 17554, Cambridge, MA.

Glewwe, P. and Muralidharan, K. (2015) Improving school education outcomes in developing countries: Evidence, knowledge gaps, and policy implications. Research on Improving Systems in Education Working Paper 15/001, University of Oxford.

Google Maps (2016) Mapping of schools in Western Cape, South Africa. [Online] Google. Retrieved from: https://www.google.co.za/maps [January 2016].

Grace, G. (2014) Professions sacred and profane: Reflections upon the changing nature of professionalism. In M. Young and J. Muller (eds.) *Knowledge, expertise, and the professions.* London: Routledge, pp. 18 – 30.

Hall, K. and Giese, S. (2009) Addressing quality through school fees and school funding. *South African child gauge*: *Meaningful access to basic education, no. 2*. Cape Town: Children's Institute, University of Cape Town.

Hall, R. (1968) Professionalization and bureaucratization. *American Sociological Review*, vol. 33, no. 1, pp. 92 – 104.

Hallinger, P. and Heck, R. (1998) Exploring the principal's contribution to school effectiveness: 1980 – 1995. *School Effectiveness and School Improvement: An International Journal of Research, Policy, and Practice*, vol. 9, no. 2, pp. 157 – 191.

Hallinger, P. and Heck, R. (2010) Collaborative leadership and school improvement: Understanding the impact on school capacity and student learning. *School Leadership and Management*, vol. 30, no. 2, pp. 95 – 110.

Hallinger, P. and Murphy, J. (1986) The social context of effective schools. *American Journal of Education*, vol. 94, no. 3, pp. 328 – 355.

Hanushek, E. and Rivkin, S. (2012) The distribution of teacher quality and implications for policy. *Annual Review of Economics*, vol. 4, pp. 131 – 157.

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

Hargreaves, D. (1995) School culture, school effectiveness, and school improvement. *School Effectiveness and School Improvement: An International Journal of Research, Policy, and Practice*, vol. 6, no. 1, pp. 23 – 46.

Hargreaves, D. (1999) The knowledge-creating school. *British Journal of Educational Studies*, vol. 47, no. 2, pp. 122 – 144.

Hartley, D. (2007) The emergence of distributed leadership in education: Why now? *British Journal of Educational Studies*, vol. 55, no. 2, pp. 202 – 214.

Hayes, D, Christie, P, Mills, M, and B. Lingard (2004) Productive leaders and productive leadership: Schools as learning organizations. *Journal of Educational Administration*, vol. 42, no. 5, pp. 520 – 538.

Heck, R. and Hallinger, P. (2005) The study of educational leadership and management: Where does the field stand today? *Educational Management, Administration, and Leadership*, vol. 33, no. 2, pp. 229 – 244.

Henchey, N, Dunnigan, M, Gardner, A, Lessard, C, Muhtadi, N, Raham, H, and C. Violato (2001) *Schools that make a difference: Twelve Canadian Secondary Schools in Low-Income Settings*. British Columbia: Society for the Advancement of Excellence in Education.

Hiebert, J, Gallimore, R, and J. Stigler (2002) A knowledge base for the teaching profession: What would it look like and how can we get one? *Educational Researcher*, vol. 31, no. 5, pp. 3 – 15.

Hill, H, Rowan, B, and D. Loewenberg Ball (2005) Effects of teachers' mathematical knowledge for teaching on student achievement. *American Educational Research Journal*, vol. 42, no. 2, pp. 371 – 406.

Hoadley, U. (2005) Social class, pedagogy, and the specialization of voice in four South African primary schools. Unpublished doctoral dissertation, University of Cape Town.

Hoadley, U. (2007) The reproduction of social class inequalities through mathematics pedagogies in South African primary schools. *Journal of Curriculum Studies*, vol. 39, no. 6, pp. 679 – 706.

Hoadley, U. (2011) Knowledge, knowers, and knowing: Curriculum reform in South Africa. In L. Yates (ed.) *Curriculum in today's world: Configuring knowledge, identities, work, and politics*. New York: Routledge, pp. 143 – 158.

Hoadley, U. (2012) What do we know about teaching and learning in South African primary schools? *Education as Change*, vol. 16, no. 2, pp. 187-202.

Hoadley, U. and Galant, J. (2015) Specialization and school organization: Investigating pedagogic culture. *British Journal of Sociology of Education*, DOI: 10.1080/01425692.2015.1042149.

Hoadley, U, Levy, B, Shumane, L, and S. Wilburn (2016) Leadership, stakeholders, and learner performance in four Western Cape schools. Effective States and Inclusive Development Working Paper No. 61. Manchester, UK: The University of Manchester.

Hoadley, U. and Muller, J. (2010) Codes, pedagogy, and knowledge: Advances in Bernsteinian sociology of education. In M. Apple, S. Ball, and L. Gandin (eds.) *The Routledge international handbook of the sociology of education,* pp. 69 – 78. New York: Routledge, pp. 69 – 78.

Hoadley, U. and Muller, J. (2016) Visibility and differentiation: Systemic testing in a developing country context. *The Curriculum Journal*, vol. 27, no. 2, pp. 272 – 290.

Hoadley, U. and Ward, C. (2009) *Managing to learn: Instructional leadership in South African secondary schools*. Cape Town: HSRC.

Horn, I. and Little, J. (2010) Attending to problems of practice: Routines and resources for professional learning in teachers' workplace interactions. *American Educational Research Journal*, vol. 47, no. 1, pp. 181 – 217.

Ingersoll, R. (1993) Loosely coupled organizations revisited. *Research in the Sociology of Organizations*, vol. 11, pp. 81 – 112.

Ingersoll, R. (2005) The anomaly of educational organizations and the study of organizational control. In L. Hedges and B. Schneider (eds.) *The social organization of schooling.* New York: Russell Sage Foundation, pp. 91 – 110.

James, C, Connolly, M, Dunning, G, and T. Elliot (2006) *How very effective primary schools work*. London: Paul Chapman Publishing.

Jansen, J. (1995) Effective schools? *Comparative Education*, vol. 31, no. 2, pp. 181 – 200.

Jansen, J. (2001) Explaining non-change in education reform after apartheid: Political symbolism and the problem of policy implementation. In Y. Sayed and J. Jansen (eds.) *Implementing education policies: The South African experience.* Cape Town: University of Cape Town Press, pp. 271 – 292.

Jencks, C. (1972) *Inequality.* New York: Basic Books.

Johnson, B. (2009) Understanding schools as organizations: Implications for realizing professional learning communities. In C. Mullen (ed.) *The Handbook of leadership and professional learning communities*. New York: Palgrave Macmillan, pp. 17 – 28.

Kapferer, J. (1981) Socialization and the symbolic order of the school. *Anthropology and Education Quarterly*, vol. 12, no. 4, pp. 258 – 274.

King, R. (1976) Bernstein's sociology of the school: Some propositions tested. *The British Journal of Sociology*, vol. 27, no. 4, pp. 430 – 443.

King, R. (1981) Bernstein's sociology of the school: A further testing. *The British Journal of Sociology*, vol. 32, no. 2, pp. 259 – 265.

Leana, C. and Pil, F. (2006) Social capital and organizational performance: Evidence from urban public schools. *Organization Science*, vol. 17, no. 3, pp. 353 – 366.

Lee, V. and Smith, J. (1996) Collective responsibility for learning and its effects on gains in achievement for early secondary school students. *American Journal of Education*, vol. 104, no. 2, pp. 103 – 147.

Leithwood, K. and Duke, D. (1998) Mapping the conceptual terrain of leadership: A critical point of departure for cross-cultural studies. *Peabody Journal of Education*, vol. 73, no. 2, pp. 31 – 50.

Leithwood, K, Louis, K. S, Anderson, S, and K. Wahlstrom (2004) *Review of research: How leadership influences student learning*. Toronto: The Wallace Foundation.

Little, J. W. (2002a) Locating learning in teachers' communities of practice: Opening up problems of analysis in records of everyday work. *Teaching and Teacher Education*, vol. 18, pp. 917 – 946.

Little, J. W. (2002b) Professional community and the problem of high school reform. *International Journal of Educational Research*, vol. 37, pp. 693 – 714.

Little, J. W. (2003) Inside teacher community: Representations of classroom practice. *Teachers College Record*, vol. 105, no. 6, pp. 913 – 945.

Lortie, D. (1975) *Schoolteacher: A sociological study.* Chicago: The University of Chicago Press.

Louis, K. S. (2015) Linking leadership to learning: State, district, and local effects. *Nordic Journal of Educational Studies*, vol. 1, no. 3, pp. 7 – 17.

Louis, K. S. and Kruse, S. (1994) *Professionalism and community: Perspectives on reforming urban schools*. Washington, DC: Office of Educational Research and Improvement.

Louis, K. S. and Lee, M. (2016) Teachers' capacity for organizational learning: The effects of school culture and context. *School Effectiveness and School Improvement: An International Journal of Research, Policy, and Practice*, DOI: 10.1080/0924 3453.2016.1189437.

Louis, K. S. and Marks, H. (1998) Does professional community affect the classroom? Teachers' work and student experiences in restructuring schools. *American Journal of Education*, vol. 106, no. 4, pp. 532 – 575.

MacBeath, J, Gray, J, Cullen, J, Frost, D, Steward, S, and S. Swaffield (2007) *Schools on the edge: Responding to challenging circumstances.* London: Paul Chapman Publishing.

Mackay, D. A. (1964) Should schools be bureaucratic? *The Canadian Administrator*, vol. 4, no. 2, pp. 5 – 8.

Maden, M. and Hillman, J. (1996) *Success against the odds: Effective schools in disadvantaged areas.* London: Routledge.

Malcolm, C, Keane, M, Hoohlo, L, Kgaka, M, and J. Owens (2000) Why some "disadvantaged" schools succeed in mathematics and science: A study of "feeder" schools. Pretoria: NCCRD.

Maton, K. and Muller, J. (2007) A sociology for the transmission of knowledges. In F. Christie and J. R. Martin (eds.) *Language, knowledge, and pedagogy: Functional linguistic and sociological perspectives.* New York: Continuum, pp. 14 – 33.

Maxwell, J. (1992) Understanding and validity in qualitative research. *Harvard Educational Review*, vol. 62, no. 3, pp. 279 – 300.

Maxwell, J. (1996) *Qualitative research design: An interactive approach*. London: SAGE publications.

Maxwell, J. (2009) Designing a qualitative study. In L. Bickman and D. Rog (eds.) *The SAGE handbook of applied social research methods.* California: SAGE Publications, pp. 214 – 253.

Mehta, J. (2013) From bureaucracy to profession: Remaking the educational sector for the 21st century. *Harvard Educational Review*, vol. 83, no. 3, pp. 463 – 488.

Merton, R. (1934) Durkheim's division of labor in society. *American Journal of Sociology*, vol. 40, no. 3, pp. 319 – 328.

Meyer, J. and Rowan, B. (1977) Institutionalized organizations: Formal structure as myth and ceremony. *American Journal of Sociology*, vol. 83, no. 2, pp. 340 – 363.

Meyer, J. and Rowan, B. (2008) The structure of educational organizations. In J. Ballantine and J. Spade (eds.) *Schools and society: A sociological approach to education (3rd edition).* Los Angeles: Pine Forge Press, pp. 217 – 225.

Miller, R. and Rowan, B. (2006) Effects of organic management on student achievement. *American Educational Research Journal*, vol. 43, no. 2, pp. 219 – 253.

Mishler, E. (1986) *Research interviewing: Context and narrative.* Cambridge: Harvard University Press.

Monk, D. (1994) Subject area preparation of secondary mathematics and science teachers and student achievement. *Economics of Education Review*, vol. 13, no. 2, pp. 125 – 145.

Moore, R. (2004) *Education and society: Issues and explanations in the sociology of education.* Cambridge, MA: Polity Press.

Morais, A, Neves, I, and D. Pires (2004) The *what* and *how* of teaching and learning: Going deeper into sociological analysis and intervention. In J. Muller, B. Davies, and A. Morais (eds.) *Reading Bernstein, researching Bernstein*. London: Routledge Falmer, pp. 75 – 90.

Mortimore, M, Sammons, P, Stoll, L, Lewis, D, and R. Ecob (1988) *School matters: The junior years.* Berkley: The University of California Press.

Mulford, B. (2007) Building social capital in professional learning communities: Importance, challenges, and a way forward. In L. Stoll and K. S. Louis (eds.) *Professional learning communities: Divergence, depth, and dilemmas*. New York: Open University Press, pp. 166 – 180.

Muller, J. (2000) *Reclaiming knowledge: Social theory, curriculum, and education policy.* London: Routledge Falmer.

Muller, J. (2009) Forms of knowledge and curriculum coherence. *Journal of Education and Work*, vol. 22, no. 3, pp. 205 – 226.

Nerland, M. (2012) Professions as knowledge cultures. In K. Jensen, L. C. Lahn, and M. Nerland (eds.) *Professional learning in the knowledge society.* Rotterdam: Sense Publishers.

Nias, J. (1989) Refining the cultural perspective. *Cambridge Journal of Education*, vol. 19, no. 2, pp. 143 – 146.

Nykiel-Herbert, B. (2004) Mis-constructing knowledge: The case of learner-centred pedagogy in South Africa. *Perspectives*, vol. 34, no 3, pp. 249 – 265.

Ostrander, D. (1982) One- and two-dimensional models of the distribution of beliefs. In M. Douglas (ed.) *Mary Douglas collected works, vol. 8: Essays in the sociology of perception*. London: Routledge & Kegan Paul, pp. 14 – 30.

Parsons, T. (1940) An analytical approach to the theory of social stratification. *American Journal of Sociology*, vol. 45, no. 6, pp. 841 – 862.

Parsons, T. (1947a) Weber's methodology of social science. In T. Parsons (ed.) *Max Weber: The theory of social and economic organization.* Glencoe, Illinois: The Free Press, pp. 6 – 25.

Parsons, T. (1947b) The institutionalization of authority. In T. Parsons (ed.) *Max Weber: The theory of social and economic organization.* Glencoe, Illinois: The Free Press, pp. 50 – 69.

Parsons, T. (1951) *The social system.* London: Routledge & Kegan Paul Ltd.

Parsons, T. (1956a) Suggestions for a sociological approach to the theory of organizations-I. *Administrative Science Quarterly*, vol. 1, no. 1, pp. 63 – 85.

Parsons, T. (1956b) Suggestions for a sociological approach to the theory of organizations-II. *Administrative Science Quarterly*, vol. 1, no. 2, pp. 225 – 239.

Parsons, T. (1959) The school class as a social system: Some of its functions in American society. *Harvard Educational Review*, vol. 29, no. 4, pp. 297 – 318.

Parsons, T. (1960) Durkheim's contribution to the theory of integration of social systems. In K. Wolff (ed.) *Essays on sociology and philosophy by Émile Durkheim et al.* New York: Harper and Row Publishers, pp. 118 – 153.

Parsons, T. (1960) *Structure and process in modern societies.* Glencoe, Illinois: The Free Press.

Parsons, T. and Bales, R. (1955) *Family, socialization, and interaction process*. Glencoe, Illinois: The Free Press.

Pedro, E. R. (1981). *Social stratification and classroom discourse: A sociolinguistic analysis of classroom practice.* Stockholm: Stockholm Institute of Education, Department of Educational Research.

Perrow, C. (1967) A framework for the comparative analysis of organizations. *American Sociological Review*, vol. 32, no. 2, pp. 194 – 208.

Peterson, P, McCartney, S, and R. Elmore (1996) Learning from school restructuring. *American Educational Research Journal*, vol. 33, no. 1, pp.119 – 153.

Prew, M. (2007) Successful principals: Why some principals succeed and others struggle when faced with innovation and transformation. *South African Journal of Education*, vol. 27, no. 3, pp. 447 – 462.

Prosser, J. (1999) The evolution of school culture research. In J. Prosser (ed.) *School culture.* London: Paul Chapman Publishing, pp. 1 – 14.

Punch, K. (1969) Bureaucratic structure in schools: Towards redefinition and measurement. *Educational Administration Quarterly*, vol. 5, no. 2, pp. 43 – 57.

Purkey, S. and Smith, M. (1983) Effective schools: A review. *The Elementary School Journal*, vol. 83, no. 4 Special issue: Research on teaching, pp. 426 – 452.

Reeves, C. (2005) The effect of 'opportunity-to-learn' and classroom pedagogy on mathematics achievement in schools serving low socio-economic status communities in the Cape Peninsula. Unpublished doctoral dissertation, University of Cape Town.

Reynolds, D, Sammons, P, De Fraine, B, Van Damme, J, Townsend, T, Teddlie, C, and S. Stringfield (2014) Educational effectiveness research (EER): A state-of-the-art review, *School Effectiveness and School Improvement: An International Journal of Research, Policy, and Practice*, vol. 25, no. 2, pp. 197-230

Rivkin, S, Hanushek, E, and J. Kain (2005) Teachers, schools, and academic achievement. *Econometrica*, vol. 73, no. 2, pp. 417 – 458.

Robinson, V, Lloyd, C, and K. Rowe (2008) The impact of leadership on student outcomes: An analysis of the differential effects of leadership types. *Educational Administration Quarterly*, vol. 44, no. 5, pp. 635 – 674.

Ronfeldt, M, Farmer, S, McQueen, K, and J. Grissom (2015) Teacher collaboration in instructional teams and student achievement. *American Educational Research Journal*, vol. 52, no. 3, pp. 475 – 514.

Rosenholtz, J. (1985) Effective schools: Interpreting the evidence. *American Journal of Education*, vol. 93, no. 3, pp. 352 – 388.

Rosenholtz, S. (1991) *Teachers' workplace: The organizational context of schooling.* New York: Teachers College Press.

Rowan, B. (1990) Commitment and control: Alternative strategies for the organizational design of schools. *Review of Research in Education*, vol. 16, pp. 353 – 389.

Rutter, M, Maughan, B, Mortimore, P, and J. Ouston (1979) *Fifteen thousand hours: Secondary schools and their effects on children.* London: Open Books.

Sayed, Y. (2008) The case of teacher education in post-apartheid South Africa: Politics and priorities. In L. Chisholm (ed.) *Changing class: Education and social change in post-apartheid South Africa.* Cape Town: HSRC Press, pp. 247 – 266.

Scheerens, J. (2001) Monitoring school effectiveness in developing countries. *School Effectiveness and School Improvement: An International Journal of Research, Policy, and Practice*, vol. 12, no. 4, pp. 359 – 384.

Scheurich, J. (1998) Highly successful and loving, public elementary schools populated mainly by low SES children of color. *Urban Education*, vol. 33, no. 4, pp. 451 – 491.

Schoen, L. T. and Teddlie, C. (2008) A new model of school culture: A response to a call for conceptual clarity. *School Effectiveness and School Improvement: An International Journal of Research, Policy, and Practice*, vol. 19, no. 2, pp. 129 – 153.

Shepherd, D. (2015) Learn to teach, teach to learn: A within-pupil across-subject approach to estimating the impact of teacher subject knowledge on South African grade 6 performance. Stellenbosch Economic Working Papers 01/15, Stellenbosch University.

Shulman, L. (1986) Those who understand: Knowledge growth in teaching. *Educational Researcher*, vol. 15, no. 2, pp. 4 – 14.

Sockett, H. (1987) Has Shulman got the strategy right? *Harvard Educational Review*, vol. 57, no. 2, pp. 208 – 219.

Sousa, D. and Hoy, W. (1981) Bureaucratic structure in schools: A refinement and synthesis in measurement. *Educational Administration Quarterly*, vol. 17, no. 4, pp. 21 – 39.

South African History Online (2013) *Khayelitsha township*. Retrieved from: http://www.sahistory.org.za/place/khayelitsha-township [January 2016].

South African Schools Act (1996) *No. 84 of 1996.* Pretoria: Government Gazette 34620.

Spaull, N. (2011) A preliminary analysis of SACMEQ III South Africa. Stellenbosch Economic Working Paper 11/11, Stellenbosch University.

Spaull, N. (2012) Poverty and privilege: Primary school inequality in South Africa. Stellenbosch Economic Working Paper 13/12, Stellenbosch University.

Spaull, N. (2013) South Africa's education crisis: The quality of education in South Africa 1994 – 2011. Report commissioned by the Centre for Development and Enterprise.

Spaull, N. (2015) Accountability and capacity in South African education. *Education as Change*, vol. 19, no. 3, pp. 113 – 142.

Spaull, N. and Kotze, J. (2015) Starting behind and staying behind in South Africa: The case of insurmountable learning deficits in mathematics. *International Journal of Educational Development*, vol. 41, pp. 13-24.

Spencer, M. (1970) Weber on legitimate norms and authority. *The British Journal of Sociology*, vol. 21, no. 2, pp. 123 – 134.

Spillane J. and Burch, P. (2006) The institutional environment and instructional practice: Changing patterns of guidance and control in public education. In H. Meyer and B. Rowan (eds.) *The new institutionalism in education.* Albany: State University of New York Press, pp. 87 – 102.

Spillane, J. (2005) Primary school leadership practice: How the subject matters. *School Leadership and Management*, vol. 25, no. 4, pp. 383 – 397.

Spillane, J. and Burch, P. (2005) Policy, administration, and instructional practice: 'Loose coupling' revisited. Institute for Policy Research Working Paper, Northwestern University.

Spillane, J, Halverson, R, and J. Diamond (2004) Towards a theory of leadership practice: A distributed perspective. *Journal of Curriculum Studies*, vol. 36, no. 1, pp. 3 – 34.

Spillane, J, Hopkins, M, and T. Sweet (2015) Intra- and interschool interactions about instruction: Exploring the conditions for social capital development. *American Journal of Education*, vol. 122, no. 1, pp. 71 – 110.

Spillane, J, Kim, C. M, and K. Frank (2012) Instructional advice and information providing and receiving behavior in elementary schools: Exploring tie formation as a building block in social capital development. *American Educational Research Journal*, vol. 49, no. 6, pp. 1112 – 1145.

Statistics South Africa (2011) *South African census.* Cape Town: Retrieved from DataFirst, University of Cape Town.

Stein, M. and Nelson, B. (2003) Leadership content knowledge. *Educational Evaluation and Policy Analysis*, vol. 25, no. 4, pp. 423 – 448.

Stoll, L, Bolam, R, McMahon, A, Wallace, M, and S. Thomas (2006) Professional learning communities: A review of the literature. *Journal of Educational Change*, vol. 7, pp. 221 – 258.

Stoll, L. and Louis, K. S. (2007) Professional learning communities: Elaborating new approaches. In L. Stoll and K. S. Louis (eds.) *Professional learning communities: Divergence, depth, and dilemmas*. New York: Open University Press, pp. 1 – 13.

Stringfield, S. (1994) Outlier studies of school effectiveness. In D. Reynolds, B. Creemers, P. Nesselrodt, E. Shaffer, S. Stringfield, and C. Teddlie (eds.) *Advances in school effectiveness research and practice.* Oxford: Pergamon, pp. 73 – 84.

Talbert, J. and McLaughlin, M. (1994) Teacher professionalism in local school contexts. *American Journal of Education*, vol. 102, no. 2, pp. 123 – 153.

Taylor, N. (2007) Equity, efficiency, and the development of South African schools. In T. Townsend (ed.) *International handbook of school effectiveness and school improvement.* Dordrecht: Springer, pp. 523 – 540.

Taylor, N. (2008) What's wrong with South African schools? Retrieved from JET Education Services: www.jet.org.za.

Taylor, N. (2009) The state of South African schools, Part I: Time and the regulation of consciousness. *Journal of Education,* no. 46, pp. 9 – 32.

Taylor, N. (2014) Knowledge and teacher professionalism: The case of mathematics teaching. In M. Young and J. Muller (eds.) *Knowledge, expertise, and the professions.* London: Routledge, pp. 171 – 184.

Taylor, N, Draper, K, and S. Sithole (2013) National Report: Teaching and learning in rural primary schools. Pretoria: National Education Evaluation and Development Unit.

Taylor, N, Gamble, J, Spies, M, and C. Garisch (2013) School leadership and management. In N. Taylor, S. Van der Berg, and T. Mabogoane (eds.) *Creating effective schools*. Cape Town: Pearson Education, pp. 100 – 134.

Taylor, N, Mabogoane, T, and B. Akoobhai (2011) The school sector: Service delivery research project, Office of the Presidency. Johannesburg: JET Education Services.

Taylor, N, Muller, J, and P. Vinjevold (2003) *Getting schools working: Research and systemic school reform in South Africa*. Cape Town: Pearson South Africa.

Taylor, N. and Taylor, S. (2013) Teacher knowledge and professional habitus. In N. Taylor, S. Van der Berg, and T. Mabogoane (eds.) *Creating effective schools*. Cape Town: Pearson Education, pp. 202 – 232.

Taylor, N, Van der Berg, S, and T. Mabogoane (2013) Context, theory, design. In N. Taylor, S. Van der Berg, and T. Mabogoane (eds.) *Creating effective schools*. Cape Town: Pearson Education, pp. 1 – 30.

Taylor, N. and Vinjevold, P. (1999) *Getting learning right: Report of the President's Education Initiative Research Project.* Johannesburg: Joint Education Trust.

Taylor, S. (2011) Uncovering indicators of effective school management in South Africa using the National School Effectiveness Study. Stellenbosch Economic Working Paper 01/11, Stellenbosch University.

Taylor, S. (2013) Modeling educational achievement in the NSES. In N. Taylor, S. Van der Berg, and T. Mabogoane (eds.) *Creating effective schools*. Cape Town: Pearson Education, pp. 61 – 99.

Teddlie, C. and Stringfield, S. (1993) *Schools make a difference: Lessons learned from a 10-year study of school effects*. New York: Teachers College Press.

Teddlie, C. and Reynolds, D. (2000) *The international handbook of school effectiveness research.* New York: Falmer Press.

Thompson, K. (2002) *Émile Durkheim (revised edition)*. New York: Routledge.

Thompson, M. and Wildavsky, A. (1986) A cultural theory of information bias in organizations. *Journal of Management Studies*, vol. 23, no. 3, pp. 273-286.

Thompson, M, Ellis, R, and A. Wildavsky (1990) *Cultural theory*. Boulder, Colorado: Westview Press.

Timperley, H. (2009) Distributing leadership to improve outcomes for students. In K. Leithwood, B. Mascall, and T. Strauss (eds.) *Distributed leadership according to the evidence.* New York: Routledge, pp. 197 – 222.

Tyler, W. (1973) Measuring organizational specialization: The concept of role variety. *Administrative Science Quarterly*, vol. 18, no. 3, pp. 383 – 392.

Tyler, W. (1985) The organizational structure of the school. *Annual Review of Sociology*, vol. 11, pp. 49 – 73.

Tyler, W. (1988) *School organization: A sociological perspective.* New York: Croom Helm.

Van der Berg, S, Burger, C, Burger, R, De Vos, M, Du Rand, G, Gustafsson, M, Moses, E, Shepherd, D, Spaull, N, Taylor, S, Van Broekhuizen, H. and D. Von Fintel (2011) Low quality education as a poverty trap. Stellenbosch Economic Working Paper 25/11, Stellenbosch University.

Van der Berg, S, Spaull, N, Wills, G, Gustafsson, M, and J. Kotze (2016) Identifying binding constraints in education: Synthesis report for the Programme to Support Pro-Poor Policy Development. Research on Socio-economic Policy, Stellenbosch University.

Van der Berg, S. (2006) How effective are poor schools? Poverty and educational outcomes in South Africa. Stellenbosch Economic Working Paper 06/06, Stellenbosch University.

Van der Berg, S. (2007) Apartheid's enduring legacy: Inequalities in education. *Journal of African Economics*, vol. 16, no. 5, pp. 849 – 880.

Van der Berg, S. (2015) What the Annual National Assessments can tell us about learning deficits over the education system and school career. *South African Journal of Childhood Education*, vol. 5, no. 2, pp. 28 – 43.

Venkat, H. and Spaull, N. (2015) What do we know about primary teachers' mathematical content knowledge in South Africa? An analysis of SACMEQ 2007. *International Journal of Educational Development*, vol. 41, pp. 121 – 130.

Vescio, V, Ross, D, and A. Adams (2008) A review of research on the impact of professional learning communities on teaching practice and student learning. *Teaching and Teacher Education*, vol. 24, pp. 80 – 91.

Walker, M. (1983) Control and consciousness in the college. *British Educational Research Journal*, vol. 9, no. 2, pp. 129 – 140.

Waller, W. (1932) *The sociology of teaching*. New York: John Wiley and Sons.

Waters, M. (1989) Collegiality, bureaucratization, and professionalism: A Weberian analysis. *American Journal of Sociology*, vol. 94, no. 5, pp. 945 – 972.

Weber, G. (1971) Inner-city children can be taught to read: Four successful schools. *CBE Occasional papers*, no. 18. Washington, DC: Council for Basic Education.

Weber, M. (1947) *The theory of social and economic organization.* Glencoe, Illinois: The Free Press.

Weber, M. (1970) *From Max Weber: Essays in sociology*. In H. Gerth and C. Wright Mills (eds.) London: Routledge & Kegan Paul.

Weick, K. (1976) Educational organizations as loosely coupled systems. *Administrative Science Quarterly,* vol. 21, no. 1, pp. 1 – 19.

Wilburn, S. (2012) The social regulation of literacy through teachers' expectations. Unpublished masters thesis, University of Cape Town.

Wilburn, S. (2014) Investigating school consensus: A comparative analysis of neighboring primary schools in the Western Cape province of South Africa. In C. Wolhuter (ed.) *South African Education Research Association 2013 conference proceedings*. Cape Town: Oxford, pp. 107 – 128.

Wildavsky, A. (1987) Choosing preferences by constructing institutions: A cultural theory of preference. *The American Political Science Review*, vol. 81, no. 1, pp. 3 – 22.

Wills, G. (2015) A profile of the labor market for school principals in South Africa: Evidence to inform policy. Stellenbosch Economic Working Paper 12/15, Stellenbosch University.

Wuthnow, R, Hunter, J, Bergesen, A, and E. Kurzweil (1984) *Cultural analysis: The work of Peter L. Berger, Mary Douglas, Michel Foucault, and Jürgen Habermas*. London: Routledge.

Wuthnow, R. (1987) *Meaning and moral order: Explorations in cultural analysis.* Berkley: The University of California Press.

Yamauchi, F. (2011) School quality, clustering, and government subsidy in post-apartheid South Africa. *Economics of Education Review*, vol. 30, pp. 146 – 156.

Yin, R. (2013) Validity and generalization in future case study evaluations. *Evaluation*, vol. 19, no. 2, pp. 321 – 322.

Young, M. (2014) Knowledge, curriculum, and the future school. In M. Young, D. Lambert, C. Roberts, and M. Roberts. *Knowledge and the future school: Curriculum and social justice.* London: Bloomsbury, pp. 9 – 40.

Young, M. and Muller, J. (2007) Truth and truthfulness in the sociology of educational knowledge. *Theory and Research in Education*, vol. 5, no. 2, pp. 173 – 201.

Young, M. and Muller, J. (2014) From the sociology of professions to the sociology of professional knowledge. In M. Young and J. Muller (eds.) *Knowledge, expertise, and the professions.* London: Routledge, pp. 3 – 17.

Young, M. and Muller, J. (2016) *Curriculum and the specialization of knowledge.* London: Routledge.

APPENDIX A:

GRADE 3 CLASSROOM TEACHER

INTERVIEW INSTRUMENT

2012

4E

SPADE
Schools Performing Above Demographic Expectations

Grade 3 Classroom Teacher Interview

About this instrument

- This instrument is designed to elicit information on teachers' pedagogic practices
- The respondent should be the Grade 3 Teacher whose class has been observed.

How to complete this instrument

- The respondent has to be asked permission to record the interview.
- If the respondent does not grant permission to be recorded, indicate this on the over of the instrument.
- The instrument is to be completed by the fieldworker in the interview with the teacher

Begin interview with the following:

- We want to understand a little bit more about your teaching, about your learners and about your school. Please don't worry; there are no right or wrong answers. We just want to talk to you about what you know and about your experiences as a teacher. We will take notes, but would like to also have an audio recording. Do you mind if this interview is audio-recorded? All recorded information will be confidential.

Data collector:		
Date of visit:		
School name:		
Class:		
Name of respondent:		
Years teaching experience total and at this school	**Highest Qualification**	**Institution from which you received qualifications**
Total: At this school:		

SECTION A. PEDAGOGIC PRACTICE: LITERACY

1. A new teacher asks you for advice for a Grade 3 student who is struggling to read. What advice would you give her? What are the first three things you would suggest she do with the child?

2. What do children really need to become effective readers and writers?

3. What do you find most challenging (difficult) in teaching literacy?

4. In Home Language LITERACY, how well prepared or confident do you feel to teach: (*Tick a box in each row*).

	I don't teach this	Not very confident	Somewhat confident	Very confident
1. Reading	(1)	(2)	(3)	(4)
2. Comprehension	(1)	(2)	(3)	(4)
3. Vocabulary	(1)	(2)	(3)	(4)
4. Language structure and grammar	(1)	(2)	(3)	(4)
5. Writing	(1)	(2)	(3)	(4)

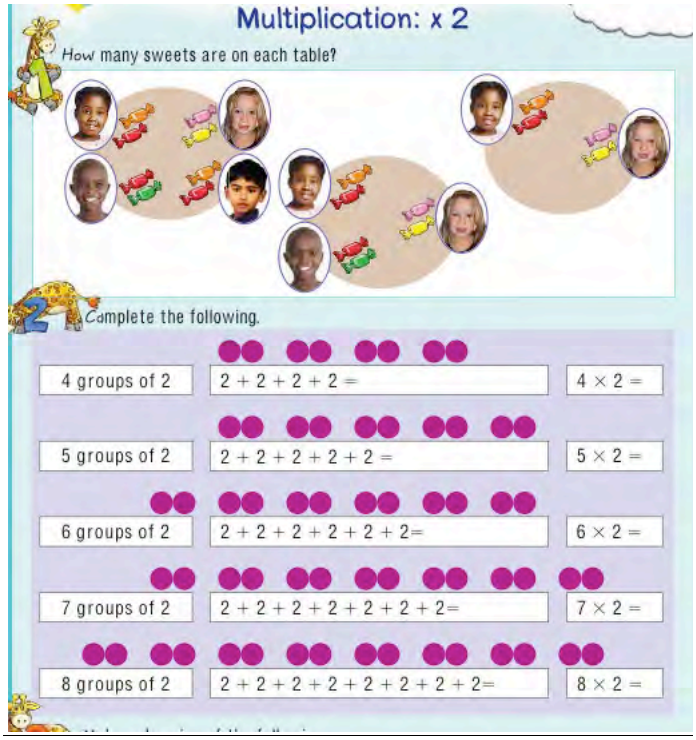
5. In First Additional Language LITERACY, how well prepared or confident do you feel to teach: (*Tick a box in each row*).				
	I don't teach this	Not very confident	Somewhat confident	Very confident
1. Reading	(1)	(2)	(3)	(4)
2. Comprehension	(1)	(2)	(3)	(4)
3. Vocabulary	(1)	(2)	(3)	(4)
4. Language structure and grammar	(1)	(2)	(3)	(4)
5. Writing	(1)	(2)	(3)	(4)

6. Do you differentiate learners in your class on the basis of their ability for reading? (e.g. put them in different ability groups or give different children different readers according to their ability)	
(1) Yes	(2) No

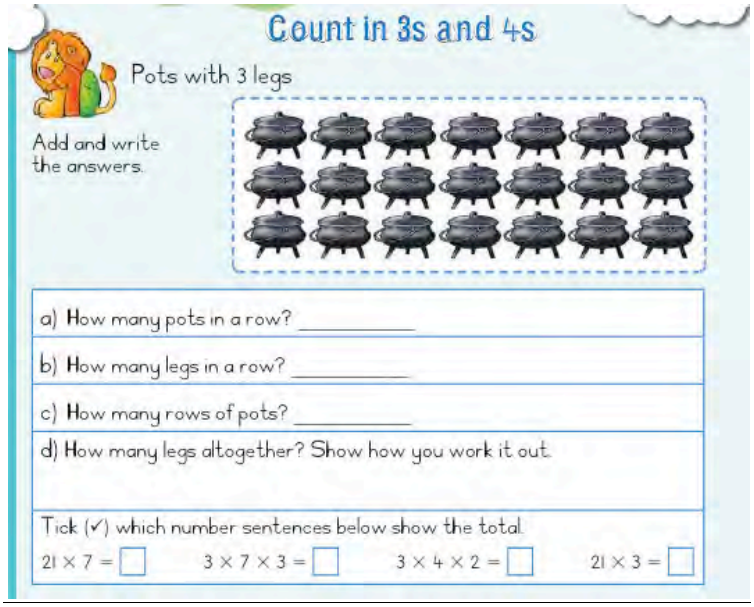
SECTION B. PEDAGOGIC PRACTICE: NUMERACY

Please look at the two tasks below, *Grouping sweets and counting pots*, and then answer the questions that follow. *(Note to fieldworker: allow teacher an opportunity to read through the tasks first before asking the questions)*

GROUPING SWEETS



COUNTING POTS



7. How would you explain to a new teacher what the difference between these two tasks is for teaching MULTIPLICATION in Grade 3 (*probe for sequencing of tasks and why*)?

8. How do you think children learn DIVISION?

9. A new teacher asks you for advice for a Grade 3 student who is struggling to do ADDITION with 3 digit numbers. What advice would you give her? What are three things you would suggest she do with the child?

10. How do you check if a child has understood the concept of place value?

11. In NUMERACY, how well prepared or confident do you feel to teach: (Tick a box in each row).				
	I don't teach this	Not very confident	Somewhat confident	Very confident
1. Number and Number Operations	(1)	(2)	(3)	(4)
2. Number patterns	(1)	(2)	(3)	(4)
3. Shape and Space	(1)	(2)	(3)	(4)
4. Measurement	(1)	(2)	(3)	(4)
5. Data Handling	(1)	(2)	(3)	(4)

12. Do you differentiate learners in your class on the basis of their ability for maths? (e.g. put them in different ability groups)	
(1) Yes	(2) No

SECTION C: CURRICULUM PLANNING AND DELIVERY

13. How do you know what to teach each week for numeracy and literacy? [*Note to fieldworker: probe for any assistance received from SMT or group planning with other teachers]*

14. What or who do you rely on MOSTLY when planning your teaching in NUMERACY?

15. What or who do you rely on MOSTLY when planning your teaching in LITERACY?

16. How supportive do you find the subject advisors who come to your school? [prompt for how they are or are not helpful]

SECTION D: TEXT AVAILABILITY AND USE

17. Which of the following books does EVERY learner in the class have, and are they allowed to take them home? *Tick two boxes in each line*.

	Have the books		Can take home	
Numeracy textbook	(1) Yes	(2) No	(1) Yes	(2) No
Numeracy workbook	(1) Yes	(2) No	(1) Yes	(2) No
Literacy HL textbook	(1) Yes	(2) No	(1) Yes	(2) No
Literacy HL workbook	(1) Yes	(2) No	(1) Yes	(2) No
Literacy HL readers	(1) Yes	(2) No	(1) Yes	(2) No
Literacy FAL textbook	(1) Yes	(2) No	(1) Yes	(2) No
Literacy FAL workbook	(1) Yes	(2) No	(1) Yes	(2) No
Literacy FAL readers	(1) Yes	(2)	(1) Yes	(2) No

SECTION E: HOMEWORK

18. Indicate how often you give learners the following homework? *Tick a box in each row*.

	Daily	At least once a week	At least once every two weeks	Hardly ever / never
1. Home Language reading	(1)	(2)	(3)	(4)
2. Home Language writing	(1)	(2)	(3)	(4)
3. Home Language spelling	(1)	(2)	(3)	(4)
4. First Additional Language reading	(1)	(2)	(3)	(4)
6. First Additional Language writing	(1)	(2)	(3)	(4)
7. First Additional Language spelling	(1)	(2)	(3)	(4)
8. Written Numeracy tasks	(1)	(2)	(3)	(4)

19. How many learners in your class regularly do their homework? *Tick as applicable.*	
☐ (1) Everybody / almost everybody	☐ (3) About half the learners
☐ (2) About three quarters of the learners	☐ (4) Very few / none

SECTION F: PARENTAL PROFILE AND INVOLVEMENT

20. Please tick the box below which best describes the parents/caregivers of your learners.	
☐ (1) Very low SES *(Mostly very poor and unemployed)*	☐ (3) Average SES *(Most are employed with fair incomes)*
☐ (2) Low SES *(Poor but some are employed*	☐ (4) High SES *(High employment with good incomes)*

21. How would you generally describe the parents / caregivers of the learners at your school? (*Probe for SES, social issues, employment, age, attitude toward school etc.)*

22. How many of the parents/caregivers of learners in your class have you met this year? *Tick as applicable*.	
☐ (1) Almost all the parents / caregivers	☐ (3) About half the parents / caregivers
☐ (2) About three quarters of the parents / caregivers	☐ (4) Very few / none of the parents / caregivers

23. Do you have any other comments on meeting / communicating with parents?

SECTION G: LITERACY PRACTICES IN THE HOME

Begin by asking the teacher: "Do you mind if I ask a few questions about yourself?"

24. Where do you live?

25. Do you read in your spare time?

☐ (1) Yes ☐ (2) No

26. If yes, what do you read? [DO NOT prompt]

27. What is your favourite children's book? [DO NOT prompt]

28. Approximately how many books are there in your home? *Tick as applicable*.

☐ (1) None or very few (0-10)
☐ (2) Enough to fill a shelf (11-25)
☐ (3) Enough to fill a bookcase (25-100)
☐ (4) Enough to fill more than one bookcase (more than 100)

SECTION H: GENERAL

29. How satisfied are teachers in their jobs at this school?

30. What do you think are the main things that have contributed to your school doing well / better?

APPENDIX B:

PRINCIPAL / SCHOOL LEADER

INTERVIEW INSTRUMENT

2012

2	SPADE Schools Performing Above Demographic Expectations Principal / School Leader Interview

About this instrument

- This instrument is designed to elicit information on leadership and management practices in the school
- The respondent should be the Principal or a Senior member of the School Management Team
- If the latter, it should be the Foundation Phase HOD if his/her class is not one of the observed classes

How to complete this instrument

- The instrument is to be completed by the fieldworker in the interview with the school leader
- The confidentiality statement must be signed by the respondent at the beginning of the interview
- The instrument is to be completed at any time on one of the fieldwork days

Data collector:		
Date of visit:		
School name:		
Name of respondent:		
Years teaching experience	**Highest Qualifications**	**Institution at which qualifications received.**
How long have you been principal at this school?	Years	

CONFIDENTIALITY Please sign below to indicate your consent to the confidentiality agreement.	I understand that this interview will be treated as confidential. I understand that neither my name nor the name of my school will be used in the written report.
SIGNATURE	

SECTION 1. LEADERSHIP ROLES AND TASKS

1. What are your main roles and tasks as a principal?

***b) What are the main roles and tasks of The School Management Team (SMT*)?**

2. How well does the SMT work? *Tick as applicable.*

Works very well in our school		It functions reasonably well.		Not effective	

3. What are the strengths and weaknesses of the SMT?

4. What are the roles and functions of a Head of Department (HOD)?

5. Are any classroom observations undertaken by the SMT/HOD? *Tick as applicable.*

Almost never		Occasionally		Regularly	

5. Are any classroom observations undertaken by the principal? *Tick as applicable.*

Almost never		Occasionally		Regularly	

6. Are any inspections of learner books or assessment tasks undertaken by the SMT/HOD/principal? *Tick as applicable.*

Almost never		Occasionally		Regularly	

Please explain your answers.

7. How well do the Phase/Grade teams work? *Tick as applicable.*

Works very well in our school		It functions reasonably well.		Not effective	

8. How often do the Phase/Grade teams meet? What do they meet about?

9. What are the roles and functions of the School Governing Body (SGB)?

10. How well does the SGB function? *Tick as applicable.*

Works very well in our school		It functions reasonably well.		Not effective	

11. What are the strengths and weaknesses of the SGB?

12. Do you have all members of your SGB at the moment?

Yes		No		I don't know	

13. What are the occupations of the parent/ community members?

SECTION 2. SCHOOL CULTURE

14. Read the following scenarios and decide which one describes the culture of your school best. *Tick one of the boxes below.*

LION	ZEBRA	OSTRICH

Lion scenario:
Teaching and learning is the most important task of our school. We all work hard and we expect and get only the best from our colleagues and learners. We communicate well with each other and we are praised when we achieve. Our leadership is strong.

Zebra scenario:
Everything is mostly OK at our school but not always. Some work hard and others do not. Things are reasonably organized and we communicate with each other on a fairly regular basis. If we try hard and do well we may be praised, but we do not expect this. Our leadership is sometimes strong and sometimes weak (like a zebra's stripes).

Ostrich scenario:
Our school is not well-organized and we often do not know what is happening because communication is poor. We do not really expect to do well at anything and, if anyone should try to do well, there is no praise, so why try? Our leadership often have their heads in the sand (like an ostrich) and they do not notice what is wrong. If they do notice they do little about it.

15. ***Which one of the following statements best describes leadership in your school?*** *Tick one box.*

School leaders give orders and supervise work closely.	
School leaders involve staff in decision making and trust that when staff members are given a task they will do a good job.	
School leaders give little input and let staff members work out problems on their own.	

16. ***What happens when things go wrong in the school, or when there is inter-personal, inter-phase or inter-departmental conflict?*** *Tick one of the statements below, which best describes how your school deals with a crisis or with conflict.*

School leaders decide how the situation will be handled and inform staff of their decision.	
School leaders consult with staff but ultimately make a decision how to resolve the issue.	
School leaders facilitate staff discussion around the issue and delegate crisis or conflict resolution to the staff members involved.	
School leaders leave it up to staff members to sort out problems and do not really get involved.	

Discuss your answer.

17. *Are learners disciplined when they break the school's rules of conduct?* *(For example, late coming, absenteeism, unruly behaviour in class; rudeness to teachers; no homework done). Tick as applicable.*

No, almost never	Sometimes, it depends	Yes, definitely

Please explain your answer.

18. *Are teachers disciplined when they break the school's professional standards of staff conduct?* *(For example, late coming, absenteeism, uncollegial behaviour). Tick as applicable.*

No, almost never		Sometimes, it depends		Yes, definitely	

Please explain your answer.

19. How do you deal with teachers who are not performing in the classroom? *(For example, not prepared for classes; homework seldom given; homework and tests not marked or marked late.)*

20. Is teacher unionism strong in your school?	Yes		No	

If YES, please explain. And please expain what happened in your school during the 2010 strike.

21. Have there ever been cases of financial mismanagement in the school?	Yes		No	

If YES, please explain.

22. What are the greatest strengths of the school?

23. What are the main challenges faced by the school?

SECTION 3. SCHOOL PERFORMANCE					
24. How would you describe the learner performance of your school over the past few years? *Tick one of the boxes below and discuss your answer.*					
Always good		Up and down		Mostly poor	
Please discuss your answer.					
25. Name one to three things which the school or your department has done over the last year that has/have improved learner performance.					
26. Name one to three things which the school or your department plans to do in the next year to improve learner performance.					
27. How is learner performance discussed in your school? By whom? How often? What is the focus?					

SECTION 4. CURRICULUM DELIVERY					
Please tick the boxes below which best describe your school.					
A. WHOLE YEAR PLANNING					
29. Do teachers in this school have a year plan for each subject they teach?	Yes		No		
30. Is each year plan checked by a senior teacher/HoD?	Yes		No		
31. Do teachers generally complete the syllabus /curriculum of each subject before the final assessment or examination?					
Yes, in all subjects		They try to, but not always		Almost never	
How do you know about curriculum coverage?					
Any other comments on curriculum planning?					
How many teaching weeks do you plan for for the year?					

B. TEXTBOOKS							
32. Who has a text book? *Tick one of the boxes below.*							
Mostly only teachers		Students share books in class		Every student has a book to use in class		Every student has a book in class and can take it home	
33. If students may take books home, how often do they do so? *Tick one of the boxes below.*							
Every day		At least twice a week		Once a week		Only when preparing for a test	
Any other comments on textbooks (e.g. does the school make special efforts to make books accessible if there are shortages)?							

D. LANGUAGE OF LEARNING AND TEACHING (LoLT)
39. What does the school do to promote English as LoLT **(Xhosa schools only)*?***
40. Does the school have any English classes (HOR schools only)?

E. EXTERNAL CURRICULUM SUPPORT									
40. Rate the support that your school receives from your District Office and curriculum advisors. For example: courses, material, services. *Tick one of the boxes below.*									
Excellent		Mostly good		Average		Poor		Non-existent	
Discuss your answer.									
41. Does the school receive support from education NGO's in your area (e.g. extra tuition in certain subjects; homework supervision)?							Yes		No
If YES, describe this support									
Any other comments on external curriculum support?									

SECTION 5. SCHOOLTIME MANAGEMENT				
Please tick the boxes below which best describe your school.				
44. Does the school day start and end at the same time every day?	Yes		No	
45. Do staff and learners return to class on time after breaks?	Yes		No	

46. How often is teaching time lost through extra-mural activities, for instance sport, choirs, fund raising? *Tick one of the boxes below.*

Seldom Once or twice a year	Sometimes Once or twice a term	Often At least once a week	Very often Almost every day

Please comment on any of the above to explain time management in your school.

SECTION 6. PROFESSIONALISM AND TEACHER WELL-BEING

A. PROFESSIONALISM

48. Do staff members in this school think of themselves as professionals?	Yes		No	

Explain why/why not?

49. How satisfied are teachers in their jobs at this school?

Very satisfied		Quite satisfied		Not satisfied	

DIscuss

B. PROFESSIONAL LEARNING COMMUNITY

53. Does the school have a policy on inducting new/newly-qualified teachers into the school?	Yes		No	

If YES, then describe how this is done.

58. How often do staff members attend external educational events/workshops and how useful are they? *Tick as applicable.*

Almost never	Sometimes but mostly not very useful	Sometimes and we always learn something	Regularly as we learn a lot

60. Is there a culture of staff studying further in your school?	Yes		No	

*Please discuss your answer**.***

61. Is your school's capacity to provide instruction affected by a shortage or inadequacy of any of the following? *Tick a box in each row.*

	Not at all	A little	Some	A lot
1. Teachers				
2. Classrooms				
3. Chairs, desks, tables				
4. Textbooks				
5. Workbooks				
6. Graded Readers				
7. Curriculum documents				

62. Do any of these factors OUTSIDE the school negatively affect teaching and learning? (*tick those that do)*

Vandalism	Violence/ gang activity	Drug and alcohol abuse	Low literacy levels in community

Please explain your answer. If OTHER (e.g sexual abuse), please specify.

C. TEACHER WELL-BEING

63. Does the school make resources available to support teachers in times of emotional stress?	Yes		No	

If YES describe the support systems available.

SECTION 7. LEARNER WELL-BEING

65. Does the school have a feeding scheme?	Yes		No	
68. Does the school offer any sport, cultural and/or recreational activities?	Yes		No	

69. What are the activities and how many students participate?

SECTION 8. PARENTAL INVOLVEMENT

A. PARENT COMMUNITY PROFILE IN TERMS OF SOCIO-ECONOMIC STATUS (SES)

69. Please tick the box below which best describse the parent community at your school.

Very low SES *(Mostly very poor and unemployed)*	Low SES *(Poor but some are employed*	Average SES *(Most are employed with fair incomes)*	High SES *(High employment with good incomes)*

70. What are the parents and community of the school like?

B. PARENT MEETINGS

70. How often does the school hold parent meetings?

71. How many parents generally attend? *Tick as applicable.*

Very few		Less than half		More than half		Almost everybody	

Any other comments on parent meetings?

C. DIRECT PARENT INVOLVEMENT IN SCHOOL ACTIVITIES

72. In what ways, if any, do parents support teaching and learning in the school?

How else do parents get involved in the school (if any)?

SECTION 9. HISTORY OF THE SCHOOL

76. Have things changed much in this time?	Yes	No

If YES what are the main changes that have happened and why? (If NO, why no changes?)

77. Has the management of time (punctuality, teaching time) changed in the last few years?

Please explain.

78. Has the management of teaching and learning changed? *Please explain.*
79. Has parental involvement changed? *Please explain*.
79. What is your personal vision for the school?
80. What kind of learner do you have at the school?

SECTION 10. GENERAL SCHOOL INFORMATION							
81. What is the total number of learners in the school?				Total			
82. On an average day, what number of learners are absent for any reason?				Total			
83. What is the average class size for the following grades?							
Grade R		Grade 1		Grade 2		Grade 3	
84. How many of the following staff are at the school?							
Principals		Deputy Principals		Heads of Department			
Classroom teachers		Clearners, gardners, guards, etc		Admin staff			

85. On an average day, what number of teachers are absent for any reason?	Total	
88. What minority language groups do you have at the school?		
88. Does your school have any admission criteria? If so, what?		

89. Where do teachers, yourself and learners live in relation to the school (proximity)?		
81. What is the total number of temporary teachers in the school?	Total	
82. What is the total number of SGB posts in the school?	Total	

SECTION 11. COMMUNITY INFORMATION
90. What links if any does the school have with other primary and high schools in the area? *Please explain*.
91. What links if any does the school have with community organisations in the area? *Please explain*.
92. What do you think is one of the main things that have contributed to your school doing well / better?

APPENDIX C:

FOUNDATION PHASE TEACHER / HEAD OF DEPARTMENT

INTERVIEW INSTRUMENT

2012

6	SPADE Schools Performing Above Demographic Expectations Foundation Phase Teacher Interview

About this instrument

- This instrument is designed to elicit information on teachers' experience of management and collegial practices
- The respondent should be any Foundation Phase Teacher whose class is not being observed.

How to complete this instrument

- The instrument is to be completed by the fieldworker in the interview with the teacher
- The instrument is to be completed at any time on one of the fieldwork days

Data collector:			
Date of visit:			
School name:			
Name of respondent:			
Years teaching experience in total and at this school	**Present Grade and teaching subjects**	**Qualifications**	**Institution at which qualifications received**
Total: This school:			

LEADERSHIP ROLES AND TASKS					
1. What are the main roles and tasks of the principal at this school?					
2. What are the main roles and tasks of the SMT at this school?					
3. How well does the SMT work? *(Tick one of the rating boxes below.)*					
Works very well in our school		It functions reasonably well		Not effective	
4. What are the strengths and weaknesses of the SMT?					
5. What are the roles and functions of a Head of Department (HoD)?					
6. Are any classroom observations undertaken by the SMT/HOD? *Tick as applicable.*					
Almost never		Occasionally		Regularly	
7. Are any inspections of learner books or assessment tasks undertaken by the SMT/HOD? *Tick as applicable.*					
Almost never		Occasionally		Regularly	
Please explain your answers.					
8. What are the roles and functions of Phase/Grade teams?					
9. How well do the Phase/Grade teams work? *Tick as applicable.*					
Works very well in our school		It functions reasonably well		Not effective	
10. What are the strengths and weaknesses of Phase/Grade teams?					
11. What are the greatest strengths of the school?					
12. What are the main challenges faced by the school?					

SCHOOL PERFORMANCE					
***13. How would you describe the learner performance of your school over the past few years**? Tick one of boxes below.*					
Always good		Up and down		Mostly poor	
Please discuss your answer.					
14. How is learner performance discussed in your school? By whom? How often? What is the focus?					
15. What has the school done, or what does it plan to do to improve school performance?					

SCHOOL TIME MANAGEMENT				
16. Does the school day start and end at the same time every day?	Yes		No	
17. Do staff and learners return to class on time after breaks?	Yes		No	

PARENTS AND COMMUNITY			
18. Please tick the box below which best describes the parent community at your school.			
Very low SES *(Mostly very poor and unemployed*)	Low SES *(Poor but some are employed*	Average SES *(Most are employed with fair incomes)*	High SES *(High employment with good incomes)*
19. What are the parents and community of the school like?			

20. How often does the school hold parent meetings?

21. How many parents generally attend? *Tick as applicable.*

Very few		Less than half		More than half		Almost everybody	

Any other comments on parent meetings?

22. Do any of these factors OUTSIDE the school negatively affect teaching and learning? (*tick those that do)*

Vandalism	Violence/ gang activity	Drug and alcohol abuse	Low literacy levels in community

Please explain your answer. If OTHER, please specify.

23. In what ways, if any, do parents support teaching and learning in the school?

GENERAL

24. What kind of learner do you have at the school?

25. How satisfied are teachers in their jobs at this school?

Very satisfied		Quite satisfied		Not satisfied	

Discuss

26. What do you think is one of the main things that have contributed to your school doing well / better?

THANK YOU VERY MUCH FOR PARTICIPATING IN THIS RESEARCH STUDY.

APPENDIX D:

PRINCIPAL / SCHOOL LEADER (FOLLOW-UP)

INTERVIEW INSTRUMENT

2013

11	SPADE Schools Performing Above Demographic Expectations Principal / School Leader Interview

About this instrument

- This instrument is designed to elicit information on leadership and management practices in the school
- The respondent should be the Principal or a Senior member of the School Management Team
- If the latter, it should be the Foundation Phase HOD if his/her class is not one of the observed classes

How to complete this instrument

- The instrument is to be completed by the fieldworker in the interview with the school leader
- The confidentiality statement must be signed by the respondent at the beginning of the interview
- The instrument is to be completed at any time on one of the fieldwork days

Data collector:		
Date of visit:		
School name:		
Name of respondent:	(only fill in below if the principal has changed sincet the last interview)	
Years teaching experience	**Highest Qualifications**	**Institution at which qualifications received.**
How long have you been principal at this school?	Years	

CONFIDENTIALITY Please sign below to indicate your consent to the confidentiality agreement.	I understand that this interview will be treated as confidential. I understand that neither my name nor the name of my school will be used in the written report.
SIGNATURE	

SECTION 1. LEADERSHIP ROLES AND TASKS				
1. What were the main challenges this year for the school?				
2. What were the main successes for the school this year?				
3. Any changes this year in relation to teachers?	Yes		No	
4. Any changes in relation to students?	Yes		No	
5. Any changes in relation to school policy?	Yes		No	
6. Any changes in relation to school management / governance?	Yes		No	
7. Any changes or major events in the community?	Yes		No	
9. If YES, to any of the above please explain..				
10. Are any of the grades in the school streamed?	Yes		No	
11. If YES, which grades and how streamed? (Check specifically for Grade 3 in 2012).				

12. Are there any new things that the school has done over the last year that has has aimed to improved learner performance.

13. Were your Grade 3 literacy results in the LITNUM last year (2012) up or down?	Up	Down
14. Were your Grade 3 numeray results in the LITNUM last year (2012) up or down?	Up	Down

15. Can you comment on why you think they went up or down?

16. If you think about your students, do you expect all of them to pass Grade 12 one day?

All		Some		Only a few / none	

17. Please discuss your answer.

18. Do you think the children in this school will do similar work to their parents, or do you think they will do something different? Please discuss your answer.

19. What is your vision for the school in the next few years?

APPENDIX E:

GRADE 3 CLASSROOM TEACHER (FOLLOW-UP)

INTERVIEW INSTRUMENT

2014

14	SPADE Schools Performing Above Demographic Expectations Follow-Up Grade 3 Teacher Interview

About this instrument:

- This instrument is designed to elicit information on school level structure and culture with an emphasis on expertise and the curriculum.
- The respondent should be an ordinary grade 3 teacher that participated in the 2012 interviews and that has been at the school for an extended period of time (i.e. not a formal head of any kind).

How to complete this instrument:

- The respondent has to be asked permission to record the interview.
- If the respondent does not grant permission to be recorded, indicate this on the cover of the instrument.
- The instrument is to be completed by the fieldworker in the interview with the teacher.

Begin interview with the following:

- Thanks very much for your time. I want to understand a little bit more about how your school is organized. Please don't worry; there are no right or wrong answers. I just want to talk to you about what you know and about your experiences as a teacher in this school. I will take notes, but would like to also have an audio recording. Do you mind if this interview is audio-recorded? All recorded information will be confidential.

Data collector:		
Date of visit:		
School name:		
Class:		
Name of respondent:		
Years teaching experience total and at this school	Highest Qualification	Institution from which you received qualifications
Total: At this school:		

SECTION A: EXPERTISE WITHIN THE SCHOOL

1. Does your school have subject or learning area heads? If so, for which learning areas? Do you know how these teachers were appointed? (*Probe for how the teacher was identified/selected and their particular knowledge/skills*)

2. Are there any *OTHER* teachers in your school that you would go to for help with teaching or if you were experiencing problems in the classroom? (*Probe for informally recognized kinds of expertise, the particular knowledge/skills, and how the teacher came to realize these; E.g. teaching reading, writing, or mathematics)*

SECTION B: SOCIAL RELATIONS

3. How would you describe your relationship with the other grade 3 teachers?					
We work very well and depend on one another.		Sometimes we work well and other times we don't.		We tend to work more independently of one another.	
Please explain your answer.					

4. How would you describe grade 3's relationship with the other foundation phase teachers?					
We work very well and depend on one another.		Sometimes we work well and other times we don't.		We tend to work more independently of one another.	
Please explain your answer.					

SECTION C: AUTHORITY RELATIONS

5a. How would you describe your relationship with the foundation phase HOD?					
We work very well and depend on one another.		Sometimes we work well and other times we don't.		We tend to work more independently of one another.	
Please explain.					

5b. How often do you meet with your HOD outside of formal meetings?									
At least once a week.		About every 2 weeks.		Once a month.		Once a term.		We rarely meet.	
Comments?									

5c. Does your HOD help or support you with your classroom teaching? How would you rate their support?					
Very supportive. I learn a lot from my HOD about classroom teaching.		Somewhat supportive. We discuss teaching among other things.		Not very supportive. We rarely discuss classroom teaching.	
Please explain. (Probe for specific examples of instructional support with detail)					

6a. Does your principal visit your classroom?							
At least once a week.		About every two weeks.		About once a month.		No, never.	
Comments? (Probe for whether visits are expected (i.e. formalized) or unexpected (informal or random), how long principal stays, and other detail)							
6b. What kinds of things does your principal comment on when she/he visits your classroom? (*Probe for presence and/or extent of emphasis on instruction, i.e. teaching and learning)*							

SECTION D: PROFESSIONAL ACTIVITIES

7a. Do you have GRADE level meetings? If so, how often do GRADE 3 teachers meet as a team?

At least once a week.		About every two weeks.		About once a month.		Never. We don't meet.	

Comments? (Probe for degree of regularity, e.g. when do you meet and where?)

7b. During a typical GRADE level meeting, what are some of the things that you normally talk about? Can you rank the top 3 things? In other words, which do you spend the most time talking about, the 2nd most, and the 3rd most?
(Prompt: Can you think of your last grade level meeting? What did you mainly talk about at that meeting?)

- ☐ (1) Sharing of teaching strategies
- ☐ (2) Problems with learner behavior
- ☐ (3) Problems with teaching and/or learning
- ☐ (4) Learner performance (i.e. assessments)
- ☐ (5) Resources to use for teaching
- ☐ (6) What topics to teach (i.e. selection)
- ☐ (7) How long to spend on topics (i.e. pace)
- ☐ (8) Parents and/or the community
- ☐ (9) Administrative duties
- ☐ (10) Other _____

Please explain. (Probe for specific examples of what the teacher gets from meetings and whether solutions to particular problems are discussed)

8a. Do you have PHASE level meetings for the foundation phase? If so, how often does the foundation phase meet?

About once every 2 weeks.		About once a month.		Once a term.		Never. We don't meet.	

Comments? (Probe for degree of regularity, e.g. when do you meet and where?)

8b. During a typical PHASE level meeting, what are some of the things that you normally talk about? Can you rank the top 3 things? In other words, which do you spend the most time talking about, the 2nd most, and the 3rd most? *(Prompt: Can you think of your last phase level meeting? What did you mainly talk about at that meeting?)*

- ☐ (1) Sharing of teaching strategies
- ☐ (2) Problems with learner behavior
- ☐ (3) Problems with teaching and/or learning
- ☐ (4) Learner performance (i.e. assessments)
- ☐ (5) Resources to use for teaching
- ☐ (6) What topics to teach (i.e. selection)
- ☐ (7) How long to spend on topics (i.e. pace)
- ☐ (8) Parents and/or the community
- ☐ (9) Administrative duties
- ☐ (10) Other _____

Please explain. (Probe for specific examples of what the teacher gets from meetings and whether solutions to particular problems are discussed)

9a. Do you have SCHOOL level meetings (i.e. when all teachers and admin come together)? If so, how often do you meet?

Once a month		About once a term		About once or twice a year		Never. We don't meet.	

Comments? (Probe for degree of regularity, e.g. when do you meet and where?)

9b. During a typical SCHOOL level meeting, what are some of the things that you talk about, mostly? *(Prompt: Can you think of your last school level meeting? What did you mainly talk about at that meeting?)*

- ☐ (1) Sharing of teaching strategies
- ☐ (2) Problems with learner behavior
- ☐ (3) Problems with teaching and/or learning
- ☐ (4) Learner performance (i.e. assessments)
- ☐ (5) Resources to use for teaching
- ☐ (6) What topics to teach (i.e. selection)
- ☐ (7) How long to spend on topics (i.e. pace)
- ☐ (8) Parents and/or the community
- ☐ (9) Administrative duties
- ☐ (10) Other _____

Please explain. (Probe for specific examples of what the teacher gets from meetings and whether solutions to particular problems are discussed)

10. Any other comments on meetings at your school? (E.g. with the principal?)

11a. Do you ever discuss teaching practices with other teachers in the school OUTSIDE of team meetings? If so, who are some of the people that you normally talk to? *(Probe for specific role of person, e.g. grade 3 teacher)*

11b. How often does this happen?									
Daily		At least twice a week		About once a week		About every 2 weeks		Once a month	

Comments? (E.g. where do these conversations typically take place?)

11c. Can you give an example of *WHAT* you specifically talked about last time this happened?

12a. Do you ever receive feedback from others on your classroom teaching? (*Probe for more than the typical IQMS)*
12b. From WHOM do you receive feedback? HOW does this happen? *(Probe for purpose and processes involved in observation)*

12c. What kind of feedback do you receive, or what kinds of things do they say?

SECTION E: INSTRUCTIONAL PROGRAM FOR GRADE 3

13a. Are there any particular contents or skills in HOME LANGUAGE that you emphasize or spend more time teaching? Please explain why. (*Probe for the level, basis of content selection, and differentiation of time)*
13b. Are there any particular contents or skills in HOME LANGUAGE that you spend the least time teaching? Please explain why. (*Probe for the level, basis of content selection, and differentiation of time)*

14a. Are there any particular contents or skills in FIRST ADDITIONAL LANGUAGE that you emphasize or spend more time teaching? Please explain why. (*Probe for the level, basis of content selection, and differentiation of time)*
14b. Are there any particular contents or skills in FIRST ADDITIONAL LANGUAGE that you spend the least time teaching? Please explain why. (*Probe for the level, basis of content selection, and differentiation of time)*

15a. Are there any particular contents or skills in MATHEMATICS that you emphasize or spend more time teaching? Please explain why. (*Probe for the level, basis of content selection, and differentiation of time)*
15b. Are there any particular contents or skills in MATHEMATICS that you spend the least time teaching? Please explain why. (*Probe for the level, basis of content selection, and differentiation of time)*

16. Any other comments on the curriculum (e.g. which subject the teacher spends most/least time teaching)?

16a. How often do you FORMALLY evaluate or assess your learners in HOME LANGUAGE?							
Weekly		About every 2 weeks		Monthly		End of every term	
Comments?							

16b. How often do you FORMALLY evaluate or assess your learners in FIRST ADDITIONAL LANGUAGE?							
Weekly		About every 2 weeks		Monthly		End of every term	
Comments?							

16c. How often do you FORMALLY evaluate or assess your learners in MATHEMATICS?							
Weekly		About every 2 weeks		Monthly		End of every term	
Comments?							

17. Can you tell me a little about the assessment process in your school? For example, who develops the assessment tasks? How do you know what level is appropriate?

18. What do you do with your marks? *(Probe for purpose of assessment and extent that marks are used for instructional purposes, e.g. selection of content)*

19. Are there any issues or weaknesses that you've experienced in the assessment process?

20. Do you ever assess your learners INFORMALLY (i.e. without recording a mark) during class? If so, how do you do this? Can you give an example?

21a. Are there any strategies or programs for GRADE 3 that aim to improve performance? *(Differentiate between during and after school; Probe for frequency, particular contents/skills, and their bases of selection)*
21b. What role do you take in the program, or in other words, what do you do? Academic effect on learners?

21. What do you think is the one thing that makes you a *better* teacher (e.g. a person, a book, etc.)?

APPENDIX F:

DATA CODING DESCRIPTORS

FREQUENCY OF INSTRUCTIONAL COMMUNICATION: DATA DESCRIPTORS

In the formal and informal kinds of communication between grade 3 teachers	++	+	-	- -
	High frequency (5)	Moderate frequency (4)	Low frequency (3 – 2)	Very low frequency (1 – 0)
	Teaching and learning are typically discussed *more than* once per week and/or on a daily basis.	Teaching and learning are typically discussed about once per week.	Teaching and learning are typically discussed about once or twice a month.	Teaching and learning are typically discussed once per term or hardly ever/never.

In the formal and informal kinds of communication between grade 3 teachers and other foundation phase teachers	++	+	-	- -
	High frequency (5)	Moderate frequency (4)	Low frequency (3 – 2)	Very low frequency (1 – 0)
	Teaching and learning are typically discussed *more than* once per week and/or on a daily basis.	Teaching and learning are typically discussed about once per week.	Teaching and learning are typically discussed about once or twice a month.	Teaching and learning are typically discussed once per term or hardly ever/never.

In the formal and informal kinds of communication between grade 3 teachers and the foundation phase HOD	++	+	-	- -
	High frequency (5)	Moderate frequency (4)	Low frequency (3 – 2)	Very low frequency (1 – 0)
	Teaching and learning are typically discussed *more than* once per week and/or on a daily basis.	Teaching and learning are typically discussed about once per week.	Teaching and learning are typically discussed about once or twice a month.	Teaching and learning are typically discussed once per term or hardly ever/never.

In the formal and informal kinds of communication between grade 3 teachers and the principal	++	+	-	- -
	High frequency (5)	Moderate frequency (4)	Low frequency (3 – 2)	Very low frequency (1 – 0)
	Teaching and learning are typically discussed *more than* once per week and/or on a daily basis.	Teaching and learning are typically discussed about once per week.	Teaching and learning are typically discussed about once or twice a month.	Teaching and learning are typically discussed once per term or hardly ever/never.

RECOGNITION OF DISTINCT INSTRUCTIONAL PRACTICE: DATA DESCRIPTORS

In relation to the instructional practice of grade 3 teachers	++	+	-	- -
	High recognition (6 – 5)	Some recognition (4 – 3)	Little recognition (2 – 1)	No recognition (0)
	Several grade 3 teachers recognize the instructional practice of other teachers as distinct *and* several teachers attribute individuals with specific forms of instructional expertise. Particular teachers tend to carry out distinct pedagogic tasks on the basis of their expertise formally and/or informally.	A few grade 3 teachers recognize the instructional practice of other teachers as distinct and may attribute individuals with specific forms of instructional expertise. Particular teachers may carry out distinct pedagogic tasks on the basis of their expertise formally and/or informally.	About one grade 3 teacher recognizes the distinct instructional practices of other teachers and/or their expertise. If present, distinct tasks tend to be assigned to individuals, rather than achieved on the basis of some form of expertise.	There is no evidence that grade 3 teachers recognize the instructional practice or expertise of their colleagues as distinct or allocate specific tasks to individuals in relation to pedagogic practice.

In relation to the instructional practice of foundation phase teachers in grades 1 and 2	++	+	-	- -
	High recognition (6 – 5)	Some recognition (4 – 3)	Little recognition (2 – 1)	No recognition (0)
	Several grade 3 teachers recognize the instructional practice of other teachers as distinct *and* several teachers attribute individuals with specific forms of instructional expertise. Particular teachers tend to carry out distinct pedagogic tasks on the basis of their expertise formally and/or informally.	A few grade 3 teachers recognize the instructional practice of other teachers as distinct and may attribute individuals with specific forms of instructional expertise. Particular teachers may carry out distinct pedagogic tasks on the basis of their expertise formally and/or informally.	About one grade 3 teacher recognizes the distinct instructional practices of other teachers and/or their expertise. If present, distinct tasks tend to be assigned to individuals, rather than achieved on the basis of some form of expertise.	There is no evidence that grade 3 teachers recognize the instructional practice or expertise of their colleagues as distinct or allocate specific tasks to individuals in relation to pedagogic practice.

RECOGNITION OF DISTINCT INSTRUCTIONAL PRACTICE: DATA DESCRIPTORS

In relation to the instructional practice of the FP HOD	++	+	-	- -
	High recognition (6 – 5)	Some recognition (4 – 3)	Little recognition (2 – 1)	No recognition (0)
	Several grade 3 teachers recognize the instructional practice of their HOD as distinct and also attribute her with a particular form of expertise relevant to grade 3 pedagogy. The HOD tends to be recognized for distinct pedagogic tasks, formally and informally.	A few grade 3 teachers recognize the instructional practice of their HOD as distinct and may attribute her with a particular form of expertise relevant to grade 3 pedagogy. The HOD may be recognized for distinct pedagogic tasks, formally and/or informally.	About one grade 3 teacher recognizes a distinct instructional practice or task of their HOD. Where teachers report their HOD as somewhat supportive in relation to instruction, the form of expertise or practice is not marked out as distinct from others.	Grade 3 teachers do not recognize any distinct instructional practice or task carried out by their HOD. Teachers tend to find their HOD unsupportive in relation to instruction.

In relation to the instructional practice of the principal	++	+	-	- -
	High recognition (6 – 5)	Some recognition (4 – 3)	Little recognition (2 – 1)	No recognition (0)
	Several grade 3 teachers recognize the instructional practice of their principal as distinct, and several teachers attribute her/him with a particular form of expertise relevant to grade 3 pedagogy. The principal tends to be recognized for carrying out distinct pedagogic tasks, formally and/or informally.	A few grade 3 teachers recognize the instructional practice of their principal as distinct and may attribute her/him with a particular form of expertise relevant to grade 3 pedagogy. The principal may be recognized for carrying out distinct pedagogic tasks, formally and/or informally.	About one grade 3 teacher recognizes a distinct instructional practice or task of the principal. Recognition tends to be related to a formal or informal instructional task, e.g. checking on teachers' portfolios.	Grade 3 teachers do not recognize an instructional component of the principal's role at all. There is no recognition of any form of distinct practice or task in relation to grade 3 pedagogy.

SPECIALIZATION OF INSTRUCTIONAL DISCOURSE: DATA DESCRIPTORS

In the forms of instructional discourse exchanged between grade 3 teachers	++	+	-	- -
	Strongly specialized (8– 7)	Fairly specialized (6 – 5)	Fairly unspecialized (4 – 2)	Very unspecialized (1 – 0)
	Teachers identify pedagogic strengths and weaknesses and share relevant strategies with one another in a variety of ways (i.e. 3 or more). Teachers typically analyze performance results on assessment tasks to identify specific contents or skills as focus areas for grade 3 classrooms. Strategic pedagogic approaches or programs are also discussed as a means to improve learner performance.	Teachers identify pedagogic strengths and weaknesses and share relevant strategies with one another in several ways (i.e. 2 or 3), such as the analysis of performance results, focus areas for lessons, and/or strategic programs to improve results. Other topics tend to be more routinized, such as the design of lesson plans or the marking of tasks; or, topics are non-instructional.	Teachers identify aspects of their practice and/or may share relevant strategies with one another in a few ways (i.e. 1 or 2). There is little development of strategic programs for improvement from discussions of learner results. Strategies are less targeted, and focus areas or specific contents are not clearly identified. Other topics concern more routine forms of instructional work; or, topics are non-instructional.	There is little to no evidence that teachers identify aspects of their practice and share relevant strategies. Teachers tend to discuss 'struggling' learners or problems teachers experience in the classroom, often in relation to issues with discipline. Other topics tend to concern more routine forms of instructional work, e.g. scheduling of tasks; or, topics are non-instructional.

In the forms of instructional discourse exchanged between grade 3 teachers and other foundation phase teachers	++	+	-	- -
	Strongly specialized (8– 7)	Fairly specialized (6 – 5)	Fairly unspecialized (4 – 2)	Very unspecialized (1 – 0)
	Teachers identify pedagogic strengths and weaknesses and share relevant strategies with one another in a variety of ways (i.e. 3 or more). Teachers typically analyze performance results on assessment tasks to identify specific contents or skills as focus areas for grade 3 classrooms. Strategic pedagogic approaches or programs are also discussed as a means to improve learner performance.	Teachers identify pedagogic strengths and weaknesses and share relevant strategies with one another in several ways (i.e. 2 or 3), such as, the analysis of performance results, focus areas for lessons, and/or strategic programs to improve results. Other topics tend to be more routinized, such as the design of lesson plans or the marking of tasks; or, topics are non-instructional.	Teachers identify aspects of their practice and/or may share relevant strategies with one another in a few ways (i.e. 1 or 2). There is little development of strategic programs for improvement from discussions of learner results. Strategies are less targeted, and focus areas or specific contents are not clearly identified. Other topics concern more routine forms of instructional work; or, topics are non-instructional.	There is little to no evidence that teachers identify aspects of their practice and share relevant strategies. Teachers tend to discuss 'struggling' learners or problems teachers experience in the classroom, often in relation to issues with discipline. Other topics tend to concern more routine forms of instructional work, e.g. scheduling of tasks; or, topics are non-instructional.

SPECIALIZATION OF INSTRUCTIONAL DISCOURSE: DATA DESCRIPTORS

In the forms of instructional discourse exchanged between grade 3 teachers and the foundation phase HOD	++	+	-	- -
	Strongly specialized (8– 7)	Fairly specialized (6 – 5)	Fairly unspecialized (4 – 2)	Very unspecialized (1 – 0)
	Teachers' pedagogic strengths and weaknesses are identified and relevant strategies in a variety of ways (i.e. 3 or more). Performance results on assessment tasks are analyzed to identify strong and weak aspects of teachers' practice and/or specific contents or skills as focus areas for grade 3 classrooms. Strategic pedagogic approaches or programs are also discussed as a means to improve learner performance.	Teachers' pedagogic strengths and weaknesses are identified and relevant strategies are discussed in several ways (i.e. 2 or 3), such as, the analysis of performance results, identification of pedagogic focus areas, and/or strategic programs or strategies to improve results. Other topics tend to be more routinized, such as the quarterly moderation of assessment tasks and learner book coverage.	Aspects of teachers' pedagogy may be identified and/or relevant strategies discussed in a few ways (i.e. 1 or 2). There is little to no discussion of strategic programs for improvement based upon learner results or of focus areas for grade 3 classrooms. Topics concern more routine forms of instructional work, such as the moderation of assessment tasks and learner books, or the scheduling of tasks and workshops for teachers.	There is little to no evidence that specific aspects of teachers' pedagogy are identified or relevant pedagogic strategies. Discussions tend to concern more routine forms of instructional work, such as the moderation of assessment tasks and learner books, the scheduling of tasks, inspections of lesson plans, and/or reports generated by the HOD from IQMS classroom observations.

In the forms of instructional discourse exchanged between grade 3 teachers and the principal	++	+	-	- -
	Strongly specialized (8– 7)	Fairly specialized (6 – 5)	Fairly unspecialized (4 – 2)	Very unspecialized (1 – 0)
	Teachers' pedagogic strengths and weaknesses are identified and relevant strategies in a variety of ways (i.e. 3 or more). Performance results on assessment tasks are analyzed to identify strong and weak aspects of teachers' practice and/or specific contents or skills as focus areas for grade 3 classrooms. Strategic pedagogic approaches or programs are also discussed as a means to improve learner performance.	Teachers' pedagogic strengths and weaknesses are identified and relevant strategies are discussed in several ways (i.e. 2 or 3), such as, the analysis of performance results, identification of pedagogic focus areas, and/or development of strategic programs or strategies to improve results. Other topics tend to be more routinized, such as monitoring teachers' lesson plans and relevant WCED or CAPS policy.	Aspects of teachers' pedagogy may be identified and/or relevant strategies discussed in a few ways (i.e. 1 or 2). There is little to no discussion of strategic programs for improvement based upon learner results or of focus areas for grade 3 classrooms. Topics concern more routine forms of instructional work, such as the implementation of WCED or CAPS policy, the scheduling of tasks, and monitoring of lesson plans.	There is little to no evidence that specific aspects of teachers' pedagogy are identified or relevant pedagogic strategies. Discussions tend to concern more routine forms of instructional work, such as the implementation of WCED or CAPS policy, the scheduling of tasks, monitoring of teachers' lesson plans, or the provision of instructional resources.

FORM OF TEACHERS' COMMUNICATION RELATIONS: DATA DESCRIPTORS

In the formal and informal interactions amongst grade 3 teachers	++	+	-	- -
	Closed relations (10 – 9)	Fairly closed (8 – 6)	Somewhat open (5 – 3)	Open relations (2 – 0)
	Teachers rarely, if ever, initiate communication with one another. Individual teachers have little say in what topics are discussed. Most topics pertain to group matters and/or are determined by the HOD, and at times the principal. There is little to no evidence of the negotiation of topics discussed amongst teachers.	From time to time, teachers initiate communication with other teachers. A few of the topics discussed are determined by individual teachers, although most topics pertain to group matters. The HOD, and/or the principal, may determine some of the topics. There is little to no evidence of negotiation amongst teachers.	Whenever the need arises, teachers initiate and receive communication from others. Some or a few of the topics discussed are determined by individuals, some pertain to group matters, and at times, a few may be determined by the HOD/principal. There is some evidence that a few topics are negotiated amongst teachers.	Communication tends to be initiated and received from other teachers on a regular basis, whenever the need arises. Individual teachers determine some or most topics for discussion. There is also evidence that about half or more of the topics discussed are negotiated amongst teachers. The teacher determines when to speak and what may be said.

In the formal and informal interactions between grade 3 teachers and other foundation phase teachers	++	+	-	- -
	Closed relations (10 – 9)	Fairly closed (8 – 6)	Somewhat open (5 – 3)	Open relations (2 – 0)
	Teachers rarely, if ever, initiate communication with one another. Individual teachers have little say in what topics are discussed. Most topics pertain to group matters and/or are determined by the HOD, and at times the principal. There is little to no evidence of the negotiation of topics discussed amongst teachers.	From time to time, teachers initiate communication with other teachers. A few of the topics discussed are determined by individual teachers, although most topics pertain to group matters. The HOD, and/or the principal, may determine some of the topics. There is little to no evidence of negotiation amongst teachers.	Whenever the need arises, teachers initiate and receive communication from others. Some or a few of the topics discussed are determined by individuals, some pertain to group matters, and at times, a few may be determined by the HOD/principal. There is some evidence that a few topics are negotiated amongst teachers.	Communication tends to be initiated and received from other teachers on a regular basis, whenever the need arises. Individual teachers determine some or most topics for discussion. There is also evidence that about half or more of the topics discussed are negotiated amongst teachers. The teacher determines when to speak and what may be said.

FORM OF TEACHERS' COMMUNICATION RELATIONS: DATA DESCRIPTORS

In the formal and informal interactions between grade 3 teachers and the foundation phase HOD	++	+	-	- -
	Closed relations (10 – 9)	Fairly closed (8 – 6)	Somewhat open (5 – 3)	Open relations (2 – 0)
	Teachers rarely, if ever, initiate communication with the HOD. Individual grade 3 teachers have little to no say in what topics are discussed. Most topics are determined by the HOD, or relayed from the principal by the HOD. There is little to no evidence of the negotiation of topics discussed with the HOD.	From time to time, teachers initiate communication with the HOD. A few of the topics discussed are determined by individual grade 3 teachers, although most topics are determined by the HOD, or relayed from the principal by the HOD. There is little to no evidence of negotiation of topics with the HOD.	Whenever the need arises, teachers initiate and receive communication from the HOD. Some or a few of the topics discussed are determined by individual grade 3 teachers. Other topics may be determined by the HOD or relayed from the principal. There is some evidence that a few topics are negotiated with the HOD.	Communication tends to be initiated and received between grade 3 teachers and the HOD on a regular basis, whenever the need arises. Individual teachers determine some or most topics for discussion with the HOD. There is also evidence that about half or more of the topics discussed are negotiated with the HOD.

In the formal and informal interactions between grade 3 teachers and the principal	++	+	-	- -
	Closed relations (10 – 9)	Fairly closed (8 – 6)	Somewhat open (5 – 3)	Open relations (2 – 0)
	Teachers rarely, if ever, initiate communication with the principal. Individual grade 3 teachers have little to no say in what topics are discussed. The principal selects most topics for discussion during informal interactions and formal meetings. There is little to no evidence of the negotiation of topics discussed with the principal.	From time to time, teachers initiate and/or receive communication from the principal. Grade 3 teachers select a few of the topics for discussion, although the principal selects most of the topics for discussion during informal interactions and during formal meetings. There is little to no evidence of negotiation of topics discussed with the principal.	When a need arises, grade 3 teachers initiate and receive communication from the principal. Some or a few of the topics discussed are determined by individual grade 3 teachers. The principal determines some topics during informal interactions and meetings. There is some evidence that a few topics are negotiated with the principal.	Communication tends to be initiated and received between grade 3 teachers and the principal on a regular basis, whenever a need arises. Individual teachers determine some or most topics for discussion with the principal. There is also evidence that about half or more of the topics discussed are negotiated with the principal.