Looking at schools through a professional learning community lens: A comparison of leadership and management practices at two secondary schools

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DECLARATION

This work has not been previously submitted in whole, or in part, for the award of any degree. It is my work. Each significant contribution to, and quotation in, this dissertation from the work, or works, of other people has been attributed, and has been cited and referenced.

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ABSTRACT

This study compares the association between leadership and management practices and teacher practices in two secondary schools. The schools are similar with regard to socio-economic background but different with regard to learner achievement in grade twelve science examination results. I identify the extent to which leadership and management practices nurture the development of a Professional Learning Community (PLC). The data comprised transcripts of semi structured interviews, notes from observation of interactions between staff and documents pertaining to meetings. I chose a double case study approach in order to analyse and compare the practices in the two schools.

The study found an association between leadership and management practices at the schools and teacher practices specifically with regard to (1) informal collaboration, (2) focus on pedagogical practices and (3) teacher development practices. These three types of practices occurred more frequently at the school which produced better grade twelve science results. It is argued that leadership and management strategies at the better performing school were, to some degree, more nurturing of these practices.

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CHAPTER 1: INTRODUCTION

Learner performance in crisis

It is well known that primary and secondary school learners in South Africa are underachieving. According to Bloch (2009: 17) the situation in general is worse than in other countries in the Southern African region and the continent of Africa. The percentage of schools in South Africa that are dysfunctional is between 60 and 80% (Bloch, 2009: 17) and there is a great divide between a small minority of schools that are doing well and a vast majority that are not doing well. Of the 20% of the schools in South Africa that perform better, half are from former white or model-C schools and the other half are well performing black schools (Bloch, 2009: 59).

Over the last two decades local, national and international agencies have collected data from South Africa schools. Although the purpose of this data has been to describe the performance of learners and classroom practices, there have also been lessons learnt about management and organisational approaches at school (Howie, 2001: 8). Alongside the school leaving examination results there is evidence of performance from comparative tests in mathematics and science (Taylor, Muller & Vinjevold, 2003). This study will use the available published data on learner' achievements in natural sciences at General Education Training (GET) level Grade 6 in the national systemic evaluation, and Grade 8 international comparative tests as an indicator of performances at the Further Education Training (FET) level.

At primary school level, in the last ten years, the national department of education has embarked on systemic evaluations of Grade 3, 6 and 9 to determine levels of learner performance (South Africa, Department of Education, 2003). The Grade 6 Systemic Evaluation (2004), found low performance achievements in maths and science and across Language of Learning and Teaching (LOLT). A difference in performance was also found between urban and rural learners and between those whose LOLT was the same as their home language and those for whom the LOLT was different. Learners from urban

schools that are better resourced performed better than those in rural schools that lacked resources. In the most recent Grade 6 systematic evaluation on science, completed in 2005 and 2008, no statistically significant improvement has been shown (Bloch, 2009: 62). In the 2005 Grade 6 systematic evaluation, the mean score in natural science was 41% (Bloch, 2009: 62).

At secondary school level, international comparative studies conducted by Trends in International Mathematics and Science Study (TIMSS) revealed similar findings in consecutive evaluations. Achievement of South African learners in Grade 8 was the lowest in science proficiency in 1999 and 2003 compared to 39 countries that undertook the same test. In the 1999 science test, the achievement of South African learners was below the international bench mark (Howie 2001). A repeat of the study that included a number of countries with a similar developing economic profile to South Africa showed low levels of competencies in science (Taylor, Muller & Vinjevold, 2003: 42). In the 2003 science test, the achievement of the learners was also below the international bench mark and below their counterpart in other middle income countries. South African students' mean score of 275 on TIMMS was below that of Morocco, Tunisia, Malaysia, Indonesia and Chile. The best South African performance was only equal to the average Singaporean performance and less than 0.5% of South Africa's learners featured in the international top 10% (Howie, 2001: 19).

National assessment results indicate that South African schooling has not improved substantially in terms of performance levels. Morgan (2006: 13) says that, although the overall pass rate in the Senior Certificate examination results in South Africa as a whole has improved since 1999, the improvement is still below 20 per cent. The performance of South African learners in grade twelve examinations, with respect to mathematics and physical science, has been declining since 1999 (Ndlovu, Sishi and Deliwe 2006). In relation to the Western Cape, Kallaway (2006: 17) argues that learners in formally disadvantaged groups still achieve poor grade twelve results.

Factors influencing learner performance

According to international and South African literature on school performance and education policy, causes of poor results have been attributed to three broad factors: the home; school function and support; and classroom practices (Christie and Lingard, 2000; Taylor, Muller and Vinjevold, 2003; Hayes et al., 2006; Christie, Butler and Potterton, 2007). While poor results have been attributed to these three factors, I focus in my study on the impact of school support and function on the formation of PLCs. I have chosen this as my focus as the existing literature suggests that schools must function well in order for classroom practices and teacher practices to be effective in improving learner performance (Christie 2001, 2003: Hayes et al, 2006; Christie et al., 2007). Christie and Lingard (2000) argue that effective leadership and management practices are key to the functioning of the school.

The terms leadership and management are interrelated. While leadership refers to influence, vision and values in relation to change, management implies effectiveness, efficiency and maintenance of the system itself. An effective leader manages change through professional relationships, organisational capacity and provision of opportunities for learning (Stoll, 1999: 35). Such leadership and management practices, when integrated, promote a professional learning community and serve to support teachers to work in a collaborative way in order that they may improve their own teaching as well as enhance learner achievement. PLC also relate to distributed control and influence which is situated within a specific school context (Spillane et al, 2004), such as structural arrangements, leadership and management practices and so on.

Over the last two decades studies that have been conducted both internationally and in South Africa have suggested that leadership and management practices at the school level, and at district and department levels, have a significant effect in terms of the school's capacity to support learner achievement. Christie et al's (2007) study, conducted in eighteen schools in South Africa that succeeded in achieving good Senior Certificate results despite their disadvantaged circumstances, found that some district and provincial

departments of education did not support schools in terms of subject advice and resources. Teachers reported that they received little training relating to the New Curriculum Statement (NCS) and that the training received was of a poor quality. Moreover this particular district relied on the best schools from which to recruit their officials which resulted in these schools losing valued human resources. (Christie et al., 2007: 84).

Lack of leadership and management support was also found at the provincial level. On the basis of a case study of the Gauteng Education Department, Fleisch (2002) found that one of the failures of the education system at the provincial level was due to an inefficient and ineffective information management system with regard to learner performance. The available grade twelve examination results, which were used as a performance measurement tool, provided limited information for management accountability purposes (Fleisch, 2002: 193). The examination results provided information about how learners performed and not *why* schools were not performing well.

Bloch makes the following comment on leadership and management support processes in South Africa:

> *Government bureaucracy is primarily about providing the management and administrative order for an effective school system, the resources, from buildings to textbooks, and the pedagogical and institutional supports that would enable a trained and ready teaching force to teach in the classroom and take its wards through an adequate curriculum that meets their needs and those of the country. ….But we will have to say that government has not been getting it right (*2009: 109).

While leadership and management support from other levels outside the school has an impact on functionality of the school as learning community, equally important is the effectiveness of leadership and management support from within the school. Christie and Lingard's (2000) study provides important insights about current challenges facing school leaders and the field of schooling at a micro level, especially in developing countries such as South Africa. These authors' conceptual and empirical work on

education leadership offers an understanding of how discourses of leadership constrain school operation and change. In the words of Hayes et al:

> *Discourses of leadership commonly emphasise individuals rather than social relations, and ideal leaders in heroic often masculinist terms. Discourses of schooling tend to conflate the positional power of the principal with leadership and management, thereby reinforcing hierarchical structural relations and the centrality of the person as a leader. Where leadership is portrayed as transformational, inspirational and visionary, leaders are elevated above the communities they are part of which, by implication, lack or need these attributes (*2006: 200).

Hayes et al (2006: 200) argue that these views about leaders' traits are constraining and challenging because they emphases the role and responsibility of the school leaders in bringing about change and improvement in schools, while the ideal schools should be replete with leadership spread throughout the organisation. Their view is that school leaders can lead from the centre, and that the idea of decentring the prominence of the individual principal as a leader does not mean the absence of positional leadership of the principal. According to these authors, the principal and other leaders in schools are in a strong position and have the ultimate responsibility of enabling others to participate in leadership while taking the lead in supporting teaching and learning, and in negotiating boundaries.

A challenge that local school leadership faces is that of mediating the tension between being positioned by the state policy on the one hand and establishing collaborative relationships within their local communities on the other hand (Hayes et al, 2006: 202). Principals need to filter competing and contradictory demands from outside the school while working towards achieving coherence in the schools' relationship with its community as well as with the education department. According to Hayes et al (2006: 202) positioning the school within the framework of the state entails developing more permeable boundaries and establishing external relationships, for example with Non-Governmental Organizations (NGOs) as well as with the Department of Education while simultaneously, keeping learning as a primary focus.

The above studies by Fleisch (2002); Hayes et al (2006); Christie et al (2007); and Bloch (2009) cannot be generalised to suggest that the state, all provinces and all districts in South Africa do not provide support to schools. Neither can the role of positional leadership and external forces be disregarded. However it can be concluded that more is needed to be done to improve working relationships and accountability systems at the local level in order to help schools develop PLCs with collaborative working cultures.

Government response to inadequate school performance

The South African government has embarked on a number of education policies to address the issue of building working relationships for quality education.

Within the last two decades education policy investigations and legislation such as the South African Schools Act of 1996 have focused on the need for all stakeholders in education to participate in school governance. This has led to the decentralisation of decision-making power to School Governing Bodies (SGBs). The purpose of this reform was to give the school community power to manage and govern the school through decision- making (Fleisch, 2002: 113). However, SGBs have done little to promote teaching and learning in schools. According to Botha (2007), SGB and School-Based Management (SBM) bodies world wide and particularly in South African schools have failed to promote teaching and learning practices. This is largely due to SGB's being more involved in school governance and management issues rather than teaching and learning practices. In addition, some SGB's in South Africa are confronted with challenges such as power relations between members as well as low levels of knowledge and competencies on teaching and learning. These factors influence the extent to which members are able to engage in effective decision-making, especially with regard to teaching and learning practices.

The South African government has also introduced assessment and accountability policies in response to inadequate school performance. These assessment and accountability policy were adopted in response to global market principles, and in an

attempt to improve teacher practices and student performance (Fleisch, 2002). In South Africa the government introduced assessment and accountability through measures such as

> *disciplinary committees in the case of The South African Code of Conduct of Education (SACE,), appraisal panels in the case of Developmental Appraisal Systems (DAS), supervisory unit personal and external evaluators in the case of Whole School Evaluation (WSE), national testing of key Grades in the case of Systematic Evaluation (SE) and public evaluation in the form of teachers' national awards* (Shalem, 2003: 1).

However, as discussed earlier, these accountability and assessment measures relate to how teachers and learners are performing rather than why schools are not performing well and are therefore imperfect in addressing issues relating to teaching practices and learner achievement.

A growing literature on the idea of a PLC suggests that there is a close link between improvement of teacher practices and learner achievement on the one hand, and the existence of PLCs on the other. PLC refer to a form of distributed influence and control at the school level that is associated with structural arrangement; leadership and management practices and teacher professional development practices. These practices promote and sustain the learning of professionals within the school with a focus on enhancing learner achievement. The association between PLC and teacher practices is the main focus of this study, and will be discussed in detail in the next chapter.

The purpose of the study

This study compares differences in leadership and management practices in two schools whose learners are drawn from similar socio-economic background but different levels of achievement. Both schools draw learners from poor socio-economic backgrounds.
The science grade twelve results were used as a benchmark to compare the achievement of learners at the two schools.

The focus of the study is on PLCs in relation to three dimensions: structural arrangements, leadership and management practices, and teacher development practices. The study describes these three dimensions of professional learning communities at school, department and subject levels in order to understand how they relate to teacher practices and how they are associated with learner performance.

An analytic frame is developed in order to generate descriptions of organisational structures, leadership practices and teacher development practices that shape professional learning communities. This framework is used to compare the association between leadership and management practices and teacher practices and to understand the complexities that underlie the PLC in each specific school context, more specifically in the science department.

Objectives of the study

The objectives of the study are:

1. To describe organisational structures, leadership and management practices, and teacher development practices at school level, department level and subject level at two schools in order to generate a description of formal and informal school practices that relate to professional learning communities.

2. To compare the better performing school and the less well performing school with regard to features of the professional learning community specifically in relation to the physical science department.

Research questions:

Question 1: How do leadership and management practices shape professional learning communities in each of the two schools?

Question 2: What are the differences between the two schools in relation to professional learning communities, specifically with regard to the physical science department?

Chapter outline

Chapter 1 provides a brief background to the crisis of South African education as evident in learner-performance levels; locates the study in terms of the contextual factors that affect learner achievement; describes government's response to the inadequate school performance and lastly introduces the purpose of the study and the research questions.

Chapter 2 provides a review of relevant literature that discusses the concept of PLC in relation to leadership and management practices. I begin by exploring the benefits to those schools in which PLC's operate; explain what is entailed in a PLC. Thereafter the conceptual framework is developed. Finally the analytic framework is presented, which defines and explains the categories for analysis.

Chapter 3 outlines the research design of the study and justifies the case study approach adopted. In this chapter a description is given of how the selections were made regarding the schools and the participants, and the selection of data collection methods is explained. I also outline the method used in the transcription of the data and the approach to data analysis. Issues of validity, reliability generalisability, and research ethics are also addressed.

Chapter 4 presents a data analysis which is organised according to the analytic framework in chapter three. The data is analysed around three themes, namely structural arrangements, leadership and management practices, and teacher development practices, first for Bidii High School and thereafter for Kawaida High School[1].

[1] Both schools have been given pseudonyms

Chapter 5 discusses the findings and provides concluding remarks. The findings for Bidii school and Kawaida school are compared in relation to two themes: leadership and management practices and complexities of practices.

CHAPTER 2: LITERATURE REVIEW

This chapter locates the study within international literature on leadership and management practices especially with regard to PLCs. The literature relates to the way in which school organisational culture, leadership and management practices, and teacher development practice shape PLCs. More specifically, the literature focuses on why the school needs to be transformed into a PLC; the characteristics of professional communities that influence learner achievement; and the processes that promote and sustain PLCs.

WHY TRANSFORM THE SCHOOL INTO A PLC?

Literature on PLCs outlines two main benefits, the first of which is improvement of learner achievement. Fullan (2000) argues that the existence of PLCs in a school makes a difference with regard to how well students perform. Writers such as Newmanna and Wehlage (1995); Louis and Kruse (1995); and McLauglin and Talbert (2007) present the view that schools can achieve better results in student learning if teachers in the schools are learning from each other and working jointly for the benefit of the students. Bolam et al. (2005) suggest that PLCs promote school and system wide capacity building for sustainable improvement and that PLCs enhance pupils learning.

There is substantial evidence associated with PLC and its benefits to learner achievement. Some theorists refer to distributed leadership rather than professional PLCs. Leithwood and Mascall (2008) use the term distributed leadership to talk about sources of leadership from a wide spectrum of people (e.g. parents, learners, administrators, and teachers). In a study of 90 elementary and secondary schools across 45 districts in 9 states, Leithwood and Mascall found that there was significant association between distributed leadership and high student performance.

The second benefit of transforming the school into a PLC is that of the utilisation of capacities of more members of the school community. This is said to heighten teachers'

efficiency and effectiveness in teaching and learning. James (2007: 33) explains that PLCs enhance the pool of expertise and other resources for work on the primary task of teaching and learning from the wide school community members including the parents, support staff and teaching assistants of all kinds. Furthermore, the wide professional community offers expertise and receives help from each other by working jointly.

Hammersley-Fletcher and Brundrett (2008) suggest that in a PLC teachers are able to pool their expertise and initiatives in a way that produces actions and benefits that are of greater value than those they can achieve alone. This is apparent especially when dealing with the complex educational issues or challenges that teachers face in the classroom such as the wide spectrum of student needs, class sizes and work load. In such contexts, teachers are able to bring together their knowledge and skills to promote shared learning with the purpose of improving learners' achievement.

Apart from providing a shared pool of expertise, PLCs develop an environment in which the expertise of individuals can be valued, and interpersonal skills nurtured. Robbin and Alvy (2004: 80) argue that collegiality and collaboration improves learner achievement as tolerance in risk taking is increased. A professional community is likely to explore a greater variety of options which would promote learning and growth, both for the individual teacher and for the group. In emphasising the benefits of a PLC, Fullan, (2000), Hammersley-Fletcher and Brundrett (2008), and Leithwood &.Mascall (2008) hold that a PLC is not an end in itself, but rather a means to an end. This has impact with respect to shared professional learning and teachers' morale as well as the improvement of learners' performances.

WHAT IS MEANT BY THE CONCEPT 'PLC'?

Talbert and McLaughlin and Louis, Kruse and Mark (1963) as cited in Hayes et al (2006) and Stoll and Louis (2007), suggest that the concept of PLCs is not new. Since the mid 1990s theorists and researchers have focused on shared teacher learning in a professional community and on the effect this has on learner achievement. Stoll and Louis (2007: 3)

point out that learning within the context of professional communities involves the community working together towards a common understanding of concepts and practices. Their definition of PLCs is worth noting as it explains the notion of shared learning in a professional community.

> *The term 'professional learning community' suggests that focus is not just on individual teachers' learning but on (1) professional learning; (2) within the context of a cohesive group: (3) that focuses on collective knowledge, and (4) occurs within an ethic of interpersonal caring that permeates the life of teachers, students and school leaders* (2007: 3).

DuFour and Eaker (1998) highlight six characteristics of a PLC. Firstly, the PLC has shared understanding and a common value based on a vision and mission that reflects what the community believes and seeks to create. This forms a basis for collective, ethical decision making. The PLC, secondly, engages in collective professional inquiry. This involves continuous questioning of issues; seeking and testing new methods; reflecting on the result; and applying the ideas and information to solutions that address learners' needs. The third characteristic of the PLC is that it has basic structures of collaborative teams that share common purposes. The focus of the collaborative teams is organisational renewal and collaboration for the purpose of continuous improvement. Fourthly, members of the learning community always engage in action. They turn their aspiration into action, often develop tests; evaluate theories; and experiment with possibilities. Fifthly, the PLC is committed to continuous improvement through innovation, experimentation and celebration of their results and lastly, it is "result oriented". This implies that all initiatives adopted (i.e. shared vision, collective inquiry, collaborative teams) are subjected to ongoing monitoring and assessment. Some of the above characteristics will be discussed more fully later in this chapter.

James (2007: 33) provides a useful understanding of the PLCs as interplay between three features of a professional community: collaboration, reflective practice and focus on teaching and learning. Two of these are mentioned above. He explains that in professional communities, collaboration, reflective practice and focus on the primary task are interlinked elements of practice that work harmoniously and interdependently. Each

of these aspects is crucial and an absence of one affects the extent to which improvement of student learning outcomes is achieved. The following section highlights this interconnected relationship between collaboration, reflective practice and primary task and addresses the general contribution of each element to collaborative practice.

Collaboration is defined by James (2007: 44) as a joint working practice in a professional community that influences the primary task and reflective practice of the professional community. It widens opportunities for enhanced reflection through dialogue and discussion. This enables the professional community to focus on the primary task and to clarify work with the task in a joint working practice. Katz and Earl (2010: 31) argue that collaboration is a powerful mechanism for changing practices and ideas held by teachers especially if there is a balance between personal support and critical enquiry. Collaboration provides practice and cultural norms, which are shaped by the primary task, and framed by reflection. In the primary schools studied by Katz and Earl, for example, collaboration of all adult members shaped the way in which similar standards of practice were set, and influenced how the staff reflected on working together. (James, 2007: 33). Collaboration therefore provides understanding of the significance of the task to the group.

Collaboration is also linked to distributed leadership. Mayrowetz (2008: 431) argues that collaboration fosters collective capacity building by having multiple people engaged in leadership. Timperley (2005:417) suggests that focus on distributed leadership should be placed on the quality of leadership activities that help teachers provide more effective instruction to their students. One example of this is team meetings.

An integral element of collaborative practice is reflective practice. The role of reflective practices in collaboration relates to both the primary task, and to the practice of collaboration (James, 2007: 35). The primary task and main goal of schooling, according to Hayes et al, (2006); Christie and Lingard (2000: 15); and Katz and Earl (2010) is to maintain focus on learning as the substantive work. These authors suggest that a focus on learning has more direct impact on the practices of teachers in learning communities.

This, they suggest is especially the case when the focus is concrete, practical, contextualised and challenging. This enables teachers to conceptualise, to 'unlearn' or to make changes to their existing practices and structures.

James (2007: 35) argues that such reflective practice enables professionals to manage diverse and distinctive contexts by reflecting *on* and *in* action in order to learn from current actions and to improve future practice. Reflecting 'in' action enables the professionals in the community to optimise their current practice and their efforts to improve future practice. Reflection 'on' action on the other hand enables them to evaluate their current practice in order to improve future practice (James, 2007: 35). The evaluation of current practice improves future practice while at the same time enabling them to learn from current practice. Reflection both in and on action facilitates more purposeful and meaningful action in a group (James, 2007: 35). The group's reflective engagement with their improved practices enables them to identify their individual and collective development needs.

The need in collaborative practice to focus on the primary task refers to the task that an organisation performs to survive (James, 2007: 34) which, in the case of schools is the task of teaching and learning. In collaborative practice, the primary task provides the rationale for collaboration and gives purpose to the process of reflective practice (James, 2007: 35). It outlines priorities or defines what has to be done now and in the future to maintain the primary task of the organization.

The different elements of collaborative practice discussed above not only influence how the professional community works together but reflect the extent to which the community is motivated to work jointly towards a shared vision of practice. This refers especially to when the focus of the community is on the meaningful primary task of teaching and learning (James 2007: 36).

Lave and Wenger, and Wenger as cited in Hayes et al (2006) notion of 'communities of practice' provides another way of looking at the concept of PLC as a formal and informal

practice. Their view of informal practice is that professional learning exists as an informal context of shared work where teachers engage with colleagues in day to day work practice. In other words, professional learning occurs as teachers actively participate in social and cultural activities of their communities, in which they make sense of their experiences and give meaning to what they do. The learning particularly occurs when leadership has been distributed to multiple people and tasks. This gives teachers opportunities to work within many communities of practice and informal groupings in which they can learn informally and continuously. The argument of these authors is that professional learning is something that happens between people when they engage in common activities and therefore cannot be imposed or formally designed. However schools can build learning communities by providing time for professional exchange as part of the school day. Furthermore, schools can build structural and cultural conditions for shared norms and values (Hayes et al 2006: 190).

Hargreaves refers to the notion of contrived collegiality. This describes the problems that can occur when shared norms and values are imposed on teachers or are used as forms of control. Contrived collegiality, according to Hargreaves, is

> *…collaboration imposed from above about what to plan or learn, with whom to plan and learn it, and where and when to undertake the planning and learning. Contrived collegiality is more than a scaffold of structures and expectations that promotes and supports collaboration. It is a prison of micromanagement that constrains it* (2003: 130).

Hargreaves suggests that contrived collegiality neglects and undermines the opportunities for teachers to take their lead in initiatives, to share learning and to engage in collective reflection.

The concept of PLCs therefore refers to shared teacher learning and reflection that is focused on improvement of learner achievement. The shared teacher learning generates diverse mechanism of working collaboratively, and involves processes that are used by school leadership to create and develop PLCs. The following section discusses the processes that focus more directly on teaching and learning practices.

PROCESSES OF CREATING AND DEVELOPING A PLC

Managing formal structures

'Schools are bounded by structures shaping their capacity to create and develop a professional learning community' (Bolam et al. 2005:19). The key question is what are these school structures that enable teachers to collaborate, and how do they facilitate a culture of learning in a professional community? Stoll (1999) highlights the interconnectedness between structures and culture and the extent to which structures affect the culture. Stoll's focus is on the structure of time, space, role and responsibility and how they operate within a culture of interaction between teachers. She gives the example of how a school that values a culture of collegiality among teachers would schedule time during the day for teachers to meet. Her view is that timetable as a structure provides opportunity for teachers to collaborate.

Bolam et al (2005) agree with Stoll (1999) that timetabling may be used to ensure that teachers work collaboratively on planning, training, work preparation and on professional development activities. They also suggest that timetabling and provision of space for collaboration are equally important in providing opportunities for professional exchange. Timetabling refers to how the school plans and organises the timetable for learning within the school (Bolam et al 2005: 20). The planning of the timetable involves locating a place for teachers to meet on a regular basis to discuss and talk about their work. The opportunities for professional exchange are facilitated by physical proximity, for example, teachers in the department having neighboring classroom and interdependent teaching roles (Bolam et al 2005: 20).

DuFuor and Eaker (1998: 130) describe another feature that facilitates collaboration between teachers, namely the *structure* of collaborative teams. They argue that for collaborative teams to be effective in a school four prerequisites have to be met. These include building time for collaboration into the school day; making the purpose of collaboration explicit and providing structures to facilitate collaboration. Lastly, teachers

have to accept their individual and collective responsibility of working together as professional colleagues.

Collaboration implies that structures reflect distributed leadership. Spillane, Halverson, and Diamond (2004) argue that distributed leadership is best understood as activities and practices stretched over the schools' social and situational contexts like organisational structures. Because structures influence the social interaction of multiple people, distributed leadership is understood as leadership practice that fosters collaboration through structures. Timperley (2005: 417) argues that the way in which structures are constructed shapes different social interaction and outcomes. Supovitz, Sirinides and May (2009) give examples of structures that reflect distributed leadership practice, and how the structures shape the way in which teachers influence each other. They indicate that the structures of collaborative interaction at faculty level around teaching and learning and instructional advice networks shape teachers' ability to work collaboratively. This serves also to influence teachers' instructional practices in the classroom and enhances achievement of student learning.

The literature on school improvement suggests that restructuring is key to changing the school into a PLC. Fullan (1995) defines restructuring as change in the structures, roles and related formal elements of the school to promote professional communities. However structures can also impede the process of developing PLCs if, as Fullan suggests, the key drive to change is not focused on developing a professional community for the purpose improving the school (Fullan, 2000: 582). Fullan suggests that creating structures with a deliberate purpose of forcing teachers to work as a team may be unproductive and that therefore schools should create opportunities, rather than structures, for teachers to work together in learner-centred communities.

Managing formal structures is not sufficient in itself if teachers do not focus on the key issue of improvement of learner achievement. The literature suggests two strategies that directly influence improvement of teaching practices and students' learning outcomes. Writers such as Fullan (1995), DuFour and Eaker (1998), Marnewick (2002) Robbin and

Alvy (2004) and Halverson (2007) hold that improvement of teaching practices and learner outcomes relies specifically on the use of diagnostic assessments, and on conversations on how to improve teaching and learning.

Diagnostic assessments

Diagnostic assessments involve the use of test data to inform teachers what to teach and how to teach as well as the kind of modification required in order to meet the needs of their learners. Fullan (1995) presents the view that PLCs impact on learner achievement through student assessment. According to this view, teachers' require capacity in assessment literacy which means being able to interpret data on learners' performance. Of equal importance is the capacity of teachers to develop action plans to alter their instructional practices in order to improve learner achievement.

DuFour and Eaker (1998: 152) propose three processes through which teachers can become literate in assessment skills. First, by working collectively to identify and work towards desired outcomes. This should be aligned with meaningful curriculum standards. Second, by developing collaborative strategies that would enable teachers to achieve their goals. This involves developing consensus by collaboratively determining what learners need to know. The third procedure involves creating systems to assess student learning. The benefit of creating such systems is that teachers are provided with opportunities to work together to identify students' needs. This can be achieved through disaggregating and searching for group and individual trends and patterns of learner achievement (Robbin and Alvy 2004: 102). Through discussing emerging trends and patterns teachers are able to produce criteria with which to assess the patterns. Criteria used may be diverse and context specific and may include gender, ethnicity, student mobility, drop-out rate, subject proficiency and teacher experience ((Robbin and Alvy 2004: 102). The kinds of criteria which teachers identify to judge students needs must address individual needs or group needs. However use of diagnostic assessment has limitations especially when the testing data is used to track or rank students in order to place them in differentiated

academic or vocational programmes that may either optimise or limit the possibility of learning (Robbin and Alvy 2004: 103).

In short, use of diagnostic assessment may be identified as the first step towards improvement of learner achievement as the use of the test data provides teachers with opportunities to identify and specify learners' needs. The test data also informs teachers on what and how to teach. Closely linked to this is the need for discussion or conversion about how to teach with the purpose of improving teaching and learning.

Discussions regarding how to improve teaching

Halverson (2007) argues that improvement of learners' achievement is attained through professional learning processes of discussions relating to how to improve teaching and learning. In a study conducted to examine how school leaders in three schools in USA used artifacts (such as daily schedules and meeting agendas) to structure professional communities, Halverson found that despite the different artifacts and procedures used in these schools in developing professional communities, teachers in all the schools shared one thing in common. They focused on discussing how to improve their instructional practices. This influenced how the professional communities developed and increased learner achievement.

Marneweck (2004) suggests that strong professional learning communities do not only imply shared norms and values, deprivatised practices and reflective dialogue around student learning. They also entail sharing subject content knowledge and pedagogical knowledge in order to enhance understanding of teachers' individual actions in classroom practices. The sharing of pedagogical knowledge and subject content knowledge in a professional community is facilitated by opportunities for professional development, as will be discussed in the following section.

Teacher professional development practices

Teacher professional development is essential in order to ensure that teachers have the necessary knowledge, skills and dispositions for improvement of classroom practices. Sustained professional development is maintained by providing teachers with opportunities to learn both informally and formally within and outside the school.

Bolam et al (2005) suggest that PLCs promote and sustain teacher's knowledge, skills and understanding through continuous professional development. Their view is that continuous professional development is achieved by providing teachers with opportunities to develop professionally in both formal and informal learning environments. Formal learning opportunities can involve in-service courses, workshops or formal programmes such as induction programes offered outside the school or initiatives offered within the school (Bolam et al 2005: 12). Informal learning, on the other hand, occurs through day to-day work with colleagues in the school context, example of which include joint planning or teamwork; problem solving and involvement in creative activities (Bolam et al 2005: 12). Informal learning is particularly beneficial when focus is placed on context-based learning and on reflective practice (Bolam et al 2005: 12) as this type of learning involves working with real, context-based problems and solutions. This develops collective knowledge and commitment of teachers which promotes confidence and morale.

Hayes et al (2006:196) agree with Bolam et al. (2005) that providing teachers with opportunities within and outside the school promotes teacher capacity building. They also indicate, however, that providing teachers with opportunities for formal learning and informal interaction within the school does not necessarily guarantee that learning will take place. They suggest that in addition to providing opportunities for learning, there is need for teachers to be expected to work with each other and to have a sense of shared responsibility for student learning. This can be achieved in part by developing internal accountability systems based on learning outcomes.

In summary, teachers' professional development requires support from within and outside the school in terms of formal and informal learning opportunities for teachers. This would increase their pedagogical skills as well as the knowledge required to improve learner performance.

Leading professional learning communities

In order for the building of PLCs to be effective, as reflected in the above processes, school leaders need to be involved. The literature on leadership and management and professional learning communities suggest that professional learning is enabled by school leaders in two main ways. School leaders firstly, have a direct influence on teachers in terms of collaboration around teaching and learning and therefore impact strongly on the development of PLCs in the school (Robbin and Alvy, 2004: 78). They also influence collaboration by developing management structures and processes in the school that support the central purpose and substantive work of teaching and learning (Hayes et al 2006: 200).

DuFuor and Eaker (1998) agree with Robbin and Alvy that talking or communicating with teachers has an effect on collaborative learning. However they suggest that communication alone is not sufficient in influencing learning. Providing evidence of learning through positive modeling has greater impact on sustaining the learning. They argue that leaders of learning communities establish credibility by modeling their behaviour, attitude and commitment to learning by engaging teachers in collaborative decision-making and demonstrating the characteristics of working collaboratively. Bolam et al (2005: 16) emphasise that leadership of PLCs creates a learning culture by ensuring learning at all levels, by promoting and modeling enquiry and by addressing interpersonal dynamics. This suggests that school leaders have the responsibility of leading the process of learning in schools by engaging in strategies such as modeling, professional dialogue and discussion. (Hayes et al, 2006: 201). These strategies require that school leaders have high levels of knowledge and understanding of curriculum and pedagogy as well as student and adult learning (Southworth, 2002).

The acknowledgement of teachers by management, through formal celebration or incentives as well as by informal recognition in public, is an additional ways in which leaders can promote PLCs. DuFour and Eaker (1998: 141) argue that celebrations, rituals and ceremonies conducted in school create a culture of teaching and learning. Benefits of celebrating individual or collective accomplishment are that the recipients feel appreciated, and other staff members are provided with models of positive behaviour. This motivates them to give of their best to their task and to sustain their efforts. Celebrations furthermore act as reminders and 'reinforcers' of the important values of the school and, according to Robbin and Alvy (2004: 78) enhance collaborative learning.

In a study conducted in a number of schools in South African, Christie et al (2007) conclude that an organisational culture of acknowledging success had an impact on the achievement in the Senior Certificate examination. They found that where principals and school management teams publicly acknowledged good practice, teachers worked hard and took responsibility for student learning. This in return had a positive impact on the overall improvement of teaching and learning in these schools.

DuFour and Eaker (1998: 14) state however that public recognition and formal celebrations can also inhibit the development of a PLC especially when the acknowledgement is not directed towards celebrating a learning community. They suggest that recognition of individual teachers that takes place privately is ineffective in shaping a culture of learning. Furthermore, public recommendation of some teachers may negatively affect the learning culture especially if the recognition is perceived as favouritism rather than reinforcement of hard work. They suggest that communal celebration of all teachers is more effective than individual recognition.

The second way in which principals impact positively on PLCs is by distributing leadership to multiple people and tasks (Hayes et al 2006). Their view is that distributed leadership fosters collaboration by constructing meaning and knowledge collectively. Bolam et al (2005: 17) suggest that in many professional learning communities, the

principal works with teachers in joint enquiries, and provide opportunities for teachers to assume a range of leadership roles that relate to facilitating change in teaching and learning.

Supovitz, Sirinides and May (2009) survey on principals' and peer teachers' impact on instructional practice and student learning in mid-sized urban schools in USA found that principals have both direct and indirect influence on student learning through teacher instructions. The principals directly influence teachers' instructions through collaboration and communication with teachers around instructional practices. They also indirectly foster a climate of instructional collaboration by developing structure that fosters collaboration.

In summary, establishing and maintaining a PLC requires professional knowledge, positive modeling and acknowledging teachers' efforts. As such this process cannot be spontaneous but must be effectively led, managed and coordinated. In a broader sense, educational leadership is about influencing others while simultaneously managing structures and processes that create and sustain PLCs.

CONCEPTUAL FRAMEWORK

This conceptual frame sets out the concept of PLCs that has been derived from the literature review within this study. The literature suggests that, PLCs can be understood from within three broader categories of practices, namely structural arrangements, leadership and management and teacher development practices. These categories are seen to impact on the development of a PLC. The understanding of leadership and management that emerges from this literature review is that it determines the extent to which PLCs are developed at the school.

The purpose of this study therefore, is to examine how the three categories of practices identified here shape the degree to which PLCs are nurtured. The literature suggests PLCs are nurtured in schools in which structured time and space is allowed for teachers

to meet regularly in order to focus on pedagogical support activities. Secondly, school leaders support a culture of learning by involving others in leadership roles and responsibilities, positively modeling and acknowledging teachers. Thirdly, opportunities for teacher professional development are essential in order for teachers to learn from each other and to learn from outsiders to increase their knowledge and skills to improve learner achievement.

This conceptual framework guides the study in examining the extent to which leadership and management practice impact on the development of PLCs. The next chapter addresses the research methods and procedures used in this study.

CHAPTER 3: RESEARCH DESIGN

The aim of this study is to examine PLCs with regard to leadership and management practices in two high schools in Cape Town. Specifically, I examine the degree to which leadership and management practices in each school nurture PLCs. This includes investigating the interrelatedness between the leadership and management practices and collaborative learning practices of teachers, and the complexities that underlie PLCs. For this reason I have chosen to use a case study approach in order to analyse and compare the practices in the two schools.

A CASE STUDY APPROACH

A case study is an investigation in considerable depth of single or multiple phenomena within their real life context (Gomm, Hammersley and Foster, 2000: 3). The in-depth investigation describes the interaction of significant factors that relate to the phenomena in order to holistically describe them (Yin 1994: 13). In this study the phenomena investigated are the leadership and management practices that influence professional learning in a community and the effects of these practices on the organisation of the school as a learning community. The following three reasons demonstrate my preference for using a case study approach in this study. First, a case study is best suited where the phenomena investigated cannot be separated from the context. The phenomena examined in this study incorporate leadership and management practices within a school context. The second reason for using case study methodology is that these phenomena are not only contextually embedded but also directly related to other contextual changes that emerge from a real life context.

A case study, offers researchers opportunities for a full perspective of what is happening in a real life context (Yin 1994: 13). Case study involves situations in which real life events are not controlled, and where the uniqueness of the case is captured. In this study the case study approach is useful in helping to understand the interrelatedness of organisational elements of the school and the informal collaborative practices of teachers

in context. Thirdly, a case study allows for use of multiple sources of evidences which helps to approach the research from different angles thus enhancing the research quality in terms of both accuracy of the findings and conclusions. Use of multiple sources also helps to eliminate bias that may arise as a result of using a single source of information.

SELECTION OF SCHOOLS

The criteria for selection of the two schools in this study were as follows:

1. They must be similar with regard to the socio-economic background of the learners. Learners' parents' employment was taken as an indicator of this.
2. They must be similar with regard the social character of the school. Teacher qualifications were taken as an indicator of this.
3. They must be different with regard to learner achievement. Learners' results in the grade twelve external science examinations were taken as an indicator for this.

Social background of learners

In order to describe the demographic and achievement profiles of the two schools, I conducted a survey of all grade twelve learners and one grade eleven class at each school who do science as a subject. At Bidii High, 127 learners responded to the survey and at Kawaida School, 126 learners responded. The surveys were conducted by me, with the assistance of the teachers, when the learners were in class.

Learners from both Bidii High and Kawaida High are drawn from a working class background. I use the term working class to refer to learners whose parents are employed in lower tier jobs as measured by skills, education and compensation (Bennett et al., 2009).

On the whole, the great majority of parents of learners at both schools do not have post school qualifications. At Bidii High, 42% of fathers and 10% of mothers are not living at

home (often deceased). 47% of fathers and 74% of mothers do not have qualifications above grade twelve. At Kawaida High 34% of fathers and 15% of mothers do not live at home (and are also often deceased); 54% of fathers and 85% of mothers do not have academic qualifications above grade twelve.

Similarly, the majority of parents of learners at both schools are unemployed or in unskilled employment. 94 (i.e. 57%) of 164 parents at Bidii High (excluding those who are unknown or deceased) are unemployed or in unskilled employment. At Kawaida High, 131 (84%) of 156 of parents (excluding those who are unknown or deceased) are unemployed or in unskilled employment. Jobs classified as unskilled included cleaner, domestic worker, petrol pump attendant, caretaker, construction worker, security guard and hawker.

Teacher qualifications

In general, teachers at the two schools have similar qualifications. With one exception at each school, all teachers in the Science Departments have degrees with major subjects in relevant science related subjects. One teacher in each school has an education diploma incorporating science teaching subjects.

All four teachers in the Science Department at Kawaida, and four of the eight teachers in the Science Department at Bidii, have additional professional qualifications. Four of the teachers at Bidii do not have additional professional qualifications. However, as Bidii is the higher performing school, this difference is unlikely to explain the higher learner achievement at this school.

Learner achievement

Neither Bidii High nor Kawaida High perform exceptionally well in the grade twelve external examinations. However, the performance of Bidii is better than that of Kawaida.

Table 1: 2008 and 2009 Physical Science Grade Twelve External Examination results

Year	*Bidii High School (%) pass*	*Kawaida High School (%) pass*
2008	48	***38***
2009	***30***	***16***

The difference between the two schools is much greater when we consider the distribution of grades at each school. At Bidii School 21 out 63 learners achieved above 50% in physical science in 2008 compared to 6 out of 52 learners who achieved above 50% at Kawaida School.

When this study was initiated, the researcher was given information which indicated that results at Bidii High were substantially better than those reflected above. When the study was close to completion the researcher discovered that the information had been incorrect, and that the difference was not as great as initially suggested. However, the difference was still great enough to justify the completion of the study. In the end, it was of great interest to establish whether even the degree of difference in results was associated with identifiable differences in leadership and management practices

DATA COLLECTION

A range of data collection strategies were used in this study. Data collection included observation of formal and informal meetings and interviews with the principals, heads of mathematics and teachers in the Physical Science Department. In addition staff meeting minutes were read. Multiple data sources were used to help triangulate data to enhance validity.

Observations

Teachers were observed as they interacted informally in the staff room and along the classroom corridors. This took place over a period of five days starting from eight o'clock in the morning and ending at two o'clock in the afternoon. The purpose of this was to observe firstly whether teachers interacted as subject members or across the subject groups and secondly to ascertain the focus of their discussion during these interactions - whether their discussions related to what to teach, how to teach or how to assess learning.

The choice of what formal meetings to observe was opportunistic. In both schools all formal staff meetings and departmental meetings with the exception of the staff briefings held during that term (i.e. third term 2009) were observed. There was a slight difference between the kinds of formal meetings that were observed in the two schools. At Kawaida High department meetings were observed while at Bidii High, School Management Team (SMT) meetings were observed as these were the only meetings that took place during the study-period. In addition, two staff briefings in each school were observed, the purpose of which was to observe the formal structuring of the meetings, what teachers discussed in terms of teaching and learning and how decisions were made with regard to collective contribution (see appendix 2 for a sample schedule).

Interviews

Selection of respondents

The original intention was to interview all teachers in the Science Department at each school. However, at Kawaida High the life science teachers were not interviewed. This was as a result of them being unavailable and unwilling to be interviewed at the appointed times during the three weeks that the interviews took place. Ultimately, three teachers were interviewed at Kawaida High while at Bidii High five teachers were interviewed. The criterion for teachers to participate was that they belonged to the same

department. The heads of the Mathematics and Physical Science Department (HoD) and the principals at both schools were also interviewed.

The unwillingness of some of the teachers at Kawaida High to be interviewed is in itself relevant to the research question. This response was indicative of there being less willingness to participate in activities approved by the school leadership at Kawaida School than was the ease at Bidii High. At Bidii High, participation in the research was seen as part of a broader participation in school and professional development activities.

The focus of the interviews was on professional learning communities with regard to three aspects: (i) organisational arrangements of the school; (ii); leadership and management practices and (iii) teacher development practices. First teachers were asked about the structural arrangements (i.e. the committees) of the school. This question related to what committees existed at the school, department and subject levels; how frequently the committees at each level met; and the focus of discussion at each level with regard to teaching and learning, and improving instructional practices.

Secondly, participants were asked about the leadership and management practices with respect to practices of acknowledgement of teachers and positive role modeling. Specifically they were asked whether the principal and the HoD (department of science) positively modeled, and if so, the ways in which they modeled and whether the positive modeling motivated them to work collaboratively towards shared learning and teaching. They were also asked whether the principal acknowledged teachers, and if so, the ways in which this was done and whether the acknowledgement motivated them to work collaboratively in teaching and learning activities.

Lastly, teachers were asked about teacher development practices both within and outside the school. Specifically they were asked whether there were opportunities for professional development of teachers as individuals or as groups at the school and at department levels (i.e. opportunities to attend in-service courses offered outside the

school and formal programmes or courses within the school). They were also asked about the focus of the professional development in terms of pedagogical support activities

The HoD and principals were asked the same questions as above. In addition they were asked about their roles and responsibilities as heads of departments and the school respectively. Questions focused on delegation of leadership roles and responsibilities to teachers as a way of enhancing collective leadership.

Document analysis

Ten documents pertaining to agendas and minutes of general staff and department meetings (i. e. in the Science Department) were examined. The purpose of using these documents was to substantiate and validate evidence from other sources. The documents also provided additional background information and were useful in examining events that were not observable, such as meeting that had taken place prior to the research period.

DATA PRESENTATION

This section describes transcription of interview data and processes of analysing the data.

Data transcription process

The transcription of the tape recorded interview data was followed by the cleaning of the transcribed data. This involved listening again to the taped interviews to ensure that responses were written down accurately. Finally the transcribed data was printed and bound. Other sources of data, namely the observation data and documents were compiled together with the transcribed interview data in preparation for analysis.

Data analysis

In analysing the data I used Yin's (1994) general analytic strategy. This strategy requires that the researcher define the priority for what to analyse and the reasons for analysis (Yin, 1994: 102). In this study I made decisions regarding what to analyse and why to analyse it on the basis of the theoretical framework. The rationale for using the theoretical framework was that it was grounded in the literature review; it provided new insights to the study and it guided the data collection.

Yin (2009: 130) describes two steps that are followed in analysing data using the theoretical framework that I used in this study. The first step involved developing the analytic framework by translating the theoretical framework into organisational themes for analysing the data. These organisational themes formed the main headings of the data analysis. The main themes were further subdivided into subheading that comprised set of questions under each main heading. Secondly the empirical instances from the data were sorted according to the designated headings and subheadings. The above processes of analysing the data helped me to focus on certain data so as to organise the study to reflect the individual narrative of both schools. This was necessary in order to describe the uniqueness of leadership and management practices that were linked to specific professional learning communities. Furthermore this enabled me to define and examine alternative explanations.

GENERALISABILITY, RELIABILITY AND VALIDITY

Generalisability

This study has aimed to build theory about how the leadership and management practices of the schools in terms of structure, acknowledgement of teachers, role modeling and learning activities shape PLCs within the schools by using a double case study. The case study relies on analytical generalisation to develop the theory of PLCs. The objective of analytical generalization is to generalise a particular set of results to a broader theory

(Yin 2009:43). In this case the results of the study will be generalised to the broader theory of PLCs.

Reliability

The reliability of the study is based on the use of multiple data sets derived from observations, document analyses and interviews. The interview data has been collected from multiple sources namely, teachers, the head of Mathematics and Physical Science departments and the principal. The observation data was also collected from multiple sources, from formal and informal meetings.

Validity

There are two categories of validity suggested by Maxwell (1992) which have been used to guide this study: descriptive and theoretical validity. Descriptive validity addresses the issue of factual accuracy of the account (Maxwell, 1992: 285). In this study, the factual accuracy of accounts of interviews was addressed by tape recording all interviews with the teachers, the heads of departments and the principals. Different sources such as observation, interviews and document analysis were used to provide a wide range of data. Attempts were made to describe events.

Theoretical validity is defined in terms of appropriacy and interpretation of constructs that researchers bring to, or develop in the course of the study. The concern in this study is whether the methodology of case study is suitable for the research question or whether it is valid in developing theory relating to the questions. In this study the literature was used to foreground the focus of the questions and to relate the questions to particular theoretical explanations or constructs. The explanations guided the data collection and data analysis.

Apart from descriptive and theoretical validity, I also realised that the language of communication was a threat to validity in terms of interpreting the conversation between

teachers as they interacted informally. Although the language of instruction for schools is English, with which I am familiar, teachers in both schools often communicated in isiXhosa which I do not speak. For this reason, I recruited a research assistant who would help with translation where required.

RESEARCH ETHICS

The first step in collecting data from schools is to apply for permission from the Western Cape Education Department (WCED). I obtained permission through the Mathematics and Science Education Project (MSEP), a partnership project between the University of Cape Town (UCT) and the WCED that was spear-headed by the Schools Development Unit (SDU) at UCT. I had previously worked at SDU as part of a different project but with the same group of people involved in the MSEP project. This facilitated the process, making it easier for me to link my research to the project. The project manager and some of the project members helped me to select schools for my study. I also had the opportunity to accompany the project team to the schools during which I was introduced to the principals. This afforded me the opportunity to introduce the purpose of my research study to my research subjects and answer any questions they had concerning the data I was to collect from them.

Ethical consideration

Pendlebury and Enslin (2001) raise pertinent questions regarding trust and confidentiality in education research. They point out that trust and confidentiality are attained by researchers giving the participants options and choices to participate in the research. Participants must be assured of confidentiality with respect to the information given.

With regard to the above ethical issues two strategies were adopted in this study. I obtained consent from each respondent before I collected data from them. Similarly I obtained consent to record their responses with the use of a tape-recorder. In addition to participation being voluntary, each participant was assured, at the beginning of the interview, that their names and the names of the school would remain confidential. In this

regard pseudonyms were used to refer to the respondents' names and the names of their schools.

ANALYTIC FRAME WORK

The analytic framework for this study comprises a set of questions that have been constructed by using an iterative approach. The conceptual framework is linked to the data and has helped define the categories for analysing the data. The conceptual framework thus provided the initial groundwork that informed the data collection. In general PLC's have been examined in terms of structural arrangements (or committees), leadership and management practices and teacher professional development practices at the levels of the school, department and subject. The sets of questions and categories listed below comprise the main headings while the questions reflect the sub-headings used for the analysis of the data.

Structural arrangements

This study examines structural arrangements at the schools, specifically committees that provide opportunities for working and learning collaboratively. Collaborative learning is associated with existing committees, availability of time and space to meet; frequency of the meetings; and the focus of discussions in the committee meetings with regard to pedagogical support activities. This term will be defined later in this chapter. The following questions guide the analyses in relation to structural arrangements:

1. What committees exist at the school, at department and subject levels?
2. Do committees have regular times and an allocated space for meeting?

A third set of questions relating to the focus of the committees' discussion will be presented under the sub-title 'leadership and management practices'.

Leadership and management practices

The study focuses on leadership and management practices of role modeling; acknowledgement of teachers and communication with teachers with regard to pedagogical support activities. These leadership practices relate to positive role modeling by the principal and the HoD in terms of talking with teachers and engaging them in reflective learning; the acknowledgement of teachers by the principal or SMT both formally and informally and participation of teachers in decision-making. The following questions have been used to guide the analysis in relation to leadership and management practices.

Role modeling

1. To what extent are the principal and the HoD's in the departments of Mathematics and Science positive role models?
2. In what ways do they model positively?
3. How do teachers feel about the role modeling with respect to motivation to learn collaboratively at the school and department levels?

Acknowledgment of teachers

1. To what extent does the principal or SMT acknowledge teachers?
2. In what ways do the principal or SMT acknowledge teachers?
3. How do teachers feel about the acknowledgement with respect to motivation, support and encouragement to work as a team?

Participation of teachers in decision-making processes and the focus of discussion with regard to pedagogical support activities

1. To what extent do teachers participate in decision-making processes at the school, at department and at subject level meetings?

2. What is the focus of the discussions in these meetings with regard to pedagogical support activities?

Teacher development practices

This study examines teacher development practices in schools in relation to both formal and informal opportunities within and outside the school. Opportunities for professional learning relate to those instances that enhance teachers' subject content knowledge and pedagogical knowledge in order to improve teacher learning. The following questions guide the analysis with respect to teacher development activities.

1. What opportunities exist for teachers' professional development within the school (at school, department and subject level) and outside the school?
2. Describe the opportunities in terms of formal and informal collaborative learning.
3. What is the focus of the professional development activities with regard to developing teachers' pedagogical skills and subject content knowledge?

The next chapter will present the analysis of the data which was collected through interviews, observation and document analysis.

CHAPTER 4: DATA PRESENTATION

Introduction

This chapter presents the analysis of a double case study involving the comparison of teacher practices at two schools. The question that guides the study relates to whether there is a difference between the kinds of PLCs in two schools that draw learners from similar socio-economic backgrounds. Of the two schools, the one may be classified as better performing while the other is a less well performing school. The study explores how PLCs are shaped by structural arrangements; leadership practices including role modeling and acknowledgement of teachers; and teacher professional development activities.

The analysis of the data is organised into three levels: school, department and subject. Subject level refers to the interaction between teachers in subject areas. The data is presented in three main categories at each level. The first category looks at structural arrangements with regard to the existing committees, and the time and space for the regular meetings. The second category looks at four leadership and management practices: positive role modeling, acknowledgement of teachers; their participation in decision-making processes and the focus of discussions in meetings with regard to pedagogic support activities. The third category deals with opportunities for formal and informal collaborative professional learning for teachers within and outside the school.

The data has been presented separately for each of the schools. The analysis of the data relating to the better performing school (Bidii high school) is presented first after which analysis of data relating to the lesser performing school (Kawaida High school) is presented.

CASE STUDY 1: BIDII HIGH SCHOOL

This section explores the structural arrangements, leadership and management practices and teacher professional development activities at this school at both department and subject level.

School level

Structural arrangements at the school level

At the school level there are two sets of structural arrangements or committees,

(a) committees that are concerned with school-based activities, and
(b) committees that are concerned more directly with pedagogical support activities

School-based activities refer to those activities in which focus is placed on the discussion of issues such as finances, school development, sports or discipline – in other words, those issues which do not pertain directly to teaching and learning. Pedagogical support activities, on the other hand, imply a more direct focus on discussion of teaching and learning.

The pedagogical support activities are categorised in this study at two levels: Level One focuses on 'pedagogical form issues' and Level Two focuses on pedagogical processes. Pedagogical form issues refer firstly to discussions that focus on what needs to be done to organise teaching and learning. This includes discussion pertaining to coverage of sylabus, results or when to assess learners. Pedagogical processes on the other hand refer to discussions that focus on *how* teaching takes place with a view to improving teaching and learning performance.

Committees dealing with school-based activities

There are seven committees at the school level that deal with contextual school activities. These include the School Feeding Programme Committee (SFPC), Project Committee, Entertainment Committee, Bereavement Committee, Disciplinary Committee, Safety and Security Committee and School Governing Body (SGB). While some of these committees have evolved from the initiatives of teachers and other members of the school community, other committees are mandatory. Each committee deals with certain issues that are specific to the school context for example the Bereavement Committee and Entertainment Committees address issues relating to teachers' welfare. The Safety and Security Committee, School Feeding Programme Committee and the Project Committee deal with different developments at the school while the Disciplinary Committee addresses learners' behavior. The SGB deals with management and governance of the school.

Committees dealing with pedagogical support activities

Six of the committees are more directly concerned with pedagogical support activities namely, the School Management Team (SMT), Education Support Team (EST), Support Development Groups (SDG), Education Policy Committee, Staff Committee and Department Committee. Three of the committees, the SMT, EST and SDG are mandatory in all secondary schools in the Western Cape Province.

The role and responsibilities of these committees vary. The EST deals with issues of learning difficulties by identifying the learning problems and developing appropriate strategies to address these problems. The SMT (which comprises the principal, deputy principal(s) and the HoDs) addresses problems encountered in the school and makes decisions as noted by the principal. The role of the SDG committee is related to Integrated Quality Management System (IQMS) evaluation. IQMS is a mandatory initiative in all schools to improve the quality of education through performance evaluation, appraisal and whole school evaluation. The SDG committee deals with

complaints about unfair evaluations by their colleagues in the IQMS evaluation. The staff and department committees are more concerned with the daily management of the school specifically in relation to teaching practice.

Six out of the thirteen committees at Bidii High have been established in response to a department mandate. The remaining seven committees have grown in response to teachers' needs to collaborate either on pedagogical support activities or school-based activities. The existence of these non-mandatory committees suggests that some effort has been made to extend collaborative activities.

Time, space and frequency of meetings

There are two committees at Bidii School that bring the whole staff together regularly but infrequently, namely the general staff meeting and the whole staff briefing. The general staff meeting is held once per term while the staff briefings take place twice every week. One of the teachers discusses the frequency of the meetings:

> *Teacher 3: We meet once or twice per term as a whole staff. We also meet twice every week for staff briefings.*

Another teacher discusses the frequency of meetings and the nature of the meetings

> *Teacher 5: We met twice last term but normally we meet once per term. Last term we had to meet again because of some issues which were coming up that needed to be sorted out, but normally we have morning briefing whereby we are informed about school activities.*

The briefings, for which there is a structured timetable, are normally short and their content is often focused on administrative information. The principal plans when the staff meeting will be held and the agenda of the meetings. He then informs the teachers of the date and the agenda of the meeting in advance to allow teachers to prepare for the

meeting. Items for the agenda are also derived from the teachers. Both the general staff meetings and staff briefings are held in a room occupied by teachers who are on teaching practice. The room has an open plan structure with no fixed seating arrangement for the teachers. This enables easier interaction and discussion across subject areas during the meetings. The actual content of the meeting will be discussed below under 'participation in discussion and decision-making processes'.

Generally at the school level, times for staff meetings and staff briefings are structured. Meetings are prearranged and regular but not frequent. The staff committee meets only once per term, which allows opportunity for collaboration between teachers.

Leadership and management practices at school level

This section focuses on leadership practices of role modeling, acknowledgement of teachers, and participation of teachers in discussion and decision-making processes at the school level. These three practices have been highlighted in the literature as practices that develop a culture of teaching and learning.

The principal as role model

In order to ascertain the extent to which the principal was a role model Department of Science respondents were asked whether the principal set a good example and ways in which he set the example.

All teachers and the HoD agreed that the principal was a positive role model. The principal viewed himself as a positive role model. He defined leadership as an act of influencing others to change by first becoming a role-model. The teachers, HoD and the principal unanimously agreed on two ways in which the principal was a good role model. They reported that he was an effective time manager and that his focus was on teaching the learners.

Four out of the five teachers interviewed believed that the principal was a positive role model with regard to time management. They indicated that the principal was always punctual in the mornings and when arriving for school activities. The principal spoke about his commitment to punctuality: "*I try to be at school first and leave last in the evening*". With regard to his presence in the classroom he stated the following: "*I try to be in class all the time and in time*" and with regard to his class-work "*my work has to be finished on time'*. The principal also talked with teachers about the importance of keeping to the time allocated, as observed in one of the staff briefings where he pointed out that arriving on time for teaching instilled in learners the importance of discipline and set an example of how learners were expected to behave. The issue of punctuality in the school was of concern as most learners lived far from the school.

The Head of Department discusses how the principal manages time in the school,

> *He doesn't take any nonsense. When the bell rings and there is noise outside he goes around to check whether teachers are in classes…*

The above was evident on one occasion when I observed the principal walk into the science staffroom immediately after the bell was rung at eight o'clock in the morning. On this occasion he walked into the staffroom and inquired whether every teacher in the staff had a free lesson.

Teachers also mentioned that the principal was a good role model in that he was focused on the needs of the learners. They noted in particular that the principals' concern for learners related to how much time was spent on teaching and learning.

It can be argued from the above that the principal at Bidii High positively models professional practice by demonstrating punctuality; by talking to teachers about time management in relation to teaching and by focusing on whether learners are being taught. Although time management in the classroom does not necessarily guarantee that teaching

is taking place, it none-the-less instills discipline among learners and teachers, and reinforces the value of teaching as the main task of schooling.

Acknowledgement of teachers by the principal or SMT

Acknowledgement of teachers can be expressed in different ways, both informally or formally. In this study formal acknowledgement refers to any preplanned celebration or acknowledgement that is included as part of the agenda of a formal meeting. At Bidii High, teachers are acknowledged by the principal informally for contributing to good performance of learners. All the teachers interviewed agreed that the principal praised and thanked individual teachers who contributed to good matriculation results and other test results during staff meetings. The teachers felt acknowledged that this motivated them to work hard.

However three teachers felt that acknowledgement should take place more formally, for example at celebratory functions and that they should be rewarded with certificates, as they explain below:

> ***Interviewer: Do you think teachers are acknowledged in any way?***
>
> *Teacher 2: There is nothing formal done but for those who contribute to good performance it is announced in the staff meeting.*
>
> *Teacher 5: Sometimes the principal acknowledges those who contribute positively to the school. However, there are no formal acknowledgements.*
>
> *HoD: Anytime teachers do good things they are acknowledged. We have talked about incentives to motivate teachers but nothing has been done so far.*

The principal also mentioned that while he tried to make a point of thanking each and every teacher who contributed to good performance, there were no tangible titles of recognition such as teacher of the year.

Another teacher perceived acknowledgment by the principal as been uneven as evident in the following extract,

> *Teacher 1: Once in a while teachers are mentioned in meetings and staff briefing but not everything is acknowledge. For example I started computer lessons after school for learners and nobody acknowledged* ***(nobody here referred to the school leaders****). The issue of acknowledgement is not across the board.*

While there were no formal celebrations or incentives given to teachers to motivate them, this did not appear to affect teachers' motivation to work hard although they would have preferred formal ways of motivating them to be adopted. The interviewed teachers linked acknowledgment to motivation, hard work and learner achievement.

Participation of teachers in decision making processes at the school level

At Bidii High teachers participated in decision-making, especially with regard to decisions related to pedagogy. The principal pointed out that he used different strategies such as consensus, consultation and discussions to involve teachers in decision making. This was evident in a staff briefing where I observed the sharing of ideas, opinions and suggestions among the committee members with regard to selection of Grade 10-12 learners in specific subjects. In addition, there were specific committees in the school that were involved in making certain decisions. For example there was an Education Policy Committee comprising the HoD who is the chairperson, and a number of teachers. This committee makes decisions regarding to pedagogy as noted by the HoD below.

> *HoD: We also have various policy committees composed of teachers and HoDs who are in charge of each committee that develop certain policies like safety and*

security policy, education policy and so on. I, for example, I am in charge of developing education policy which looks at the overall teaching and assessments in the school and we make decisions at school level.

Focus of the discussions in staff meetings

At the school level, teachers met for general staff meetings to discuss issues regarding all aspects of the school, including issues that directly relate to pedagogy. Examples of issues discussed at the meetings are mentioned below by four of the interviewees.

Teacher 3: Often we discuss about learners discipline particularly the challenge of late coming of students because it affects our teaching … We also discuss learner performance because we have to maintain our results and school development because our school is poor. We have to constantly search for donors or raise funds to make up for the poor learners.

Teacher 4: During this meeting we discuss issues of how the school must be run…

Teacher 5: We often focus on assessments, learners' portfolios, and moderations of teachers.

HoD: We often focus on IQMS, school fees, late coming, class registers, maintenance, discipline measures, SMS port software for parents, internal moderation, and reports on assessment tasks.

Teachers also met as a full staff body to develop strategies to solve problems they encountered in their daily work, especially problems that directly affected pedagogy. For example, as mentioned earlier, the school has been experiencing the problem of late-coming which affected the amount of time spent teaching. In an attempt to address this problem, the staff committees proposed two recommendations that have since been

implemented. These recommendations involved the use of roll calls in the morning and detention for learners after school.

Teacher professional development activities at school level

This section focuses on whether there are formal or informal learning opportunities at the school level for teachers to develop their pedagogical skills and subject content knowledge.

Except for a motivational workshop for all teachers that was organised outside the school in early 2009, no other workshops or informal opportunities for professional development were reported at school level, at Bidii. In this particular workshop, the focus of the discussion was school development and team building, as explained by the principal.

Generally, at the school level, there are neither formal nor informal opportunities for teachers to develop their subject knowledge skills and pedagogical knowledge.

Department level

Structural arrangements at department level

This section focuses on structural arrangements, leadership and management practices and teacher development practices in the Department of Science.

Time, space, and frequency of departmental meetings

At Bidii High, there are departmental committees for all subjects, including the Department of Science which is composed of four learning areas, namely, physical science, natural science, life science and mathematics. The school policy requires each department to meet once a month to discuss coverage of the syllabus, as noted by the principal. However in practice teachers in the Department of Science did not meet every

month. They met once per term as demonstrated in the department meeting minutes and interview conversations. All the teachers interviewed and the HoD confirmed that termly meetings were held as a department which, they explained, was because they frequently met as subject groups.

There was no time-table for the Science Department meetings at Bidii High. However, the setting of dates for the meetings was done collaboratively as explained below by the HoD.

> *HoD: I consult with teachers on an appropriate date for the meeting by sending a memo for them to sign as consensus. I do not hold the meeting when more than two teachers are absent because we need their contribution.*

In the Department of Science teachers shared experiences of how they worked closely with department colleagues who had adjacent classrooms and with whom a common science staffroom was shared. The common staffroom facilitated professional exchange, particularly among subject members. In addition to these interactions in the common I observed teachers in extensive 'work talk' with subject colleagues who sat next to each other in fixed places in the staff room. However, this rigid seating arrangement limited interaction across subject areas during tea and lunch breaks, as observed.

In general, meetings in the Department of Science are prearranged and regular but infrequent. The Science Committee for example meets once per term. However, subject teachers meet more often, informally.

Leadership and management practices at the department level

This section examines leadership and management practices in the Department of Science focusing on three issues, (i) whether the HoD is a positive role model and ways in which this is demonstrated; (ii) whether teachers participate in decision-making and (iii) the focus of discussion in the meetings with regard to pedagogy.

The HoD as role model

The head of the Science Department was described as a 'good' role model, by all the teachers interviewed and by the HoD himself. Teachers and the HoD justified this by saying that he distributed leadership, worked jointly with teachers to plan and organise extra teaching lessons for the science learners and that he supported teachers emotionally and in their work.

Two teachers discussed positive modeling of the HoD with regard to distributing leadership:

> *Teacher 3: He delegates leadership which offers teachers opportunities to learn, I always grab the opportunity…*
>
> *Teacher 5: and he is a team player, he involves others to lead with him. For example we have subject heads for each learning area in the department.*

Four of the teachers interviewed described the HoD as being a good role model with regard to working jointly with teachers in planning for extra teaching lessons. The planning involved preparing time-tables for the extra teaching classes in the mornings before school, in the afternoons, in the evenings and on weekends.

Two other teachers discuss the support of teachers as another way in which the HoD displays positive modeling.

> *Teacher 4: He always makes sure things are running smoothly in the department, things are done at the right time, where help is needed he chips in and helps.*
>
> *Teacher 2: He is very helpful when you approach him with a problem, he is ready to listen and help if he can…*

In general, the science HoD was also described as being a good role model with regard to distributing leadership roles and responsibilities to subject heads. The activities involved will be discussed later in this chapter in the section on subject level activities.

Participation of teachers in decision-making processes at the department level

Teachers in the Department of Science are involved in decision-making, particularly with regard to pedagogy. This will be described in more detail below. Another area in which teachers are involved in decision making is that of the procurement of science equipment and resources. One of the teachers explains below how the decisions are made in this regard.

> *Teacher 1: In third term, every department must have a meeting to draw up a budget that is guided by certain allocations. For example, this term we were allocated R15, 000. We prioritise as a group what we want, for example last term we wanted to buy our own DVD for using in the computer room but then we decided not to buy it because the school has one and so we resolved to buy battery cells because we need them like every day.*

As discussed above, with regard to meetings, teachers are involved in setting up the date and the agendas. The HoD was of the opinion that involving teachers in the planning of the meetings contributed to their participation and improved their commitment to implementing any strategies suggested in the meetings.

Focus of the discussion in the Department of Science meetings

The Department of Science frequently discussed two issues related to pedagogy during department meetings: IQMS and learners' results. According to the HoD, all teachers in the department met once a term to evaluate learners' test results and to develop strategies for improvement. In their last department meeting, four recommendations were made with regard to reducing the failure rates in mathematics. These included screening of

learners before admission to do mathematics; teachers' to refrain from forcing learners to do mathematics, marking the mathematics examination out of 100% and organising mathematics workshops in the school.

The second issue frequently discussed was IQMS evaluation. The IQMS is a peer evaluation process at the school which is intended to help teachers develop professionally through appraisal, performance measurement and feedback. Teachers met as a department to plan for when the evaluations would be conducted each term.

Generally, the focus of discussions during meetings held in the Department of Science is on improvement of teaching by discussing learners' results, evaluation of teachers and the resources required for teaching.

Teacher professional development activities at department level

This section focuses on the existence of either formal or informal opportunities for teachers at the department level to enable the development of pedagogical skills and subject content knowledge.

There are no formal or informal opportunities within or outside the school for professional development of teachers at the department level. Most of the opportunities offered outside the school were for subject groups and will be discussed in the next section. Similarly, within the school, there were no formal or informal opportunities for professional development.

Subject level

Collaboration of teachers at the subject level

In this section, the interactions of teachers within subjects is examined by looking firstly whether teachers met informally and frequently at subject level and secondly, at the focus of discussion in the meetings with regard to pedagogy.

Frequency of meetings

Based on observations and interviews, teachers in the Department of physical mathematics department interacted at subject level. They met in groups of two or three informally, frequently and voluntarily. On average five meetings involving two or three people in any one subject were observed each day between 8 a.m. to 2 p.m in five days. Teachers also mentioned that they met as subject teams at the beginning of every term and at the end of the year to plan in advance for what to teach. However the interaction and the purpose of the meeting were driven by teachers' needs as explained below by one of the teachers:

> *Teacher 1: We meet frequently as subject area teachers. Any of us can plan the meeting, we rotate, and my colleague or I may plan the meeting. Whoever plans the meeting comes up with the agenda.*

Focus of discussion in subject level meetings

Focus of discussion at the subject level meetings was on pedagogy. Teachers discussed issues related to pedagogy such as what to teach, and how to improve teaching. The subject teams planned for what to teach, and when to assess learners. Planning for teaching involved discussing what to teach in a year and in a term. According to the principal, teachers were expected to use the Department of Education pace-setter to guide

them on what to plan for teaching. This was also determined by the ability of learners at a particular time as noted by one of the teachers:

> *Teacher 3: We use guidelines from the Department of Education which we adapt according to any necessary changes. Obviously schools differ and we have learners from different backgrounds, from urban or rural areas and we try to accommodate the different learners because some of our learners are from Eastern Cape. We also plan according to the level of learners' knowledge though sometime difficult, but we organise tutorials for less able learners.*

Planning of the assessments involved deciding as a subject team when different class tests and assignments were to take place, and what these assessments would cover in terms of learning outcomes. However different subject groups planned differently for their assessments. The Natural Science teachers met at the beginning of every term to plan assessments both in terms of content and dates. The Physical Science teachers planned individually then exchanged the planned tests or assignments with each other for moderation. The HoD planned for the class tests and any additional assessments for all learners in all grades in mathematics as he was the only teacher for this subject. The life science teachers on the other hand informally collaborated in their planning. Below is an example of an observed planning process by the Life Science teachers for the end of the year class test. This planning session took place in the staffroom after break-time:

> *One of the Life Science teachers who was in the staffroom called another teacher as he entered the staffroom. They were immediately joined by a third teacher who came in after finishing with a class. Together the three educators decided on the content and scheduled a tentative date and time for the Grade 12's end-of-term class test Working together for about ten minutes, they referred to a chart, to work schedules and textbooks. They decided on topics to be tested and the numbers and types of questions to be given.*

Apart from engaging in discussions that related to *what to teach*, teachers were also involved in discussions about *how* to improve teaching and therefore aspects of the discussion about assessment involved coming up with strategies to help teachers who had not covered their work.

One of the teachers and the principal explain in more detail about learner assessment:

> *Principal: I for instance teach with a colleague in Grade 12 and we liaise almost on a daily basis because the students have to do the same. One of our school policies is liaising very closely, doing the same thing and covering the same work.*
>
> *Teacher 4: At subject level we discuss what to cover, what we have already covered and for the teachers behind schedule we try to come with strategies to help them complete their work before end of the term.*

In assessing learners, teachers were expected to inform them of the type of assessments they were to do as well as the marking rubric and grading that were to be used. Teachers were also observed discussing ways in which they could improve their teaching. Below are some examples of the instances that were observed.

- *Teacher Joy inquires from teacher Pat how to calculate a fraction angle by using a calculator. Neither of the teachers has a calculator, so, by using an example, Pat explains to Joy how to calculate this angle without a calculator. Pat points out to Joy that the Sharp calculator is different from the Casio calculator in terms of their functions relating to the calculation of the fraction angle. He also suggests that they teach learners how to use both calculators effectively to get accurate results.*

- *Peace shows Patience a draft of a lesson plan she has prepared. Pointing at the paper, Peace claims that she does not know how to explain two points of currents she calls 'AC' and 'DC' to the learners. Patience first explains to her the*

connection between the two points, and then he points out that the best way to teach the connection between the two points is to first to explain the two points separately and thereafter clarify their connection.

- *Two teachers in Natural Science (Jon and Jan) discuss an approach to the teaching of the calculation of currents in a cell. Jon asks Jan how to teach calculation of currents: "… do you teach the calculation as split current in each branch of cells or single currents?" By way of example, Jan explains to Jon how to teach the calculation using a formula he calls (1/r). He points out the importance of showing the learners several calculations on the chalkboard and discussing the advantages and disadvantages of the different connections.*

A teacher described another way in which they learn methodology from colleagues.

Teacher 2: …I have not done chemistry therefore I get help from my colleagues. They allow me to sit in their classes while they teach chemistry so that I can learn the approach of teaching specific topics. I also ask colleagues to teach for me the topics I struggle with, and in most cases they may not go out and teach the topic for me but instead, show me how to teach the topics and I get empowered and know how to teach.

Another teacher explains a circumstance in which learners are encouraged to learn from one another:

Teacher 3: Yesterday we got some power point materials from curriculum advisers and we met to see how we could adapt them to suit our learner.

Generally, teachers at subject level met informally, voluntarily and frequently to discuss pedagogy and to plan for what to teach. This in effect had implications for how they teach and therefore positively impacted on learner achievement.

Teacher professional development activities at subject level

This section explores the existence of formal and informal opportunities for teachers at subject level to develop their pedagogical skills and subject content knowledge.

At the subject level, science teachers attended workshops and in-service courses organised outside the school that honed their subject content knowledge and pedagogical skills. According to the principal the science teachers were committed and were always willing to attend these workshops. He felt that this positively influenced the standard of performance within the department. This, he felt, compared favourably with other departments in the school.

Examples of some of the workshops attended are identified below by two of the teachers interviewed.

> *Teacher 3: We are a DINALEDI school and are lucky to have had opportunities to attend workshops they run on new content of the new curriculum. We are affiliated to other professional bodies like AMESA and SASTA (for physical and natural science) which organise developmental courses.*

> *Teacher 1: Yesterday we attended a workshop at Spine Road on how to manage research projects and how to teach learners about giving feedback to improve their oral presentations in research etc. We are fortunate we have many teacher development activities afforded us by DINALEDI, MSEP, KHAYA, WCED. We also had the opportunity to attend British Council Initiative on "assessment on OBE" and so on…*

Another teacher discusses how he has increased science content knowledge through advancing his education in a local university:

Teacher 2: I am currently studying at CPUT. I have been attending courses for my masters' degree in science education and I have acquired a lot in terms of subject content knowledge.

Apart from the above opportunities found outside the school, there were both formal and informal opportunities within the school through which science teachers developed their pedagogical knowledge and subject content knowledge. Examples of the opportunities that were formally structured included internal moderation, school based initiatives and feedback sessions.

Two teachers explain how teachers acquired new knowledge and skills through internal moderation:

Teacher 4: We also do internal moderation to see how people do their work and approach their tasks and in that we are able to learn new ways of teaching.

Teacher 3: We have IQMS and internal moderation which professionally develops us in that we always make sure our files are up to date because you can be assessed any time during the lesson. We get feedback on our class presentation on how to improve our teaching approach

Another teacher discusses how they learn as subject teams from teachers who attend workshops and courses organised outside the school.

Teacher 2: We normally get feedback from those who attended workshops. ,For example recently we got feedback on learners' achievement on Telecom program.

There were school based initiatives organised by a local university that focused on the teaching of science. According to the teachers interviewed the initiatives enhanced their teaching skills.

In terms of informal opportunities, interviewees mentioned that new teachers acquired knowledge and skills through informal induction processes as evident in the following four interview extracts:

> ***Interviewer: Are there any practices at school to assist new teachers? Are the practices formally or informally structured?***

> *Teacher 2: You are given a mentor to assist you here and there but there are no written documents on how to do it. The principal may approach and ask you to help where necessary.*

> *Principal: New teachers cannot be responsible for a certain grade alone - they work alongside other teachers in terms of planning together. Inexperienced teachers work closely with teachers with experience not to monitor them but to guide them on how to present lesson. We have a system whereby new teachers coming to the school have mentors. Often the mentor is the head of the department or a seasoned teacher who has been teaching that learning area for some time.*

> *Teacher 1: In most cases the HoD and subject area teacher assists when necessary. However there are no structured ways of assisting the person.*

Other informal opportunities suggested by teachers reflected spontaneous learning as evident in the following three examples.

> *Example 1:…When I came to this school, I noticed that science teachers knew how to use a data projector and we have helped each other on that, you find that most of the time teachers come to seek for help from other teachers on different issues.*

Example 2: The new NCS has a lot of new content science which some teachers who got their teacher qualification before are not familiar with. Such teachers have learned the content from the others before going to class.

Generally at the subject level, there are diverse formal and informal opportunities within and outside the school for science teachers to develop their pedagogical skills and subject content knowledge.

A general summary of practices at Bidii High School

1. At Bidii School there are a number of non mandatory committees concerned with both pedagogical support activities and contextual school activities.
2. There are regular meetings at school and department levels but these are not frequent. The meetings take place only once per term.
3. Both the staff and department committees are predictable in occurrence as teachers participate in setting the date for the meetings, and deciding the agendas for the meetings. .
4. At the subject level teachers interact frequently and informally to discuss pedagogy and to plan for what to teach and assess.
5. At both school and department level teachers are involved in decision-making processes, particularly decisions that focus directly on pedagogy.
6. Teachers have opportunities to discuss matters related to teaching in the department.
7. There are diverse formal and informal opportunities within and outside the school for professional development of teachers and collaborative learning at the subject level but not at the school and department levels.
8. The teachers see the HoD and the principal as being positive role models.
9. The school embodies a culture of supporting hard work through the informal acknowledgement of teachers but there are no formal acknowledgement events.

CASE STUDY 2: KAWAIDA HIGH SCHOOL

Kawaida High School performs less well than does Bidii High School, as discussed in Chapter Three. This section explores the structural arrangements, leadership and management practices and teacher development practices at this school.

School level

Structural arrangements at the school level

As in the case of Bidii High School, there are two sets of committees at Kawaida:

(a) Committees that are concerned with school-based activities
(b) Committees that are concerned more directly with pedagogic support activities.

Committees dealing with school-based activities

There are two committees that deal with contextual school activities at Kawaida High compared to the seven committees found at Bidii High. The two committees at Kawaida High are the Bereavement Committee and the School Governing Body Committee. As evident from staff meeting minutes the Bereavement Committee was established in 2008 for the purpose of offering financial and emotional support to bereaved colleagues. The SGB deals with management and governance of the school.

Committees dealing with pedagogic support activities

There are five committees that focus on pedagogical support activities namely, the SMT, SDG, EST, the staff and department committees. These committees have similar roles and responsibilities as do those at Bidii High. The purpose of the Support Development Group (SDG) (composed of HOD and peer reviewers from all departments of the school) is to deal with any complaints from teachers about unfair evaluation in the Integrated

Quality Management System (IQMS) structure. The EST focuses on learning difficulties by identifying the learners' problems and developing strategies to address the problems. The staff and the department committees, which are the main focus of this study, deal with pedagogical support activities.

Four of these five committees have been set up in response to a department mandate. There is only one non-mandatory committees at Kawaida compared to six at Bidii. This suggests that in the case of Kawaida there have been fewer attempts to structure pedagogic support activities.

Frequency of meetings

At the school level there are two types of meetings that take place regularly, namely the general staff meetings and staff briefings. Staff briefings are held every day from Monday to Friday starting from eight o'clock and take about five to ten minutes. The principal uses the staff briefings to deliver administrative information and delegate work to teachers. The general staff meetings which are more concerned with pedagogy are held once per terms as evident from the staff meeting minutes and as noted by HoD.

Prior to the interviews for this study which were conducted in September 2009, only three general staff meetings had been held in the year. The teachers who were interviewed however could not remember when the last general staff meeting was held. Neither could they remember the frequency of the meetings. This suggests that the teachers did not perceive staff meetings as worthwhile opportunities for addressing important issues. Moreover general staff meetings had not been scheduled into the timetable. According to the teachers interviewed, the SMT decided when the meetings would take place and compiled agendas without consultation.

Generally at Kawaida High as in Bidii High, staff meeting times and staff briefings are built into the structure of the school. Meetings are prearranged and regular but infrequent.

The staff committee meets only once every term, providing little opportunity for discussion and planning.

Leadership and management practices at the school level

This section focuses on leadership and management practices of role modeling, acknowledgement of teachers and participation of teachers in discussion and decision-making processes at the school level.

<u>The principal as role model</u>

At Kawaida High three teachers plus the HoD (in the Department of Science), and the principal were asked whether the principal sets a good example and then to mention ways in which the principal was a 'good' role model.

Two of the teachers (teacher A and C) did not respond verbally to this question but instead shook their heads. This prompted a subsequent question from the interviewer - the two teachers were asked to give examples of ways they would positively model if they were the school principal. One of the teachers opted not to give any suggestions. The other gave the following suggestions, the implication being that the principal could be a better role model in these ways:

> *Teacher C: I would engage teachers, make them feel they are important, I would not mingle too much with the learners, running after them and shouting at them. Instead, I would let other people do that so that when I go out there they can recognise me as the principal. I would not take decisions for my staff unless it is an exceptional case; I would try to talk with teachers……*

The HoD made an effort to identify ways in which the principal was a good model, describing him as follows; *(**Keeps quiet for sometime**) "He comes to school early; he always makes sure there is smooth running of the school" (**quiet**).* Examples given by the

third teacher also suggested that he was uncertain as to whether the principal was a good role model. He described the principal as a role model with regard to supporting teachers socially and emotionally, as follows:

> *Teacher B: He is a good listener especially when you consult him with a problem; he supports the school welfare. Last term he supported staff as they prepared one of the colleagues who was getting married. This was great because we need support from others on our individual achievements.*

But he also felt that there were other better ways of setting an example as the school principal, as he explains in the following extract:

> ***Interviewer: Do you like his approach?***
>
> *Yes, I like his approach but I would also explore other avenues like consulting with educators and other principals in schools which perform very well to find out what they do differently.*

However, the principal appeared to see himself as a positive role model as seen in the following extract:

> ***Interviewer: Are there areas where you set a positive example as the school principal? Give examples of these areas:***
>
> *I always make sure I am not absent from school; I come to school early; I go around the school to make sure learners and teachers are in class; I assist in student detention after school and with latecomers in the morning etc.*

In summary, while the principal viewed himself as a positive role model, the teachers and the HoD in the school appeared very ambivalent although they would not explicitly say that the principal was not a positive role model.

Acknowledgement of teachers by the principal and SMT

Teachers at Kawaida High were acknowledged for good performance both formally and informally. The principal praised and thanked teachers who contributed to raising performance levels. He also presented these teachers with certificates of acknowledgement in a formal meeting at the beginning of the year.

One of the teachers gives examples of the certificates that were awarded to teachers at the beginning of the year (2009) and states the reason for the awards:

> *Teacher A: The principal gives teacher certificates of appreciation. At the beginning of this year he acknowledged teachers who sacrificed their time to teach on Saturdays particularly in mathematics whereby learner's had good symbols. The physical science teachers were also given certificates of appreciation for good performances.*

Certificates were also awarded to teachers who contributed to achievements less directly related to learners' performance. One of the teachers gives an example of such a contribution by a teacher who was awarded a certificate of acknowledgement by the principal.

> *Teacher B: There is an educator who never missed school the whole of last term and he received a certificate of acknowledgement.*

The principal explains the purpose of the certificates:

> *I try to motivate teachers by talking to them... I also introduced certificates to acknowledge teachers who contribute to good performances of learners.*

One of the teachers explains how he feels about the acknowledgement:

Teacher C: The acknowledgement helps so much; it motivates teachers to do more work.

Generally the school has a culture of acknowledging good practices of teaching such as coming to school early, not missing school during the course of a term and contributing to the good performance of learners. The acknowledgment was expressed both in formal and informal ways. The principal thanked and praised teachers in public ways, and gave certificates of acknowledgement for practices that contributed both directly and indirectly to improving learner performance.

Participation of teachers in decision-making processes at the school level

While occasionally the principal consulted teachers before making decisions, teachers at Kawaida School were generally not involved in decision-making processes. The SMT, which comprises the principal, the deputy principals and the HoD's, was the main decision-making body, according to the HoD and teachers who were interviewed. The SMT made decisions concerning what meetings were to be held, when meetings were to be held, and the agenda of the meeting, as explained below by three teachers interviewed

Teacher B: The SMT have first to discuss whether there should be a meeting, when it will be held and the agendas of the meeting. When there is something concerning a certain department the SMT convenes the meeting.

Teacher C: What we discuss depends on necessary things we need to discuss at that particular time.

HoD: It depends, there are no specific issues that we discuss but in most cases you find that the principal gives reports, correspondences and matters arising

Focus of discussion at staff meetings

Sometimes issues related to teaching did come up during the staff meetings. Two of the teachers mention some of the issues that were often discussed:

> *Teacher A: We discuss everything, such as the behavior of learners, but we often discuss how to motivate learners.*

> *Teacher B: We often discuss school results, educators' and learners' welfare, problems we foresee and how to tackle them.*

The principal also mentioned that occasionally in staff meetings issues related to learner performance were discussed especially when learners had failed in their class test or examination. This enabled the teachers to come up with strategies to address the poor performance. In one such meeting, for example, the idea was raised that extra classes be taught in the morning, during lunch break, in the evening and during the weekends in order to address the poor performance of learners. However, this idea had not been implemented. The HoD mentioned that in their last general staff meeting they had discussed why teachers had failed to implement this idea. While the issue of learner performance did come up at staff meetings, there was not any follow up on these discussions. Furthermore the discussion of these issues did not focus on pedagogy. Instead learner performance was linked to learner discipline and motivation of learners. Pedagogy as such was not discussed.

Other issues discussed in the general staff meeting were contextual school activities such as sports and teachers' welfare, as suggested from the staff meeting minutes and interviews with teachers.

Teacher professional development activities at the school level

This section examines the existence of both formal and informal learning opportunities at the school level for teachers to develop their pedagogical skills and subject content knowledge.

At Kawaida High there were no formal or informal learning opportunities for teachers to develop their content knowledge and pedagogical skills at the school level. All the teachers interviewed, the HoD and the principal reported that there were no teacher development activities at the school. The principal felt that the teachers in this school did not like working collectively despite his attempts to encourage and support them to work as a team:

Responses from other interviewees indicate tension between the school leader and the teachers. Some of the teachers felt that they had no opportunities to work as a team and that the principal did not consider their interests and views, or allocate them responsibilities. On the other hand, the principal felt that most teachers were not willing to assume leadership responsibilities and roles. In particular he felt that having more female than male teachers was a disadvantage to the school as he believed that the female teachers were not willing to take on extra responsibilities due to family commitments.

In general, there are limited opportunities for professional development and collaborative learning at Kawaida High, and it is evident that tension between teachers and the principal undermines potential collaboration.

Department level

Structural arrangements at the department level

In this section attention is shifted to the structural arrangements, leadership and management practices and teacher development practices in the Department of Science.

Frequency of department meetings

As was the case at Bidii High, department committee meetings at Kawaida High were structurally embedded. The meetings were prearranged and regular but not frequent. The HoD comments on the frequency of the meetings:

> *HoD: Formally, we meet once per term and informally we meet when necessary to pass information on or make any urgent decisions…..*

Two of the teachers interviewed felt that meeting formally only once a term was insufficient and that this provided limited opportunities to deal with important matters. One of the teachers expressed her views in this way:

> *Teacher A: I think meeting frequently at least every two weeks would help in monitoring what we are doing. Meeting after three months or so does not help us because a lot of things have happened in between which cannot be rectified.*

Generally, while teachers felt that meeting frequently would help in monitoring their teaching practices and coverage, they could not organise more meetings as this was the responsibility of the SMT as indicated above.

Time and space for department meetings

At department level, space for teachers to interact was limited, and teachers in the Department of Science did not use the available space effectively. The general staffroom which was the only room available for all teachers to meet during lunch break, had fixed seating arrangement for teachers which limited their interaction. This resulted in teachers rarely making any attempts to interact across subject areas. Their discussions with colleagues in the same subject area related mostly to personal issues.

Leadership and management practices at the department level

In this section three issues are examined with regard to department level activities: (i) whether the HoD is a positive role model and ways in which the HoD is a positive role model (ii) whether teachers participate in decision-making and (iii) the focus of discussion with regard to pedagogy.

The HoD as role model

While the three teachers interviewed would say explicitly that the HoD was not a good role model, they could not easily give examples of ways in which she did provide a positive example, as was clear from the following two interview extracts:

> ***Interviewer: What are some of the best things you would say your HoD does?***
>
> ***Teacher A: (Keeps quiet for a while)*** *Sharing, and she is a good listener (**quiet**).*
>
> *Teacher C: (**Laugh**s) She is nice, kind; that is all.*

The above responses by the two teachers prompted the interviewer to ask them to give examples of ways they would positively model if they were HoD. They responded by mentioning desirable leadership behaviour that was evidently not reflected in the actions of the HoD:

> *Teacher A: As a HoD I would focus on monitoring and departmental meetings because we take long before we meet as a department.*
>
> *Teacher C: As a HOD I would make sure moderation for teachers is done frequently and everything is in place in case there is any inspection from the department. I would involve teachers and not to give them circulars and say 'that is it'. I would follow-up with teachers when they are required to do something but*

not to wait until the last minute then push them around. I would involve teachers and learners when they have opportunities to perform a particular task, give teachers options to contribute to the activity…

However the third teacher was more positive about the HoD and gave the following examples of how the HoD modeled:

Teacher B: She is humble, we consult her and she also consults with the teacher, she is a good listener, a team worker and uses the team to make decisions.

When interviewed, it was apparent that the HoD saw herself as a positive role model:

I always make sure that my files are up to date; I assist teachers particularly in developing rubrics; I am always in class when expected to be there: I moderate the learners' tasks to make sure the activities in their files links with teachers' activities in their files. In most cases I have found that there is no link between the tasks and teachers' file and therefore I sit down with the educator to devise a plan for extra classes to cover the work. I step in to help educators who are not confident teaching certain topics and in subjects I do not teach. I not only assist by asking other educators in the same learning area to help the educator but by also sitting down with them to make sure the educator get the necessary help.

Despite the HoD's self perception, the teachers in her department were at best ambivalent about the degree to which she offered positive role modeling and were conscious of areas in which she did not do so.

Participation of teachers in decision-making processes at the department level

Since department meetings were infrequent, particular decisions that directly related to teaching were made individually. I observed five different teachers individually planning

for end-of-term class tests. Decisions concerning learning equipment and resources were also made individually. This is suggested in the interaction below:

> ***Interviewer: How are decisions made on acquiring teaching resources and science equipment?***
>
> *Teacher A: We do not decide as a group what we need. Instead, as an individual, you inform the HOD and the HOD forwards your request to the office…*

Another comment on how decisions on teaching resources are made is presented:

> *Teacher B: The teacher concerned has to identify what resources or equipment he/she needs then consults with the HOD who forwards the list to the procurement committee. There are also committees in the school that are specifically involved in making certain decisions - committees such as the EST, DSG, the Procurement Committee and so on.*

In this matter, as in others, the perceptions of teachers did not match those of the HoD, as she explains:

> *We do not want to make decisions without the knowledge of the teachers in your department so we sit down and exchange ideas on certain issues.*

Focus of discussion in the Science Department meetings

In the Science Department meetings, teachers at Kawaida High did not talk about improvement of teaching. Teachers and the HoD highlight some of the issues they often discuss during department meetings:

Teacher A: We talk about failure of learners and about learners who don't care, or do not do their work because this leads to their failure and it is one of the problems we face in this school.

Teacher B: We discuss different issues. For example in our last meeting we did an analysis of the June results. We also focused on what we can do to improve the performance of our learners. We talked about the extra classes in terms of whether educators are attending to them.

Teacher C: We often discuss the challenges we meet daily and devise strategies to overcome them.

Generally, teachers appeared to recognise the problems they were facing. However, they talked about addressing the problems by teaching *more* rather than by teaching *differently.*

Teacher professional development activities at the department level

This section focuses on whether there are formal or informal opportunities for teachers at the department level to develop their pedagogical skills and subject content knowledge.

In the Department of Science there were no opportunities for teachers to develop their pedagogical skills and subject content knowledge. The HoD and the teachers interviewed mentioned that there were no formal workshops, courses or induction programmes at the department level for professional development of teachers. The HoD explained that teachers in the department were not willing to learn from each other despite her attempt to create collaborative teams:

Learning from each other in this school is a problem. As a HoD I know educators who are good in particular areas and I have tried to choose some of them as

subject heads so that other educators can learn from them but educators are difficult. They do not admit that they do not know this or that….

However responses from the teachers indicated that there were no opportunities at the department level for teachers to develop their expert knowledge and skills. This is reflected in the following two interview extracts.

Interviewer: What kind of teacher development activities are teachers involved in at department level?

Teacher A: None, teachers develop themselves. For example I am doing an advanced certificate in education at CPUT that has really helped me in knowledge for teaching Natural Science.

Teacher C: We have not had any.

The HoD, like the principal, sees teachers as being unwilling to collaborate or learn from each other, while all respondents agreed that there were no opportunities for formal teacher development.

Subject level

Collaboration of teachers at the subject level

This section focuses on interactions of teachers within subject areas by looking at two issues: firstly, whether teachers met informally and frequently at subject level and secondly, the focus of discussion in the meetings with regard to pedagogy.

Unlike at Bidii High where teachers were frequently observed meeting in informal groups to discuss or talk about how to teach, what to teach and how to assess learners, at

Kawaida High teachers discussed personal issues and other issues that did not directly relate to teaching and learning. While the researchers did not observe teachers working together informally; teachers claimed that they did do so. Teachers gave the following examples of how they learned new teaching practices from each other.

> *Example I: I have majored in Life Sciences and Technology and with the Natural Science there is Physics. My colleague has majored in Physics and for some aspects of Physics I consult with her. Sometimes she may explain to me before I go to class. Other times she may take over the class but I must be in the class to observe how she teaches certain aspects.*

> *Example 2: We ask colleagues for help on how to arrange our files. We also seek advice from teachers with learners performing well. For example one of the Mathematics teachers has been doing well and we asked her for some advice.*

One of the teachers also explained how the experienced teachers in the school mentor the new teachers by helping them plan for what to teach.

> *Teacher A: I have taught Natural Science for the last five years. Teachers who come to school to teach Natural Science for the first time, I mentor and educate them. I show them about assessment standards in Natural Science that is the seven tasks we are supposed to have.*

While these responses suggest that teachers do, on occasion, informally discuss pedagogic strategies, it was clear that these kinds of discussions were not as common and frequent in the everyday lives of teachers at Kawaida High as they were at Bidii High. At Bidii High I observed a number of informal discussions related to pedagogy every day. At Kawaida High I observed no such interaction at all.

Teacher development practices at the subject level

At the subject level, there were few opportunities for professional development. According to the teachers interviewed, although there were many opportunities afforded to them by the government and NGO's outside the school in terms of science workshops, courses and in-services programmes, they rarely attended these courses and workshops. Two reasons were given: firstly, there was lack of encouragement and support for teachers to attend the workshops from the school leaders. Secondly, there was lack of shared views on the importance of the workshops with regard to improvement of teachers' expert knowledge and skills. These two factors are evident in the following three interview extracts:

> ***Interviewer: Have you had any opportunities to do teacher development courses and workshops outside the school?***
>
> *Teacher A: There are many courses out there. Teachers volunteer to attend, whoever is interested.*
>
> ***Interviewer: How are decisions made on who attends these courses?***
>
> *Teacher C: It is a personal decision. We are normally informed about the workshop, that is, the dates, and then asked if we are interested in attending.*

A general summary of practices at Kawaida High School

1. At Kawaida there are no committees that have evolved in responses to teachers' needs for collaboration, specifically on pedagogy. The only committees that focus on pedagogical support activities are mandatory, and meet infrequently which suggests that no attempts have been made to structure teacher collaboration around pedagogic support initiatives.

2. At Kawaida as in Bidii there are regular meetings at school and department levels, but these are not frequent - they take place only once a term.
3. Both the staff members and the department committees do not have published agendas for their meetings, neither do they collaboratively decide on when meetings will take place. This limits the opportunities for teachers to use these meeting as spaces to talk about issues that matter to them, or specifically about pedagogy.
4. At the subject level teachers do not interact frequently in an informal way to discuss pedagogy or what to teach.
5. There are limited formal and informal opportunities for professional development and collaborative learning at the school and department levels. The school does not promote participation in teachers development activities.
6. Teachers at both school and department levels are not involved in decision-making. At the school level the SMT makes decisions and informs the teachers of them. At the department level teachers make their own individual decisions, particularly regarding issues that relate to teaching and learning. This is in part due to the infrequency of the department meetings.
7. Teachers do not have structured opportunities at the department level to discuss matters related to teaching.
8. The teachers do not see the HoD and the principal as positive role models.
9. The school does not however have a culture of acknowledging good practices of teachers in both formal and informal ways.

CHAPTER 5: DISCUSSION AND FINDINGS

In this chapter I discuss my findings with a focus on comparing the leadership and management practices at Bidii High School with those at Kawaida High School. I organise my discussion around two themes, firstly leadership and management practices and teacher practices, and secondly the complexities of the practices within each school context.

Bidii and Kawaida High Schools had distinctly different leadership and management practices and cultures which had implication for: (i) Structural arrangement: This refers specifically to whether committees at different levels of the school provided regular time and space for teachers to collaborate especially with regard to pedagogical support activities, (ii) Leadership behaviour: This focuses specifically on whether there were leadership practices of acknowledging teachers, and positive role modeling, and (iii) whether there were opportunities for collective professional development of teachers, within and outside the school.

Leadership and management practices and teacher practices

The analysis suggests an association between the leadership and management practices at the schools and teacher practices specifically with regard to (1) informal collaboration, (2) focus on pedagogical practices, and (3) teacher development practices. At each school, leadership and management practices have a direct impact on the practices of teachers which in turn are associated with the achievement of learners.

The following practices appear to be associated with the school that produces better results:

(i) There were diverse committees that had evolved in the school to support teachers in both pedagogical support activities and contextual school activities.

(ii) There were regular but infrequent meeting times within committees at school and department levels to organise teaching and learning.

(iii) Space was available and effectively used at the school, department and subject levels for professional exchange.

(iv) Teachers were more involved in decision-making processes particularly decisions that related to their work.

(v) Roles and responsibilities were distributed across teachers. For example some teachers acted as subject heads within department.

(vi) The school leadership supported a culture of learning through acknowledgment of teachers and positive role modeling to a greater degree.

(vii) Teacher more regularly collaborated in planning lessons and assessments.

(viii) Teachers informally and frequently interacted at subject level to discuss pedagogical strategies. This was the most important area in which practices at Bidii High differed from those at Kawaida High. It was the one area in which teachers actually spoke about pedagogic practice.

(ix) Formal and informal teacher development opportunities were created at the subject level to develop teachers' pedagogical skills and subject content knowledge within and outside the school in a collaborative way.

(x) There was reflective learning through diagnostic use of assessment data to inform teachers on both content and methodology.

In general these practices were not equally developed in the school where learners' achieved poorer results. The following characteristics were present at this school;

(i) There were fewer committees that had evolved in the school to support teachers in both pedagogical support activities and contextual school activities.

(ii) While the staff and department committees had regular but infrequent meeting times, the meetings were not seen by teachers as important opportunities for discussing pedagogy or issues that were of interest to them. This was because teachers were not involved in deciding the agenda of the meetings and setting the dates for the meetings.

(iii) The way space was organised and used specifically in the staffroom did not support interactions of teachers and professional dialogue.

(iv) There were few instances of distributed leadership. For example there were no subject heads within departments.

(v) The SMT made most of the decisions in the school which limited teachers' participation in decision-making, especially decisions that directly related to their work.

(vi) There were fewer formal and informal opportunities created to develop teachers' pedagogical skill and subject content knowledge..

(vii) Teachers worked individually rather than collaboratively in planning for teaching and assessment, as opportunities for meetings were infrequent.

(viii) The school did have a culture of acknowledging good practices of teachers. However, the behaviour that was acknowledged tended to relate to issues such as punctuality rather than direct impact on learner achievement.

(ix) While the principal and the HoD perceived themselves as good role models, teachers appeared ambivalent and would have liked them to engage in other modeling practices.

(x) There were no collaborative practices with regard to analysing test data with a focus to improve teaching.

Complexities

The first part of this discussion suggests a relatively simple picture of one school with more positive practices than the other school, but the analysis suggests that the situation is in fact more complex than this.

Firstly, practices in the better performing school were not all equally positive while practices in the poorer performing school were not all negative. In the better performing school, the following practices were less positive with regard to nurturing development of a professional learning community.

(i) The meeting time for the staff and department committees was not frequent enough to allow teachers to work extensively on pedagogical strategies,

formally within the committees. At both school and department levels, teachers met only once per term.

(ii) While the school principal and the HoD were seen by teachers as good role models, the behaviour that they modeled related more to issues such as being on time rather to than actual pedagogic practices.

(iii) Acknowledgement of teachers tended to be informal. Teachers indicated that formal acknowledgement or the presentation of rewards would have provided stronger motivation, and would have been more systematic in recognizing all contribution made by teachers.

On the other hand, there were positive leadership practices at Kawaida School that could potentially support the development of a PLC:

(i) There were regular, albeit infrequent meetings for teachers at the school and department levels.

(ii) The school had a culture of supporting hard work on the part of teachers through both formal and informal acknowledgement of teachers.

Secondly, while management and leadership practices at Bidii were more nurturing of a PLC than those at Kawaida, Bidii did not offer an ideal picture of such practices. Similarly, while learners' performance at Bidii is superior to that at Kawaida, Bidii is not a very high performing school, either in general or in terms of science results, more specifically.

However, what is of interest is that there is an association between practices that, in a limited way, are relatively more nurturing of PLC and that this may be associated with relatively better results. Ultimately, the key difference between the schools is that management practices at the better performing school support informal collaboration, focused on actual pedagogic practices as well as teacher development. This kind of informal collaboration was not seen at the school with weaker results.

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APPENDIX 1: INFORMAL MEETING OBSERVATION SCHEDULE

School (code):……..

Day: ……Date:……..

Time	Number of teachers	Where	Description of teachers' discussion	Comment

APPENDIX 2: STAFF MEETING OBSERVATION SCHEDULE

School: .....

Date: .....

Time: .....

Where: .....

Agenda of the meeting: .....

How is the agenda decided? .....

What is the procedure of the meeting? .....

Observations:

- What is discussed in the meeting with regard to pedagogy?
- Who contributes to the discussions?
- How are decision reached?

APPENDIX 3: DEPARTMENT MEETING OBSERVATION SCHEDULE

School (code): .....

Date: .....

Time: .....

Where: .....

Agenda of the meeting: .....

How is the agenda decided? .....

What is the procedure of the meeting? .....

Observations:

- Is pedagogy discussed? And for what purpose?
- How are decisions made?
- Is there shared work with regard to planning for teaching and assessment?

APPENDIX 4: PRINCIPAL INTERVIEW SCHEDULE

School (code):

Date:

Time:

Introductory question

1. Tell me about the current teachers in the school in terms of their strengths or weaknesses.

(i) Teaching

2. Tell me about planning at school (prompts- what sort of things do teachers plan? Give examples of the things they often plan. Is planning done in a structured or informal way? Do teachers plan as a group or as individuals?)

3. Tell me about planning for assessment (prompts-do teachers plan as a group or as individuals? Are there structured ways of planning for assessment or do they plan in an informal way. What are some of the things they often plan for assessment?)

4. Do you think teachers in the school learn from each other? If yes, how do you know? (Prompt- what are some of the things that they learn from each other? Do they often learn these things?)

5. What is done in the school to support good performance of students?

(ii) Leadership and Management

6. It is obvious as a principal that there are many occasions or situations when your decision is required. Tell me about these occasions. Do you have a particular approach to decision-making?

7. What are your roles and responsibilities? Apart from your responsibilities, who else has leadership responsibilities? What are these responsibilities?

8. Can you think of a major change since you became the school principal? Describe to me how the change came about.

9. Which department performs best in the school? What are the strengths of the department? Tell me about the Physical Science department, do they perform well? Why/ why not? What are the strengths or weaknesses of the department?

10. Are there ways in which teachers are acknowledged? Give an example of some things teachers have been acknowledged for.

11. Are there areas where you set an example as the school principal? Give examples. Why do you set examples?

(iii) Teacher development

12. What kind of teacher development activities are teachers involved in at school? How have the activities impacted on the morale of teachers and on student achievements?

13. Are there opportunities for teacher development outside the school? How are decisions made regarding who should attend these courses?

14. Are there any practices at school to assist new teachers? Why? Are the practices formally structured or informal ones?

15. What is done in school to support good performance of students?

Concluding question

16. What are some of the best things about your school? And what would you wish to change?

APPENDIX 5: HEAD OF DEPARTMENT INTERVIEW SCHEDULE

School (code):

Date:

HoD Name (Code):

Time:

Introductory question

1. Tell me about your roles and responsibilities as an HOD.

i) Teaching

2. Tell me about planning as a department (prompts- what sort of things do teachers plan? Are those the most common things they plan? Are there structured ways of planning or is it done in an unstructured way?. Do you plan as a group or as individuals?)

3. Tell me about planning for assessment (prompts- What sort of things do you plan for assessment? (frequency) Do you plan as a group or as individuals? Are there structured ways of planning for assessment, or do teachers plan in an unstructured way?)

4. Do you think teachers in your department learn from each other If so, how do you know? (Prompt- what are some of the things that teachers learn from each other?)

5. What is done in the school and at the department level to support the good performance of student?

(ii) Leadership and management

6. When was your last meeting at the department level? How often do you meet as a subject department? (Prompts- who plans the meetings? Tell me about the agendas of the last meeting. Were they typical of the agendas of meetings that you normally hold?)

7 When was your last meeting at school level? How often do you meet at school level? (Prompts- who plans the meetings? Tell me about the agendas of the last meeting. Were they typical of the agendas of meetings that you hold?)

8. How are decisions made on acquiring teaching resources and science equipment? (Prompts-Do you have any other decision-making structures or committees? e.g. subject panels?)

9. Do you think teachers are acknowledged in any ways? How does that make you feel? Give an example of some of the things teachers have been acknowledged for.

10. Are there areas as an HOD in which you set an example? Which areas are these, and why?

11. What are some of the best things you would say your principal does? If you became the school principal would you use the same approach or a different approach and why?

(iii) Teacher development

12. What kinds of teacher development activities are teachers involved in at school? How have the activities impacted on the morale of teachers and on student achievements?

13. Have you had any opportunities to do teacher development courses outside the school? How are decisions made regarding who will attend these courses?

14. Are there any practices at school to assist new teachers and why? Are the practices formally or informally structured or informal?

15. How do you spend your time after school, or lunch during break? (Prompt- What are some of the issues you discuss with your colleagues about school?)

Concluding question

16. What are some of the best things about your school? And what would you wish to change?

APPENDIX 6: TEACHER INTERVIEW SCHEDULE

School (code):

Date:

Name of the teacher (code):

Time:

Introduction question

1. What grade(s) and subject(s) are you currently teaching?

(i) Teaching

2. Tell me about your planning (prompts- what sort of things do you plan. Give examples of things that you often plan. Are there structured ways of planning or do you plan in unstructured ways? Do you plan as a group or as individuals?

3. Tell me about planning for assessment (prompts- What sort of things do you plan for assessment? What do you often plan for assessment? Do you plan as a group or as individuals? Are there structured ways for planning for assessment or is the planning done in unstructured way?)

4. Do you think teachers in your department learn from each other? If yes, how do you know? Give examples of things that you often learn from each

5. What is done in the school to support good performance of student? Is this what is often done?

(ii) Leadership and Management

6. When was your last meeting at the department level? How often do you meet as a subject department? (Prompts- who plans the meetings? Tell me about the agendas of the last meeting. Were they typical of the agendas of meetings that you normally hold?)

7. When was your last meeting at school level? How often do you meet at school level? (Prompts- who plans the meetings? Tell me about the agendas of the last meeting. Were they typical of the agendas of meetings that you hold?)

8. How are decisions made on acquiring teaching resources and science equipments? (Prompts-Do you have any other decision-making structures or committees?)

9. Do you think teachers are acknowledged in any ways? How does that make you feel? Give examples of some of the things teachers have been acknowledged for? Are there things that are often acknowledged?)

10. What are some of the best things you would say your HOD does? If you became an HOD would you do the same or do things differently?

11. What are some of the things that would you say your principal does best? If you became the principal would you do the same or different?

(iii) Teacher development

12. What kind of teacher development activities are teachers involved in at school? How. have the activities impacted on the morale of teachers and on student achievement?

13. Have you had any opportunities to do teacher development courses outside the school? How are decisions made regarding who attends these courses?

14. Are there any practices at school to assist new teachers? Gives examples. Are the practices formally structured or informal ones?

15. How do you spend your time after school or during lunch break? (Prompt- What are some of the issues you discuss with your colleagues about school?)

Concluding question

16. What are some of the best things about your school? And what would you wish to change?

Appendix 7: JOB DESCRIPTION OF PARENTS

Specific job description	Bidii	Kawaida
Skilled	Mechanic 1; Carpenter 2; Teachers 11; secretary 1; nurse 7; book keeper 2; machine operator 2; electrician 2; Police 6; architect 1;	Teachers 2; Mechanic 2; Nurse 1; Machine operator 2;
Semi-skilled	Till attendant 3; Sewing 2; Driver 10; Pastor 1; Administrative clerk 1; Receptionist 2; Porter 1; Waitress 2; Chef 3; Catering 2; Midwife; 1; Telkom 1: Company 4	Driver 10; Landscaping 1; baker supervisor 1; Municipality 1; Fitting windows 1; sewing 1; customer service 1; company 1
Unskilled	Cleaner 8; domestic worker 30; vegetable seller 1; Grounds-man 2; Security guard 6; Office care taker 2; shop keeper 1; Crèche 1; Delivery 4; student recruitment assistant 1; Metro rail ticket officer 1; Laundry collector 1; Fisherman 1: brick-maker 1; Self employed 5;	Security guard 13; Domestic worker 41; Construction 7; Cleaner 7; Service man (Petro station) 2; Crèche 1; grocery seller 1; selling food 1; Dry cleaning 1: Grounds man 1; Mine worker 1; cook 1; Linen attendant 1; care taker 2; self employed 7;
Management	Manager 3;	Manager 1;
Unemployed	**29**	**44**

Job title summary	**Bidii**	**Kawaida**
Management	3	1
Skilled	35	7
Semi-skilled	33	17
Unskilled	65	87
Unemployed	29	44
TOTAL	**164 jobs for 127 learners**	**156 jobs for 126 learners**

Job title summary	**Bidii**		**Kawaida**	
	Total	**Percentage**	**Total**	**Percentage**
Management	3	2%	1	1%
Skilled	35	21%	7	4%
Semi-skilled	33	20%	17	11%
Unskilled	65	39%	87	56%
Unemployed	29	18%	44	28%
TOTAL	**165**	**100%**	**156**	**100%**