Dissertation Title

A Narrative Inquiry: An Exploration of Teacher Learning through Clustering

By

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DECLARATION

I, Pingla Mothilal, declare that this dissertation is the result of my own research and has not been submitted in any form for any degree or diploma to any tertiary institution. All references have been duly acknowledged.

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DEDICATION

I've learnt that its not what you have in your life, but who you have in your life that counts.

This thesis is dedicated to

Vishnu

(My husband, my rock, my best friend)

Nadine and Ryan

(My pride and joy)

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"Thank you" - two little words that convey a wealth of meaning for the person saying it and to the person to whom it is being said. To those whom I acknowledge in this thesis, words are not enough to express my deep gratitude.

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ABSTRACT

New curriculum reforms and changes post 1994 has created a need for teachers to reprofessionalise and reskill themselves so that they can implement reforms in their schools and classrooms. This has added pressure on teachers, novice teachers, as well as experienced teachers who have been teaching for over fifteen years, to learn an enormous amount of knowledge in order for them to teach effectively in the classroom. Knowledge on professional development of teachers is expanding to new and useful ways of teacher learning to embrace these changes. Recent literature suggest that teacher learning in communities of practice (Wenger, 1991) or learning communities (Lieberman and Pointer Mace, 2008) actually translates into enduring and sustained learning that leads to transformation in teaching and improving the quality of education. In addition to this clustering has been introduced as a useful way of teacher learning.

The purpose of this study is to explore teacher learning in learning area clusters. These clusters are considered to be learning communities, because teachers are provided with opportunities to engage in professional dialogue and collaborative problem solving in issues related to teaching and learning.

The conceptual framework used in data analysis is the knowledge – practice theory proposed by Cochran Smith and Lytle (1999) as well as Day and Sachs (2004). The four domains of knowledge are knowledge for practice, knowledge in practice, knowledge of practice and knowledge of self. This framework together with Shulman's (1987) identification of content knowledge (CK) and pedagogical content knowledge (PCK) was used in data analysis.

The study was located within the qualitative mode of inquiry specifically in the interpretivist paradigm as it is concerned with interpretation and understanding of teacher learning experiences in clusters. In order to answer the research questions I used the method of Narrative Inquiry as this allowed me to understand how teacher knowledge is narratively composed, embodied in a person and expressed in practice.

I selected five participants who belong to learning area clusters who were purposively identified. Data was collected through semi structured interviews. The findings revealed that clustering is built on qualities of commitment, leads to teachers' reflections of practices, increases confidence of teachers, promotes self-initiated learning and leads to organic learning in clusters. Clustering is one useful way of understanding teacher learning. This study contributes towards our understanding of how clusters can be used effectively to enhance teacher learning.

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CHAPTER ONE

INTRODUCTION AND OVERVIEW

1.1 Introduction to the study

Currently in the context of education reforms, there is a heightened focus on teacher professional development that attempts to develop teachers to implement the new educational initiatives as we refine the post-political transformation agendas of our democratic country. These professional development activities are usually state driven i.e. initiated by the Department of Education. However, these interventionist professional development activities are usually not sufficient for teachers to acquire the knowledge, skills and attitudes to implement the reform agendas, due to a range of reasons, which includes capacity, support, resources and contextual issues. Quality and accountability issues also place more responsibility on the school to monitor improvement through testing and evaluation. As teachers we find that we have to continually rely on colleagues and others to provide additional support. In this respect, the idea of learning communities to facilitate learning amongst teachers has taken on a firm grip in our professional development and growth. Communities of learning amongst teachers now seem an established way of facilitating teacher learning. It is within this focus that I explore clustering of teachers to understand how and why such communities of teachers develop, are sustained and influence teacher learning (Graven, 2004; Lieberman and Pointer Mace, 2008).

1.2 Background

In the last decade and a half, there have been major changes to the education system within South Africa. Some of these changes include a reconceptualisation of the school curriculum, new structures for schooling and new quality accountability systems. These reform agendas have far reaching consequences for teachers who are expected to implement the changes within schools and classrooms. How are teachers expected to

learn about their new ways of teaching, about the new curriculum and about new quality control measures? Professional development of teachers to embrace these changes have been largely led by the state through several approaches, including off-site long duration workshops, on-site school-based workshops, teacher cluster and formal programmes. While the literature on processes and impact of teacher professional development are abundant (see Adler, 2002; Day and Sachs, 2004; Lieberman and Pointer-Mace, 2008; Shulman, 2004), little is known about teacher professional development within a context that requires such fundamental and foundational educational changes. Hence, studies of teacher learning within such rapidly changing contexts are necessary in order to understand what works best and what process of teacher learning can yield relevant learning for sustainability. Once again, the field of teacher learning, including the process of teacher learning is vast (Graven, 2004; MacNeil, 2004; Swart and Oswald, 2008; van Eekelen, Boshuizen and Vermunt, 2005), it would be useful to delimit the scope in order to get a more nuanced understanding of teacher learning through particular processes of learning that teachers undergo. Hence, this study attempts to understand teacher learning through the process of teacher clustering. The choice of teacher clustering as the lens to explore teacher learning is motivated by the recent emphasis by the Department of Education, to introduce further changes to the curriculum within schools in the form of Foundations for Learning.

1.3 Rationale

Education in South Africa post 1994 has undergone fundamental changes. These are evident in the new educational policies and curriculum reforms that were initiated to redress inequalities of the apartheid era. These reform agendas put teachers in the fore-front as agents to implement the changes at school level. As an individual teacher in the midst of all the changes, I had to find ways of managing and implementing the changes in the curriculum to the classroom. My colleagues and I shared the same problems of uncertainty, confusion, lack of resource materials and inadequate

knowledge and skills to implement the new curriculum. To manage these inadequacies we coped through forming groups and working together.
By understanding how I made sense of these changes and its impact on me, it raised several questions about other teachers and how they coped. This study hopes to present a glimpse of that, to understand what kinds of learning happen when teachers get together in clusters learning spaces.

In keeping with these changes that are rapidly unfolding, the Department of Education initiated professional development programmes to enable teachers to implement the curriculum changes. The national government, through its policy implementation initiatives, has promoted the idea of clustering to support implementation of many policies. One such implementation strategy is subject or learning area clusters, where teachers teaching in a particular phase or learning area meet. The success of these interventions in teacher learning is, as yet, unknown.

While issues on teacher learning in learning communities has been well debated in the field of teacher professional development (Lieberman and Pointer-Mace, 2008), there are still many issues around clustering that are not addressed by authors. This study hopes to contribute towards understanding those concerns through a localised study within a specific context – the school.

1.4 Purpose of Study

According to Adler (2002) teachers must be competent in terms of subject matter knowledge and the ways in which they teach this knowledge. Therefore, as challenging and complex as these reforms are, there are those teachers who try to meet these learning challenges in constructive and supportive ways using learning communities as a means of learning. The purpose of this study then is to explore teacher learning in one such initiative known as learning area clusters. The study is guided by the following research questions:

1. What are teachers' learning experiences within the cluster learning space?

1.5 Teacher Professional Development post 1994

Teacher professional development has become a major focus and is gaining importance as teachers seek to improve and enhance the quality of teaching and learning. State driven professional development workshops are merely "crash course" training (Harley and Wedekind, 2004) for teachers over a short space of time. Research conducted by Harley and Wedekind (2004) suggests that the cascade model used by the education department was ineffective in changing teachers' practice as it emphasized implementation and not development and is not followed by adequate support.

The model commonly adopted is the cascade model which cascades training and information down through the system. At a time of educational reform with the introduction of C2005 when teachers needed clear understanding of the new curriculum, the trainers who cascaded the information where not sufficiently equipped to replicate the training within the districts and schools (Harley and Wedekind, 2004). This resulted in teachers' uncertainty and inadequate knowledge and skills to implement the new curriculum. Lack of departmental support added to the woes of the teachers.

More recently the new Foundations for Learning (FFL) have been introduced in South African schools. The Foundations for Learning Campaign was Gazetted on 14 March 2008 and launched by the National Minister in Cape Town on 18 March 2008. This National mandate provides clear directives to the entire education system on the minimum expectations of learner performance at each level from Grade 1 to Grade 6. The campaign aims to improve learner performance in Literacy and Numeracy (Language and Mathematics) to at least 50% by 2011. Needless to say, the cascade model was once again used to train teachers. Once again, after initial department workshops, there was no support workshop for teachers.

Lieberman and Pointer Mace (2008) succinctly state what appears to be the norm regarding state driven professional development workshops when they state that

> *"in a typical school all teachers go to professional development workshops where they most often learn how to follow a script that they will use in the hopes of raising students' scores"* (Lieberman and Pointer Mace, 2008, p. 227)

This approach ignores the different needs of the students, the experiences of the teacher and the possibilities for engaging students in learning. Therefore teachers' professional development should be refocused on the building of learning communities (Lieberman and Pointer Mace, 2008).

The concept of communities of practice (Wenger, 1998) has emerged as a successful way for teachers to learn at their place of work and in communities that they belong to outside their work places (Lieberman and Mace, 2008). According to McDermott (1999) learning in these communities of practice provides a more focused learning that is beneficial to teachers as they are based on practical aspects of a practice, everyday problems, new tools, developments in the field, things that work and fail. Thus, people participate because the community adds value.

From the above critique on state driven professional development initiatives and the literature critiques of state driven initiatives, it follows that state driven workshops serve as mechanisms of transmission and do not lead to transformative teacher learning as outlined by Kennedy (2007) in Fraser, Kennedy, Reid and Mckinney (2007). Teacher learning that brings about transformation will be evident in the behavioural changes that these teachers display, in the activities and in methods that they employ to teach their learners.

1.6 Clustering as a Teacher Development Initiative

The concept of clustering within South African schools was introduced in the Mafukuzela-Gandhi circuit, ward 142 as an intervention strategy by the Superintendent of Education Management of that ward. This intervention strategy was necessary for two reasons. Firstly, principals of secondary schools had complained that learners from primary schools who entered secondary schools were not adequately prepared for secondary schooling and, secondly, results of common examination papers written by grade seven learners indicated a discrepancy in the results among schools in the ward and circuit. A possible reason for this could be that teachers were experiencing problems in implementing the new curriculum. In order to address these issues, the Superintendent of Education Management introduced the idea of forming learning area clusters.

Teachers teaching particular learning areas at school were invited to attend learning area meetings where learning area clusters were formed. Teachers attended the meetings, and it was at this gathering that the concept of clustering was introduced and learning clusters were formed. Other researchers and scholars refer to the cluster approach as 'teacher communities of learning' or 'teacher networks' (Adams, 2000; Lieberman and Grolnick, 1996).

Giordano (2008) defines a school cluster as

> "*a grouping of schools for educational and/ or administrative purposes. In a school cluster, several schools come together to share their resources to improve the conditions for the delivery of education. Clusters are a support strategy for schools, bringing together material and human resources so that the schools can benefit mutually" (p. 25).*

In the context of this study, a cluster can be regarded as a group of teachers, teaching a particular learning area, located within a geographic boundary, who come together to improve their teaching and learning by sharing content knowledge and pedagogical content knowledge.

The structure of the clusters appeared to be hierarchical in nature. The Superintendent of Education Management initiated the formation of clusters and cluster leaders had to meet regularly to inform him of the activities of the cluster. This was because cluster leaders were elected on the basis of their experience, their seniority, the positions they held in management and the confidence that Department Officials and teachers had in their ability to lead the cluster successfully.

Grouping schools by clusters means bringing supervision and support one step closer to the school level (Giordano, 2008). One of the objectives of initiating the process of clustering, was for teachers in a particular ward to develop common work schedules from the curriculum, and to set common examination papers for learners to write in each learning area. In addition to meeting these goals, other activities emerged from the teachers themselves when they used the cluster as a platform to fulfill their own needs in terms of the curriculum and pedagogical content knowledge. Teachers embraced the idea of clustering as safe spaces for interaction and support where curriculum knowledge and expertise could be shared.

1.7 Organisation of the study

This work consists of five chapters which will bring together the different parts of the research. The discussion will explore different aspects of teacher learning that occur in learning area clusters, as well as opportunities created in the cluster for learning, sharing of knowledge and generating new knowledge.

This chapter also explained the background, the rationale for the study and the origin of the study by exploring professional development initiatives in South Africa post – 1994.

Chapter two explores the literature review on teacher learning by providing a working definition of teacher learning and explaining the importance of knowledge in teacher learning. It also presents literature on conceptions, forms and processes of teacher learning and incorporates the theoretical framework to be used in data analysis

Chapter three discusses the research design and methodology used in gathering data collection. It describes the choice of participants, the instrument used to generate data and a discussion of how the data was analysed.

Chapter four presents the data analysis in terms of themes that were identified, using vignettes in participants own words.

Chapter five focuses on theorizing about the data and the main findings of the study. It also explores how teachers in the clusters used the opportunities created for their own learning and development to improve their content knowledge and pedagogical content knowledge.

1.8 Conclusion

This chapter provided an overview of the entire study. It presented a background of curriculum changes and how this impacted on teachers. I also briefly explored state-driven professional development initiatives and explained the origins of clustering in the Mafukuzela-Gandhi circuit, ward 142. The next chapter will review relevant literature on teacher learning, clustering and explore the theoretical framework for data analysis.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

In this chapter, the literature relevant for the understanding of clustering and its implications for teachers and teacher learning is discussed. This literature review will serve to unravel the literature on teacher learning especially through teacher clustering, because teacher learning in communities have in the last few years been regarded as an innovative and promising approach to teacher development (Adams, 2000, Lieberman and Pointer-Mace, 2008, Southwood, 2002).

This chapter focuses on teacher knowledge as it forms the backbone of teacher learning (Ndlalane, 2006). Firstly, the purpose of conducting a literature review in a study is explained. I shall then present a definition of teacher learning, conceptions of teacher learning, sites where teacher learning may occur and the processes of teacher learning. The focus in the processes of teacher learning is on learning that happens in teacher clusters. By presenting this overview, an understanding can be accomplished in order to promote teacher professional development.

I shall conclude this chapter by presenting the theoretical and conceptual framework that will be used in data analysis.

2.2 The Purpose of the Literature Review

A literature review is usually a critique of the status of knowledge of a carefully defined topic and it enables the researcher to gain further insights from the study (McMillan and Schumacher, 2001).

According to Leedy (1989) the function of a literature review is to look again at the literature in any area, not necessarily identical with, but collateral to your own area of

study. The aim is to obtain detailed knowledge of the topic under study. The literature review is intended to demonstrate a professional grasp of the background theory to the research being conducted.

2.3 A working definition of Teacher Learning

Teacher professional learning is often confused with the term teacher professional development. For example, teacher learning focuses on what is to be learnt and teacher professional development focuses on the process of what is to be learnt. This conflation of content and process is perhaps the root cause of this confusion (Evans, 2002). Therefore, in order to clarify the focus of my study, I shall present a working definition of teacher learning.

"Teachers' professional learning can also be taken to represent the processes that, whether intuitive or deliberate, individual or social, result in specific changes in the professional knowledge, skills, attitudes, beliefs or actions of teachers" (Fraser, Kennedy, Reid and Mckinney, 2007, p. 157).

This definition will serve as a guide and allow me to interpret and understand what kinds of learning occur in teacher clusters.

2.4 The Importance of Knowledge in Teacher Learning

In this study, understanding learning as a learning journey provided a useful map to understand how teachers do their work (Swart and Oswald, 2008), since teachers' work, according to Morrow (2007), is to teach. In order for teachers to do their work they need to have a knowledge base.

According to Candy (1991), while individually conceived knowledge is important, it becomes useful and effective if it is socially shared and constructed in a community of people. Ndlalane (2006) supports the view that knowledge of practice is socially

constructed and further states that it is usually influenced by the environment, ethos and culture of the school. While teachers are engaged in the same processes of teaching and learning, their experiences that form part of their knowledge base are different. Shulman (1987) originally identified seven categories of teacher knowledge required for effective practice. These are:

- general content knowledge (CK)
- general pedagogical knowledge
- curriculum knowledge
- pedagogical content knowledge (PCK)
- knowledge of the learners and their characteristics
- knowledge of the educational contexts
- knowledge of educational ends, purposes and values, and their philosophical and historical backgrounds .

There are links and relationships between these seven categories of knowledge related to teaching and learning. However, my focus for this study will be on general content knowledge (CK) and pedagogical content knowledge (PCK). The choice to delimit the focus to CK and PCK is driven by the sharp focus of the new curriculum which stresses the need for deep and different subject content knowledge as well as methodologies that include learner centered approaches to make the content more accessible to learners.

In order to teach effectively, teachers must have relevant knowledge insights which are based on content knowledge and pedagogical content knowledge. According to Shulman (1987) pedagogical content knowledge is understood as the knowledge that links particular content and the teaching practice.

> *"Pedagogical content knowledge is a special amalgam of content and pedagogy that is uniquely the province of teachers"* (Shulman, 1987, p.8)

In addition to Shulman's categories of knowledge, an appropriate knowledge – practice theory is that of knowledge of practice, knowledge in practice and knowledge for practice that is proposed by Cochran-Smith and Lytle (1999) and knowledge of self, added by Day and Sachs (2004). These four domains of knowledge will be further explored as the theoretical framework for this study.

2.5 Conceptions of Teacher Learning

Learning is an active process in which the learner interprets and uses sensory input and constructs meaning out of it (Ndlalane, 2006). According to Dewey (1938), all experiences are potentially educative. We all learn by making mistakes. We can learn from getting things right and reflecting on them, but as teachers, we also learn from the mistakes we make.

Learning rather than being solely an individual activity is also social (Evans, 2002; Lieberman and Pointer-Mace, 2008). They argue that it happens through experience and practice (learning as doing), through meaning (learning as intentional), through community (learning as participating and being with others) and through identity (learning as changing who we are). They recommend that teacher's professional development should be refocused on building of learning communities as teachers are adults and their learning occurs in a social context.

Eekelen, Boshuizen and Vermunt (2005) define learning as an experience whereby knowledge, skills and new attitudes related to work are acquired and recognized by the teachers themselves. The findings of a study on self-regulated learning by Eekelen, Boshuizen and Vermunt (2005) indicated that of all learning activities, learning in interaction was reported most frequently, followed by learning by doing, while learning by reading and thinking was reported least.

Whereas, van Eekelen et al (2005) refer to learning as an experience, Swart and Oswald (2008) regard it as a process that occurs within ongoing activity where individual and social learning processes are interdependent. They see teacher learning both as an individual construction and as participation in a community.

Shulman (2004) identifies 5 principles of effective and enduring learning for students and their teachers. The first is the principle of activity where teacher learning becomes more active through experimentation and inquiry, as well as through writing, dialogue and questioning. The second principle is that we learn by thinking about what we are doing and why. This is called reflection. The third principle is that of collaboration where teachers work together in ways that scaffold and support each other's learning, and in ways that supplement each other's knowledge. The fourth principle is that of emotion, where teachers share a passion for the material and are emotionally committed to the ideas, processes and activities of effective learning. The fifth principle is that authentic and enduring learning works best when the processes of activity, reflection, emotion and collaboration are supported and nurtured in a community or culture that values such experiences and creates opportunities for them to occur successfully (Shulman, 2004).

Southwood (2002) supports the principle of reflection as she believes that teachers need to reflect both individually and collectively on the learning and its consequences in the classroom. Reflecting collectively allows teachers to voice their experiences and feelings with their peers, with the aim of confirming or strengthening their beliefs about teaching and learning. In addition to this Boyd and Fales (1983) view reflective learning as a process of internally examining an issue of concern which is usually triggered by an experience. The experience usually creates and clarifies meaning, which results in a changed conceptual perspective.

According to Shulman (2004), learning from experience is one of the requirements of any school reform. He maintains that teachers must learn from the experiences they create with their students as the classroom becomes the teachers' laboratory where educators strive for the "wisdom of practice" (Shulman, 2004).

According to Kolb (1984), experiential learning offers an integrative perspective on learning, as it combines experiences, perception, cognition and behaviour. In experiential learning, the learner plays an active role and there are many phases in the learning process. The learner experiences, reflects, conceptualizes, experiments and starts experiencing again (Kolb, 1984). In experiential learning the end of a learning process is the beginning of a new learning process (Kolb, 1984).

Having discussed the various conceptions and theories, advocated by researchers and scholars that teachers engage in to enhance their professionalism, I shall now discuss the sites where teacher learning may occur.

2.6 Sites where teacher learning may occur

While many forms of teacher learning contents exist, I shall focus on learning experiences of teachers from state-initiated professional development programmes, self-initiated learning and school initiated staff development programmes.

State-driven professional development programmes occur in response to educational reforms. The method commonly used to train teachers to implement these reform agendas was the cascade model (Harley and Wedekind, 2004). The cascade model was found to be problematic because it was a top-down approach and many of the teachers trained at the top of the cascade were not sufficiently equipped to replicate the training within their districts and schools (Harley and Wedekind, 2004). Needless to say, there were many problems with this model, the main problem being, inadequate training of the facilitators (Harley and Wedekind, 2004).

This, therefore, led to confusion and lack of clarity in implementation by teachers. Instead of teachers learning new content knowledge and pedagogical content knowledge, there was the increasing tendency by teachers to cling to the old traditional content and pedagogical content knowledge. Teachers merely made structural changes, such as seating learners in groups, as an appearance of implementing the new reforms (Harley and Wedekind, 2004). One can therefore conclude that the cascade model while disseminating important information is not effective in promoting teacher learning.

School-based professional development has been a consistent strategy for teacher renewal and professional learning (Day and Sachs, 2004). School initiated staff development programmes are institution-based and take the forms that managers allow them to take. These can range from peer-cascading of information to colleagues about workshops attended, to within learning area and interest groups that form clusters to meet, with the aim of enhancing their teaching and learning. These kinds of clustering of teachers are fast becoming a popular strategy of school-based professional development, as colleagues look to each other for clarity of knowledge and for support and guidance (Fraser, Kennedy, Reid and McKinney, 2007).

According to Shulman (2004) any school that wishes its teachers to teach well should provide the conditions for them to be learning continually. Learning from experience is one of the requirements of any school reform (Shulman, 2004). Three roles of teacher's according to the Norms and Standards for Educators (NSE)(DoE, 2000) require teachers to be learning mediator; interpreter and designer of learning programmes and materials as well as scholar, researcher and life-long learner.
These roles had the impact of making teachers reflect on the many roles they now had to play as teachers. In reflecting, teachers would be able to identify areas in which they needed to be developed in order to satisfy the requirements to fulfill these roles.

Therefore at school, teachers have to create conditions for learning that they themselves may never have encountered before (Shulman, 2004).

According to Shulman (2004) new reforms expect teachers to employ new forms of instruments allowing for more collaboration, giving opportunity for creative projects. These kinds of experiences require teachers to create far more complex structures in classrooms. Changes are good for learning but add strain to the already heavy burden of teaching. He therefore maintains that teachers must learn from the experiences they create with their students and in school reform, the classroom becomes the educators' laboratory where educators strive for the "wisdom of practice" (Shulman, 2004). Teachers have to be continuously learning if they are to become capable of coping with the challenges of the new widespread classroom reforms.

Van Eekelen, Boshuizen and Vermunt (2005) provide 3 perspectives of learning at the workplace. The first is where self-directed learners reflect, assess and evaluate information and are responsible for most of the detailed decision-making about learning, including choices about what and how to learn. The second is experiential learning which combines experience, perception, cognition and behavior and emphasizes an active role of the learner. Third, is the process of reflection in teacher learning.

In a study by Swart and Oswald (2008), the teachers as learners increasingly accessed and generated sources and opportunities that supported their learning processes. The increasing diversity in participants in classrooms, served as catalysts for teachers' journeys of learning and they accessed existing and generated new sources of support that could deepen and extend their learning. Existing sources of learning included knowledgeable professionals, information sources and training opportunities, and the sources that they generated comprised collegial support and team learning.

Self-initiated learning is undertaken by teachers who are already effective at what they do and can build on this and improve their knowledge. Day and Sachs (2004) refer to this kind of learning as an aspirational model of learning. This could be in the form of formal courses through universities and colleges. Self initiated learning can also be to acquire knowledge and skills that teachers need and do not already have i.e. learning in response to a deficit, (Day and Sachs, 2004). This kind of learning, whether aspirational or deficit, fulfils an individual teachers need for knowledge to promote his/her own learning.

According to Van Eekelen, Bozhuizen and Vermunt (2005), self directed learning is often associated with setting goals, selecting learning resources, and managing time. This suggests that the learners reflect, assess and evaluate rather than uncritically accept and internalize information. They also make their own decisions and choices about what to learn, how to learn and at what pace the learning should occur (Van Eekelen, Bozhuizen and Vermunt, 2005).

2.7 Processes of Teacher Learning

While there are various processes that lead to teacher learning, I shall consider one of these, which is learning in a teacher learning community. The idea of adult learning and teacher learning in communities that involved teachers in similar learning areas seem to be a common finding by the authors of the literature I reviewed. Many researchers (Graven, 2004; Lieberman and Pointer Mace, 2008; Shulman, 2004), have advocated that teacher learning in a community of practice or learning communities actually translates to enduring and sustained learning that leads to transformation in teaching and improving the quality of education.

According to Lave and Wenger (1991) learning is not located in the acquisition of structure or in the heads of individuals but in the process of co-operation and the increased access of learners to participation.

Lieberman and Pointer Mace (2008) argue that teachers' professional development should be refocused on the building of learning communities. They argue that human beings need to feel a sense of belonging and of making a contribution to a community where experience and knowledge function as part of the community. They use case studies to show how teachers seek opportunities to develop themselves in a community and learn how to facilitate learning for others. They also argue that when teachers are taken out of their school community, they become socialized into a collaborative culture, where they learn to trust and learn from one another (Lieberman and Pointer Mace, 2008).

Swart and Oswald (2008) postulate that a sense of worthiness adds confidence to the agency of the individual teacher, to embrace the belief that he/she can contribute positively to the group process. Teachers' ability to contribute useful knowledge to the group increases their confidence as this is a way of helping other teachers.

The issue of confidence is raised by Graven (2004) as a product and process of learning. Graven (2004) uses a social practice frame to explain the nature of teacher learning in relation to their participation in a Mathematics In-service training (INSET) project. The study was an in-service mathematics teacher education project called the Programme for Leader Educators in Senior-phase Mathematics Education (PLESME). PLESME evolved from the assumptions that teacher learning would be best enabled by a long-term, small scale, classroom focused community of practice to include other practices and activities for teachers. PLESME teachers worked collaboratively and participated in broader professional networks as a way of sustaining teacher learning . The purpose of PLESME was to stimulate this life-long learning and to enable forms of participation in which learning would thrive during and beyond PLESME (Graven, 2004). She argues that these communities of practice are becoming a far more powerful learning resource than they were at the start.

In the articles that I have reviewed there is evidence for the support and success of learning communities where teachers learn from each other, and these learning communities can also be seen as communities of practice (with reference to teachers of a particular subject such as Mathematics belonging to a particular community). Teacher learning in these communities takes place socially, for example through discussion of specific issues, questions, shared strategies and reflection.

Brown, Ash, Rutherford, Nakagawa, Gordon and Campione (1993), cited in Shulman (2004) have suggested that effective learning communities share certain salient features. First, is the feature of "distributed expertise", where all members have something significant to offer one another and represent an array of different talents, understandings, skills and dispositions. Thus group members are characterized by "individuality", in which members develop individual talents for the sake of the community. Therefore, its members can engage in the kinds of dialogue, peer instructions, conversations, and collaborative work that permit knowledge to be transmitted and shared, which is the second feature, sharing of expertise. The third feature of a community is trust and respect for each other and to value each others contributions. In the fourth attribute effective learning communities must be capable of moving from talk to action, where the joint pursuit of tasks is publicly visible. This is the feature referred to as developing "community of practice" (Shulman, 2004).

Therefore, one can conclude that teacher learning is a social activity that takes place in learning communities. For teachers to learn to teach in these reform oriented ways, teachers must be active, reflective, collaborative, impassioned and communal (Shulman, 2004). These communities will be characterized by diversity, dialogue, respect and mutually valued practices (Shulman, 2004).

The focus of this study is on teacher learning in clustering therefore this study intends to explore whether clustering contributes to effective teacher learning and professional

development. I shall now present information pertaining specifically to clustering and issues related to clustering.

2.8 Teacher Learning through Clustering

The term "school cluster" refers to a grouping of neighbouring schools to form a cluster or network (Giordano, 2008). The size of the cluster depends on the geographic location and the accessibility of the schools. Clustering of schools can occur for various reasons including administrative, political, economic and educational purposes.

According to the educational objectives of school clustering, it is believed that a cluster can provide a network of support for curriculum workshops as well as enable teachers to share ideas and solve problems (Giordano, 2008). It is therefore assumed that this kind of teacher support and in-service professional development improves the quality of teaching and learning (Pomuti, 2008). . It suggests a new form of co-operation between schools (MacNeil, 2004). The goals of school clustering therefore are to promote the following: community participation, collaborative teacher development, local decision-making and equitable distribution of resources (Pomuti, 2008). Participation is voluntary and there are no hierarchical relationships (Giordano, 2008). This would be the ideal, however, it still has to be proven to be true in the South African context.

School clusters (teacher groups) are considered to be learning communities, because teachers are provided with opportunity to engage in professional dialogue and collaborative problem solving in issues related to teaching and learning (USAID, 2004).

In a study conducted by Mendelson and Ward (2007) it was found that school clustering has improved the quality of teaching through collaborative interpretation of syllabi and subject policies, joint preparation of schemes of work, sharing of materials,

teaching techniques and experience. This study will explore these issues to ascertain the influence of clustering on teaching and learning.

Recent studies (Ndlalane, 2006; Chikoko and Aipinge, 2009) in African countries regarding in-service professional development indicate school clustering as a successful means of enhancing teacher learning and improving the quality of education. In South Africa there has been a need for a model of professional development that would lead to transformative and effective teaching and learning. The concept of clustering schools is not a new one, however, recently it has become popular and widely implemented internationally and in Africa. Clustering has been introduced in African countries such as Namibia, Zimbabwe and Kenya with successful results (Pomuti, 2008). The concept of clustering has been implemented in various countries for a variety of reasons, not only educational. In African countries such as Botswana, Lesotho, Kenya, Uganda and Egypt, the aim of school clustering was to improve in-school supervision and to conduct school-based professional development for teachers and principals (Assefa, 2001) cited in Pomuti (2008). According to Leu (2004) teacher professional development programmes in schools and clusters are favoured because they are driven by two paradigm shifts. These are firstly, the shift in approaches to student and teacher learning from passive to active learning, and secondly, the shift to more decentralized forms of authority, activity and agency (Leu, 2004).

In South Africa the concept has been introduced in Mpumalanga province by the Mpumalanga Department of Education (MDE) and more recently (2009) in Kwa-Zulu Natal. Research conducted by Ndlalane (2006) on clusters that exists in the Mpumalanga province indicates two types of clustering that could be identified. Ndlalane (2006) refers to these as Dominant Internal Clusters and External Clusters. The Dominant Internal Clusters is the name given to those clusters that are registered and are officially recognized by the Mpumalanga Department of Education (MDE). They are sanctioned and formed by the MDE through its officials and are compulsory,

whereas, the External clusters are teacher driven. They are formed through the initiatives of the teachers themselves and are voluntary networks with no official recognition from the MDE.

These external clusters are based on shared interest among the participating teachers (Ndlalane, 2006) and have a long history of existence. This kind of teacher learning and professional development is summed up as:

> *"the approach to teacher learning in this methodology follows participatory, active learning patterns for adult learners that parallel the new active learning approaches that teachers are learning to implement in their own classrooms"* (MacNeil, 2004).

McDermott (2001) identifies a particular community of practice as organic because they are driven by the value that they provide members. They are organized around changing topics and are bound by people's sense of connection. This kind of community or cluster is held together by people who care about the community, they keep people informed of what each other is doing and create opportunities for people to get together to learn and share ideas. The cluster is held together by a dedicated and committed co-ordinator. These clusters are organic because they grow and thrive as their focus engages members on a human level. To make clusters really valuable, inclusive and vibrant, they need to be cared for and nurtured by all members.

According to literature reviewed, there are many different models of clustering (Giordano, 2008; Ndlalane, 2006). The clusters that are initiated by teachers themselves on a voluntary basis appear to be in existence as they meet particular needs of the people involved and are sustained by people in the cluster. There are also those, as in Mpumalanga, that are state initiated, with a hierarchical leadership which advocates compulsory attendance of teachers. It has not been conclusively established

what impact school clustering has had on teaching in the classroom. Therefore this study intends to explore and contribute towards how teachers get involved in clusters and their learning experiences in these clusters.

2.9 Theoretical Framework

In this study I propose to use the knowledge practice theory of Cochran-Smith and Lytle (1999) as well as Day and Sachs (2004) to examine and understand how teacher learning occurs. Cochran-Smith and Lytle (1999) and Day and Sachs (2004) provide an analytic framework for theorizing teacher learning by looking at how knowledge and practice are related and how teachers learn within communities and other contexts. In addition to this Shulman's (2004) categories of content knowledge and pedagogical content knowledge will be used in data analysis.

2.9.1 Knowledge for Practice

This knowledge refers to formal knowledge that teachers acquire during the teacher training programme for initial teacher training (Cochran-Smith and Lytle, 1999). This can be regarded as codified knowledge that teachers have acquired through formal learning and is focused on subject content knowledge and learning about teaching methods. Ovens (2000) expresses the concern as to the relevance and effectiveness of the content knowledge that is offered to subject teachers in pre-service training programmes. This content knowledge is usually challenged when these teachers teach in the real classroom.

2.9.2 Knowledge in Practice

This is knowledge that teachers acquire during teaching experiences where teachers' practical knowledge is generated through their own systematic inquiry, by reflecting on experience, that is, learning through reflection (Cochran-Smith and Lytle, 1999). This knowledge relates to what teachers know about topics and the curriculum which they

have used in their classrooms. Factors such as class size and availability of resources will influence this content knowledge and pedagogical content knowledge.

2.9.3 Knowledge of Practice

Here, it is assumed that the knowledge teachers need in order to teach is generated when teachers treat their own schools and classrooms as sites for intentional investigation i.e. learning about how others do things (Cochran-Smith and Lytle, 1999). When training workshops are organized for practicing teachers, teachers are exposed to new knowledge and skills for teaching. Often it is assumed that teachers bring no experiences of their own and there is no link of the new knowledge with the knowledge teachers already have (Ndlalane, 2006). However, according to Lampert and Ball (1995), this sharing allows all participants to build on their knowledge of practice.

2.9.4 Knowledge of Self

The concept of knowledge of self has been added as a fourth domain of teacher learning by Day and Sachs (2004). Knowledge of self is generated by teachers themselves when they engage regularly in reflection in, on and about their values, purposes, emotions and relationships. Here, the emotional aspect of their profession comes to the fore.

In 1997, the Department of Education outlined the Norms and Standards for Teacher Education (NSE) (DoE, 2000), which identified seven roles that competent teachers in South Africa were expected to fulfill. One of these roles requires that teachers play a community, citizenship and pastoral role. In fulfilling this role teachers will generate knowledge of self as it will expect them to reflect on and about their values, purposes, emotions and relationships with learners, educators and the community.

I believe that teachers learning about themselves will enable them to be more sensitive in teaching learners who come from diverse ethnic and cultural backgrounds. It will also allow them to be more humane and understanding in meeting the educational needs of the learners by adopting a holistic approach in their teaching.

Using this framework will allow me to explore what learning experiences teachers have when they get involved in teacher clusters.

2.10 Conclusion

This literature review suggests that teacher learning is a complex issue that is not premised on one form of learning. In this chapter I have presented literature on teacher learning as well as conceptions, forms and processes of teacher learning. The next chapter will explain the research design and methodology adopted in the study.

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

The previous chapter presented the literature review and theoretical framework for this study. In this chapter, my arguments for the choices made within the research design for this study is presented. The research design uses a narrative inquiry methodology wherein data was produced through iterative interviews focusing on teachers learning experiences within cluster learning communities. This chapter presents the methodology used in the study, the participants identified to participate and the data production instruments used for the production of the data. The chapter extends to include methodological limitations that were identified and addressed in the data production and the data analysis process. Issues of validity, reliability and biases are also dealt with in relation to the limitations of the research design adopted for this study.

To recollect, the study focuses on teacher learning through clustering. The research question that guided this research focus is:

1. What are teachers' learning experiences within the cluster learning space?

3.2 A Qualitative Study

The reasons for the use of qualitative research in this study are firstly, to find out not only what happens but also how it happens and why it happens the way it does (Henning, 2004, p3), hence the use of the qualitative mode of inquiry. According to McMillan and Schumacher, (2001) qualitative research is concerned with processes and meanings. Researchers in this field, study things in their natural settings, attempting to make sense of, or interpret phenomena in terms of the meanings people bring to them. There is an emphasis on gathering data in real life situations or natural settings

(McMillan and Schumacher, 2001). In this study I am concerned with teacher learning in cluster spaces which is a social grouping of people in a real life situation.

Qualitative research also provides an insider perspective or knowledge which has become known as 'emic". According to Henning (2004) an emic categorization of knowledge means that the researcher makes notes and then locates the knowledge that is constructed into categories that he/she builds up inductively from what he/she has learnt from the participants. The goal is usually to represent the situation from the people's perspective (McMillan and Schumacher, 2001).

The issue of voice is also important to qualitative research. Approaches within the qualitative mode make us aware of different voices and the need to consider whose voice will be represented how, in what ways and for what purposes (Henning, 2004). In order for participants voices to come through I used verbatim accounts from participants (McMillan and Schumacher, 2001), in the form of vignettes in data analysis. However, the voice of researcher is also noted in the interpretation and meaning-making process. It is important that the voices of the participants are not lost in the interpretation and that the researcher does not bias the study to mean what she wants it to mean (Henning, 2004).

3.3 Locating the study within the Research Paradigm

According to Cresswell (1994) the design of the study begins with the selection of a topic and a paradigm. The topic I have chosen to explore is teacher learning through clustering. Paradigms in the human and social sciences help us understand phenomena and they advance assumptions about the social world, how science should be conducted, and what constitutes legitimate problems, solutions, and criteria. (Cresswell, 1994)

I chose to locate this study in a qualitative framework, specifically in the interpretative paradigm, as the study is concerned with interpretation and understanding of a

particular phenomenon, (teacher learning through clustering), with the aim of generating data.

In interpretivism, reality is a social construction, (McMillan and Schumacher, 2001) i.e. reality is seen as multilayered, interactive and a shared social experience interpreted by individuals. In order for me to find out how these social experiences shaped teacher learning, I had to identify participants who were involved in them.

According to Henning (2004), epistemology is the philosophy of knowledge or "how we come to know", and we come to know by inquiring in certain ways.

Interpretivists rely on naturalistic methods of generating data. According to Hammersly and Atkinson in Cohen, Manion and Morrison (2007) these methods are

- Participant observation
- Interviews and conversations
- Documents and field notes
- Accounts
- Notes and memos

In this study I decided on the use of iterative interviews to produce data as this will allow adequate dialogue in order to collaboratively construct a meaningful reality.

According to epistemology in interpretivism, knowledge is subjective and there is no objective truth. This is because I am dealing with human subjects. There is no one truth, truth is many because the findings are the creation of the process of the interaction between inquirer and inquired (Travis, 2009). In this study the interaction was between the participants and myself as the researcher. Data was generated through dialogue between the participants and myself.

Methodology is concerned with the specific ways, the methods that we can use to try and understand our world better. It is important to distinguish between methods and methodology. The term 'method' shows a way of doing something while methodology focuses on the process and the kinds of tools and procedures used to deliver data and findings that will reflect the research question and suit the research purpose (Henning, 2004). According to Cohen, Manion and Morrison (2007), methods refer to the range of approaches used in educational research to gather data which is to be used as a basis for inference, interpretation, explanation and prediction.

The methodology used in this study is that of narrative inquiry and the method used to generate the data is interviews. This will be explained further in the sections that follow.

3.4 Methodology: Use of Narrative Inquiry

In my study I have chosen to use the methodology of narrative inquiry. The purpose of narrative research is to study personal experience and meaning-making in a systematic manner (Giovannoli, 2009).

In my study I obtained narratives from 5 teachers who belong in learning area clusters to explore how teachers get involved in cluster learning and what their experiences within the cluster spaces are. Narrative inquiry will allow me to understand how teacher knowledge is narratively composed, embodied in a person and expressed in practice (Clandinin and Connelly, 2000). Narrative inquiry exists in the social sciences and is now being used in studies of educational experiences (Henz, van Driel, Verloop, 2009).

The main theory informing narrative inquiry is that humans are story-telling organisms individually and socially, and lead storied lives (Henz, van Driel, Verloop, 2009). Therefore, narrative is the study of how humans experience the world, (Henz, van Driel, Verloop, 2009). Educational research within this research design therefore

concerns itself with construction and reconstruction of personal and social stories of what it means to educate and be educated (Clandinin and Connelly, 2000).

3.5 Data production design

This section deals with the research process, tools and research procedures for conducting the research. Appropriate data gathering techniques must be used as this determines the value and nature of the research (Henning, 2004). In describing the methodology that was used in the data gathering design, I adopted the format suggested by Vithal and Jansen (1997, p.48).

3.5.1 Purpose Statement

The purpose of this study is to explore teacher learning through clustering. This study was guided by the following research questions:

Research Questions

1. What are teachers' learning experiences within the cluster learning space?

3.5.2 Summary of data production plan:

QUESTIONS	DATA COLLECTION PLAN
WHY is the data being collected?	1. To understand how teachers get involved in clusters. 2. To explore what their learning experiences are in learning area clusters.
WHAT is the research strategy?	• A range of interview strategies including semi-structured interviews • Stimulus recall conversations • Vignettes of particular learning episodes.

WHO (or what) will be the sources of the data?	• Teachers who belong to learning area clusters
HOW MANY of the data sources will be accessed?	• I selected 5 participants based on number of years experience, qualifications and post level. (1 manager, 1 novice teacher, 1 experienced teacher, 1 teacher with initial qualification and 1 teacher with initial and higher qualification).
WHERE is the data to be collected?	• The data was collected from participants at the schools where they teach.
HOW OFTEN will data be collected?	• Iteratively i.e. the conversation goes backwards and forwards. By taking this stance, the data produced was used to generate more data to get a much more nuanced understanding.
HOW will the data be collected?	• The data was captured by recordings of interviews, and conversation. Also by writing down of specific observations during the interviews soon after the interviews had taken place in order to capture the moment.
JUSTIFY this plan for data collection.	• This design would bring coherence to the process of generating data in the study to answer the research questions. • Interviews allowed for open-ended questions so that participants could relate their experiences freely. It also allowed the researcher to gain as much information as possible without limiting the participants. • Interviews also allowed participants to share their thoughts in detail and relate their experiences according to the questions asked. Descriptive and detailed data that was required, was obtained. • The recordings of the interview and discussions increased the trustworthiness of the data since all the participants oral contributions was captured. • Participants reflected on their learning through personal experiences and meaning-making in a systematic manner.

This summary is expanded in the sub-sections that follow.

3.5.2.1 Site Selection

The site that I selected was one that would allow me to gain in-depth information in order to answer the research questions. According to McMillan and Schumacher (2001), the selection of a site involves locating people who are involved in a particular event. As a teacher myself, I belong to a learning area cluster, which includes all schools in ward 142 of the Mafukuzela Gandhi Circuit. This knowledge allowed me to choose a school where I could locate many teachers who were involved in these learning area clusters. The site that I selected was one that allowed me to identify key participants who could provide rich data on the phenomenon I was researching. In identifying this school, I also considered convenience of access to me to conduct the research.

3.5.2.2 Choice of Participants

In this study I used purposeful sampling to identify participants who were informative about the topic (McMillan and Schumacher, 2001). Participants were handpicked because they possessed the particular characteristics (Cohen, Manion and Morrison, 2007) that I was interested in. As researcher I looked for information-rich, key participants who would be knowledgeable and informative about the phenomenon (teacher learning through clustering). McMillan and Schumacher (2001) also add that the power and logic of purposeful sampling is that a few participants will yield valuable insights about the topic rather than to generalize about it.

Keeping these factors in mind I developed a rationale for selecting participants. I decided that I would choose five participants as information rich sources to answer the

research questions in the study. This is how I went about purposefully choosing the participants for the study.

In order to gain access to the school, I telephoned the principal of the school and humbly requested for permission to use teachers from the school as participants in the study. After enquiring about the nature and purposes of my research, he granted me an appointment, during school hours, for further discussion and possible identification of participants.

Needless to say, I presented myself punctually for the appointment. I was overwhelmed at the kindness and hospitality that was shown to me at the school. I once again explained the reasons for the research and the principal asked me the number of participants I required and what criteria I had for selection of these participants. I explained to him the following rationale based on post level, number of years experience and qualifications that I had decided on for choice of five participants:

- One manager holding a post of head of department or deputy principal
- One novice teacher, who has between 1-5 years of teaching experience
- One experienced teacher, teaching for over 20 years
- One teacher with only an initial teaching qualification, and
- One teacher with initial and higher qualifications

The principal helped me identify the manager Faye, who is a head of department at the school and is the cluster co-ordinator for the Afrikaans cluster. After agreeing to be a participant in the study, she was able to help me identify other teachers in the school who belonged to learning area clusters and could be possible participants based on my rationale for selection.

This entire selection process was quite time-consuming as I had to explain to each of the possible participants what the study was about and methods I would use to gather data from them. I identified the following limitations in the choice of participants.

Firstly, all the participants were female. Secondly, they were all Indian. These factors were not intentional or consciously taken into account when choosing participants. However, being all Indian and all female could colour the data and bring bias to the data in terms of the phenomenon of teacher learning in clusters.
Once the selection of participants was completed, I went on to obtain informed consent which will be explained later in the chapter.

3.5.2.3 Use of Interviews to generate data

Data for the study was collected through iterative interviews that were semi-structured and unstructured. In this section I shall explain why I used interviews, as well as explain the usefulness of them in the study. Interviews enabled participants to discuss their interpretations of the world in which they live, and to express how they regard situations from their own points of view (Cohen, Manion and Morrison, 2007). Interviews allowed me flexibility and freedom that the participants would reflect deeply on their experiences.

According to Henning (2004), there must be adequate dialogue between the researcher and the participants in order to collaboratively construct a meaningful reality. Therefore interviewing is an effective method to learn from people what they believe, how they think and how that affects their lives. Participants expressed their own views and opinions regarding their experiences of teacher learning in clusters. There was no specific time limit to the interviews, so they spoke freely and I was able to probe in order to get clarity.

In order to understand the phenomenon under investigation (teacher learning through clustering) and to generate data, I used semi-structured and unstructured interviews where talk is seen as social action. The interviews always began as conversations and progressed to specific questions related to teacher learning clustering. Cohen, Manion and Morrison (2007) regard the interview as a flexible tool for data collection as it has

the advantage of allowing for greater depth than is the case with other methods of data collection. Lincoln and Guba (1985) in Cohen, Manion and Morrison (2007) state that the unstructured interview is useful when the researcher is not aware of what he/she does not know and therefore, relies on the participants to tell him/her. It also has the advantage of having greater flexibility and freedom.

In unstructured interviews a substantial amount of information is elicited from participants because one question or answer leads to another. This type of interviewing enabled me to gain as much information as possible without limiting the interview. They also allowed me to probe so that I could go into more depth and to clear up any misunderstandings because in interpretivism there is dialogue till clarity is reached. By repeating questions I was in a position to gain clarity.

In this study the interviews were conducted at the convenience of the participants at the school where they teach. The interviews were arranged so that it did not interfere with teaching time. It was conducted when the teachers were available after instruction time. Participants could speak freely, express opinions and discuss their learning experiences without interruptions.

I had questions that were used as a guide to elicit responses that would focus on specific ideas and themes. However, questions also emerged during the interview, and were handled as part of the interview. Interviews were held over a number of sessions to allow for the back and forth engagement with the data and the participants. This iterative process facilitated two things. The first relate to developing a rapport with the participants so that the participants settled into the interview process and with this settlement, deeper engagement with the participants was possible. The second was that this process allowed both myself and participants the space to reflect on the conversations held and to use the space of further interviews to engage with these reflections.

All interviews were recorded on a voice recorder, which I transcribed. These also had the effect of enhancing the validity and reliability of the data collected. The interviews were also downloaded and put on a compact disc (cd) so that it can be stored. Data analysis was done after the interviews were transcribed.

3.6 Ethical Considerations

Criteria for a research design involved not only the selection of information-rich participants and efficient research strategies, but also adherence to research ethics.
The researcher needs to be sensitive to ethical principles because of the research topic, face to face interactive data collection, and emergent design and reciprocity with participants (McMillan and Schumacher, 2001). Informed consent was obtained from the site (school) that was selected and from the participants in the study. This means that they were fully informed about the research.

In obtaining permission to enter the school, I gave assurances of confidentiality and anonymity to the participants and described the intended use of the data (McMillan and Schumacher, 2001). They needed to know that their privacy and sensitivity would be protected and what would happen to the information after recording. The essence of anonymity is that information provided by the participants should in no way reveal their identity (Cohen, Manion and Morrison, 2007), as settings and participants should not be identifiable in print.

In my study I obtained permission from the Department of Education, from the principal of the school where the teachers who were the identified participants taught, and from the participants themselves. There was informed consent i.e. all participants were informed of the purpose of the study and given assurances of confidentiality and anonymity (McMillan and Schumacher, 2001). I gave a clear explanation to participants of what the research expected of them. I also informed them that

participation was voluntary and that they had the option of withdrawing from the study if they wanted to.

In the writing up of the report I used pseudonyms or code names to ensure anonymity of the participants, so that they cannot be identified. Participants were also assured that once the study was over, it will not bring harm to any person. Also, a copy of the thesis will be given to them to show that the study conducted, did what it had intended to do.

3.7 Validity

According to McMillan and Schumacher (2001) validity of qualitative design is the degree to which the interpretations and concepts have mutual meanings between the participants and the researcher. Henning (2004) states that validity refers to how sound, justifiable or believable the research is. To ensure validity of the research in the study all interviews were recorded on a voice recorder. This ensured that important details were not left out. These interviews were transcribed and participants were allowed to read the interview transcripts to verify if it was the accurate reflection of what they had said.

To enhance the validity of my data I employed the following strategies outlined by McMillan and Schumacher (2001). I used mechanically recorded data. I recorded all interviews on a voice recorder which I later transcribed. I also used member checking, where I informally checked with participants for accuracy during data collection. This was done through informal, casual conversations. In the presentation of data, participant language and verbatim accounts were used to enhance validity of the research.

3.8 Trustworthiness

Another term to discuss reliability in qualitative research is the term trustworthiness. According to Cohen, Manion and Morrison (2007), the notion of reliability can be attained through the use of the research instrument, the researcher's perspectives and

interpretations. In this study issues of trustworthiness come to the fore because of the participants who were selected. All the participants, while fulfilling the rationale for selection, were all Indian, female teachers belonging to learning area clusters. Being an Indian, female teacher in a learning area cluster myself, makes me a part of the social world that I am researching.

In order to address issues of trustworthiness, I employed semi-structured and unstructured interviews to gather data. These interviews allowed participants to reflect deeply and contributed towards minimising the bias of having all Indian females in the sample.

3.9 Data analysis process

In this study I adopted a qualitative data analysis strategy because this involved making sense of data in terms of the participants' views of the phenomenon (Cohen, Manion and Morrison, 2007). In abiding by the principle of fitness for purpose, the researcher must be clear about what she wants the data analysis to do as this determines the kind of analysis that is undertaken (Cohen, Manion and Morrison, 2007, p. 461). Therefore, in this study I set out to interpret, to explore and to generate common themes from the data to obtain a more nuanced understanding of the topic being explored.

In qualitative data analysis of interview data, the transcribed texts were categorised or organised into appropriate themes (Henning, 2004). Consistent with narrative inquiry, I chose to present the analysed data in the form of vignettes (a short character sketch or story) (Henning, 2004). Henning (2004) also adds that the participants did not tell the story or intend the information as a story, therefore the use of vignettes does not mean that a story line will be imposed where there is no narrative.

Vignettes are appropriate in this study because they try to capture the moment, and experiences of the participants in their cluster learning spaces. Vignettes also add to the

richness of the data that is presented. By using vignettes to present teachers' experiences, it also provided me with opportunities to limit my influence of the data produced and its interpretations.

3.10 Methodological limitations

There are limitations to the use of interviews as a data collection instrument. The researcher must acknowledge sources of bias that may exist. According to Cohen, Manion and Morrison (2007), there is a tendency for the interviewer to seek answers that support his/her own preconceived notions, misperceptions on the part of the interviewer of what the participant is saying, misunderstandings on the part of the participant of what is being asked and a tendency for the interviewer to see the participants in his or her own image. In order to reduce this kind of bias, I had to ensure that participants were represented in a way that did not mirror an image of myself. I ensured that the interpretations were the participants' points of view and not my own.

3.11 Conclusion

This chapter provided a detailed explanation of the research design and methodology that was used to collect data in the study. The study adopted the qualitative framework specifically the interpretivist paradigm and offered reasons for choosing this paradigm. The chapter also covered the correct procedures and protocol that was followed to obtain ethical clearance, permission from gatekeepers and informed consent from participants. Having generated the data through interviews, the next chapter will present an analysis of the data.

CHAPTER FOUR

DATA ANALYSIS AND INTERPRETATIONS

4.1 Introduction

In this chapter I shall present vignettes and interpretations of learning experiences of five teachers within their learning area clusters. Using the theoretical framework of the knowledge – practice theory of Cochran-Smith and Lytle (1999) as well as Shulman's general content knowledge and pedagogical content knowledge as theoretical tools, I shall map the learning journeys of these five teachers according to the clusters they belong to.

These learning area clusters, although initiated by the state, was embraced as valuable spaces for teacher learning. It is through these cluster meetings that these teachers expressed their value of the community, as it has enhanced the quality of their teaching and created an awareness of their shortcomings, as well as presenting them with opportunities to address these.

I refer to their learning as learning journeys because they all became part of the clusters without prior knowledge of the purpose of the clusters. From uncertainty to clarity, these teachers were now in a position to guide other teachers. Each teacher contributed or took away the knowledge that they needed to promote and fine-tune their own practices. There were also those who will leave their indelible mark on the cluster because they assumed leadership positions to guide and support the entire cluster from its inception.

I have divided this chapter into the following five sections: Initiating the clustering process, accessing the cluster, clusters as collegial social learning spaces, the outcomes of clustering and knowledge in practice.

4.2 Purpose

The purpose of this study is to explore (the journey of) teacher learning through clustering.

The study is guided by the following research questions:

1. How do teachers get involved in cluster learning spaces?
2. What are their learning experiences within the cluster learning space?

4.3 Process of presenting the data and data analysis

Capturing personal experiences of events through words and phrases are difficult to achieve as it tends to exclude the emotions that one goes through during these experiences. Narrative writing (Clandinin and Connelly, 2000) is one way of attempting to capture the feelings, emotions and actions of events. Hence I had decided to use narrative writing styles to present the participants experiences of learning through clusters. Vignettes has been chosen as a particular type of narrative writing as it allows for the construction of short episodes written either in first person or third person voices. Vignettes in first person voices have been used to present participants' experiences of teacher learning followed by an analysis of the vignettes within particular themes that depict the teachers' learning journey through clustering. The themes have been influenced by both the literature and theoretical framework on cluster and teacher learning and the data produced through the interviews. This type of analytical process is what Freeman (1996) calls guided analysis where the categories or themes are initially determined by the *apriori* categories and are influenced by the data to either modify or add new categories.

The following themes were identified through the data generation and presentation process:

- Initiating the clustering process – this theme present an analysis of how clustering amongst teachers are initiated

- Accessing learning clusters – this theme presents an analysis of how teachers access clusters for learning
- Collegial social spaces for learning – this theme presents an analysis of what teachers experience during cluster meetings
- Outcomes of cluster engagement – this theme presents an analysis of what teachers get out of their engagement in clusters
- Knowledge focus in cluster learning – this theme attempts to identify what kinds of learning are achievable through clustering.

The ensuing sections will elaborate on the findings and analysis of the study according to the above mentioned themes. The participants' names associated with the vignettes have been changed to protect the anonymity of the participants in the study.

The biography of the participants in the study are captured in Table 4.1

Table 4.1: Biography of participants

Participants	**Teaching experience**	**Highest qualification achieved**	**Level of employment within school**
Faye	27 years	Bach of Arts Higher Ed. Dip.	Head of Dept.
Sam	22 years	Masters Degree	Master Teacher
Ramona	26 years	JSEd Diploma	Level 1 Teacher
Nora	17 years	SPEd	Level 1 Teacher
Felicia	3 years	Bach. of Educ	Level 1 Teacher

4.4 Themes that have emerged after Data Analysis

4.4.1 Initiating the Clustering Process

Literature on learning clusters (Giordano, 2008; Leu, 2004; MacNeil, 2004) suggest that clustering can occur for various reasons, including administrative, political, economic and educational purposes. In the case of my study it was found that the reason for formation of clusters was a response to a particular systemic need.

The clusters were formed based on the geographic location i.e. schools that belonged to the same circuit. The size of the clusters depended on the accessibility of the schools and the number of schools per ward.

The following vignettes from participants in the study indicate how and why formation of learning area clusters were initiated.

Faye, the Head of Department in the study explains:

At first I attended a senior task team meeting that was called up by our circuit manager. At the meeting the Superintendent of Education Management (SEM) explained that the Department of Education had carried out a survey of the results of common examination papers written by primary school learners. Statistics indicated that the percentage rate of failure was very high in some areas. In order to address this problem to level the playing fields, and bring about a balance, the Superintendent of Education Management requested that teachers form learning area clusters. So, it was the high failure rate of learners in some areas that led to this final clustering.

Concern over the failure rate statistics was the driver that informed the formation of learning area clusters. This was an external intervention and the intervention came through the departmental structures outside of the school.

Sam, the teacher with initial and higher qualifications, expressed similar experiences about the formation of the foundation phase cluster.

The subject advisor brought together a number of schools in the Phoenix North area of the Mafukuzela Gandhi circuit, to set up different clusters. Its all related to what the Department wants. Because of the curriculum changes, everything was guided by the Department. Teachers needed guidance with the Revised National Curriculum statement and the Foundations For Learning. Therefore our first task was to work out a common work schedule for all the schools within the cluster. This was because teachers were confused, certain issues needed to be highlighted and clarified. These issues were brought into the cluster meeting because the main idea was that the learner must benefit,

In this situation, the initiator of the cluster formation was the subject advisor who was responding to teachers' concerns regarding the implementation of the Foundations for Learning curriculum. Once again there was a departmental call in response to a systemic issue.

Ramona, the teacher with 26 years of teaching experience, but with only an initial teaching qualification also expressed similar experiences of how the Social Sciences cluster was formed.

The Superintendent of Education Management called up a meeting with the Head of Departments from the ward. I attended and at the meeting he stated the requirements of the cluster. Many schools were not following a work schedule drawn up from the policy documents. The schools would be required to write a common examination paper therefore, the cluster was formed to work towards a common work schedule for all schools in the ward.

Concern that schools were not following policy documents necessitated the creation of clusters in order to plan and prepare for common examinations across schools. In order

for this to happen, participating schools needed to work together in their planning and teaching. Working towards drawing up a common work schedule seemed the first step towards attaining uniformity.

Nora explains how the English cluster was formed.

A circular was sent around to all schools for grade 7 English teachers to attend a meeting by the Superintendent of Education Management. At this meeting the cluster was formed. A Head of Department was elected to be the chairperson of the committee and he received directives from the Superintendent of Education Management. After the common examination paper was written, most of the teachers in the cluster indicated a concern over the lack of uniformity in content that was being taught in schools. The chairperson responded by agreeing to draw up a common scope of work from the policy documents.

The novice, Felicia who became a member of the Natural Science Cluster, explains:

The Superintendent of Education Management called up a meeting and the cluster committee was set up because not every school was doing the same thing. There were senior teachers and Heads of Department with many years of experience who were at the meeting. One of the Heads of Department was elected as the chairperson of the cluster. The first task was to draw up common work schedules for the intermediate phase grades 4, 5 and 6. This was because each school was teaching different modules at different times in the year. This situation arose because there was no common textbook and all the schools were using different textbooks where the order of the work was not the same. Therefore, if a child took transfer from 1 school to another, he would be able to cope because all the schools would be following the same work schedule.

Although all the participants belong to different learning area clusters, the process was initiated in the same way.

Officials of the Department of Education then used the power of the department (that being the employer of teachers) to bring teachers together to address this concern by initiating the formation of learning area clusters. The clusters were initiated and formed due to accountability and response factors. Almost all the vignettes suggest that the formation of clusters was initiated by the officials from the Department of Education as a response to some systemic issues like common assessment tasks or teaching sequentially sections within a subject. The accountability issues relate largely to the Departmental official (SEM or subject advisor) where they have to, in turn, account for the things that are happening under their management responsibilities. This accountability and response issue may, in fact, be the kind of stimuli needed to initiate cluster formation amongst teachers, instead of just leaving it to the teachers to form cluster groups. A further important consideration in the initiation of cluster formation is the reason or purpose for calling up a cluster meeting. From the participants' accounts, it follows that there were various reasons for the formation of clusters. There are, "its what the departments wants", "response to curriculum changes"' "develop common work schedules", "teacher confusion", "write common exams" and "to teach uniform content". These focused cluster meeting is, perhaps, important to get the serious attention of teachers, so that they could get together and collectively address the focused concern.

Now that its been established how the clusters came about, who initiated them and why they were formed, the next section will be based on who came into the clusters and why they wanted to be in the cluster.

4.4.2 Accessing the Clusters: An attraction to teacher learning

In the absence of departmental support structures and guidance to teachers in implementing educational reforms, teachers welcomed this innovative idea of clustering. Here was now an opportunity for teachers to step up, take charge and

empower themselves and others. In this section I shall present vignettes from the 5 participants of how and why they became part of the clusters.

Faye explains:

I'm not an Afrikaans specialist but I was put into the Afrikaans cluster. My Superintendent of Education Management expressed confidence in me because of the way I facilitate, teach and oversee this learning area at my school. Therefore, he elected me to be the co-ordinator for the Afrikaans cluster. I thought I could make a contribution to educators. I did inform the house that I was not a specialist and that I don't know it all, so they must feel free to contribute.

She has confidence in her ability to lead the cluster based on how she oversees the learning area at school. She is enthusiastic, as a leader, that she can make a positive contribution to other teachers belonging to the cluster.

Sam expresses how she became involved in the cluster.

I got involved in the cluster because our school belongs to the cluster. At the meeting I was nominated by other foundation phase teachers from my school to be a member of the cluster. When the cluster was formed, members then elected me to be the chairperson of the cluster. I wanted to be in the cluster because of the knowledge I can gain from the cluster. Also, if you belong in the cluster then it will be easier work wise. Previously when the NCS was introduced I had belonged to a committee at district level and I acquired quite a bit of knowledge from those meetings. Therefore, I felt I had quite a bit of knowledge to give to the cluster in order to implement the new Foundations for Learning.

Although she is also in search of knowledge, members of the cluster show confidence in her ability and elect her as their leader. Sam has been part of other committees and has gained knowledge so she sees herself as a resource in the cluster.

Ramona:

Being in the committee that was involved in the setting of the common examination paper last year, I took it upon myself to get involved and get into the cluster. I feel that it gives you a better picture and overall view of what is going on. You are also able to evaluate yourself by comparing the topics you are doing at school with what other teachers at different schools are teaching in Social Sciences. To check whether it is in keeping with other schools or not.

Ramona has joined the cluster seeking confirmation and evaluation of the content knowledge she was imparting to learners. She shows ambition to be involved as she has had previous experience with setting common examination papers.

Nora explains why she became involved in the cluster.

It was very important for me to get involved in this cluster because for the first time I had to teach grade 7 English. I was a bit lost with the scope of work. I thought belonging to the English cluster will help me find my way around. I was in search of knowledge and guidance. I was totally inexperienced in teaching this grade. I wanted to be in the cluster mainly to seek clarity with the scope of work, assessment standards, methods of assessment work schedules and what was expected grade 7. It was also to find out how other teachers function and whether our problems were common, so I don't feel totally alone in this.

Although Nora has been teaching for 17 years, she honestly admits to her inexperience. She therefore accessed this cluster for content knowledge and pedagogical content knowledge. In the cluster she hoped to interact with other teachers who would provide guidance, support and clear directive towards her preparation and teaching. In addition she was also looking to validate her teaching against what other teachers were doing.

Felicia, the novice teacher, indicated that being a student out of university she needed to be in the cluster because the curriculum was always changing. She explains that what she studied and the actual teaching is different.

Being a new teacher, I actually had to learn about the Natural Science learning area. I found out that not every school was following the same work schedule. So, I was expecting to be given guidance about the work schedule in the cluster. I also felt that being part of this cluster will mean more knowledge for me so that I have a more solid and in-depth knowledge of Natural Science. This will then help me get more involved with the different topics and learn different methods of teaching and introducing them to the learners.

Felicia accessed this cluster for guidance, support, content knowledge and pedagogical content knowledge as she felt that initial teacher training at university did not prepare her for coping with the demands of a continuously changing curriculum. She expresses a strong need for knowledge for practice.

Drawing from these vignettes, it seems that there are three elements that influence participation of teachers in the clusters. The first relates to what you hope to achieve by being in the cluster, the second relates to the role that you play in the cluster and the third relates to how people view and how one views themselves within and outside of the cluster. These three elements are crucial to understand the dynamics that unfold within the learning clusters. In all the vignettes, the teachers were clear about what they would be engaging in during the cluster meetings and this relates directly with specific needs either personal learning, school needs, systemic or a combination of these. The importance then of accessing cluster learning spaces is that these cluster spaces must address the needs of all participants in the cluster. Participants in learning clusters were eager to participate and take different roles within the cluster and this made them feel wanted, respected and valuable. This suggests that when participants

are acknowledged within and outside the cluster, their participation within learning clusters are enhanced.

The next section presents information on what actually happened during cluster meetings. It deals with how the participants interacted with other teachers in the clusters.

4.4.3 Collective Social Learning Spaces

According to Cohen and Ball (1990), teachers interpret the message of the curriculum in their pedagogic and assessment practices. Therefore, each teacher will interpret and recontextualise the curriculum in different ways, depending on their own experience, expertise, professional identity and the particular school context in which they teach (Cohen and Ball, 1990). In the following vignettes, it is evident that the participants were isolated in their interpretation and practices of the new school curriculum.

Each was responsible for drawing up her own work schedule which in turn led to lack of uniformity and uncertainty about whether what they were doing was appropriate. The data reveals that two main issues had to be addressed: the first being drawing up of a common work schedule that would be followed by all the schools in the cluster with the aim of preparing learners for writing common examination papers. The second was the responsibility of setting common examination papers based on the work schedule.

This section is based on what transpired during cluster meetings and what strategy teachers in the cluster negotiated and agreed upon to address the issues that emerged. The following vignettes present information on how the cluster meetings were conducted and the interactions within the clusters.

Faye, leader of the Afrikaans cluster, explains how meetings are conducted.

I conduct meetings in a cool way. When the other teaches come it is not a formal meeting. I determine the agenda and send the circular out. I write what educators are expected to bring, worksheets that they have done or not done according to the scope of work. They will bring it in. We all will go through it together, we will try and satisfy every school's need because we are dealing with cultural diversity. When we started with our common exam papers, we realized that not all of us are covering the learning outcomes and assessment standards. We were doing the grammar and language aspects very well but were neglecting the functional and creative aspects in Afrikaans. We must have uniformity. I'm not perfect and because I'm not totally knowledgeable, I brought in the high school Head of Department who is helping us and guiding us with knowledge that we should have known years ago from the subject advisors. Now we are covering aspects like cartoons and advertisements in Afrikaans. I've given teachers worksheets to start off so we are assisting each other by sharing ideas and worksheets.

We also realized that our demographics differed from school to school. This very smartly led to the cluster breaking up into Afrikaans first additional and second additional language clusters. We gather all the information, so inevitably, every teacher attending the meeting gives an input.

I love the camaraderie and the understanding that we share. We maintain the aura of professionalism. We discuss problems that are brought up and we try to help every teacher, because we are all here to help each other and to learn so that the children benefit when they write the common examination paper.

In this cluster, meetings appear to be informal where teachers feel welcome and free to voice their concerns. An example is when demographics were considered and Afrikaans was divided into first and second additional language. As cluster leader she is determined to help every educator and bring about uniformity so that the learners

benefit, irrespective of the cultural background they come from. The cluster indicates a culture of sharing, learning from each other and collegiality. Central to the working of the cluster is the notion that all who participate should benefit and contribute towards others' benefit. This important character of the cluster needs to be harnessed and it seems that the leader of the cluster is the one that oversees this internal dynamics. In addition, from this vignette, it seems that this cluster should allow for sub-clusters to organically form in order to address particular issues – in this case – the issue of first and second language competence.

Sam, chairperson of the foundation phase cluster, expresses how the foundation phase cluster operates.

As chairperson, the subject advisor gives me directive of what to discuss. Our first task was to work out a common work schedule for all the schools within that cluster so that if a child moved from one school to the next school in that cluster, the work will be more or less on the same level. We drew up the work schedule and schools appear to be coping with it. However, because we have a mix of schools from urban areas and schools from the rural area, concepts and themes differed because of the different environments. So we had to find common ground, concepts that pertain to all schools. The purpose of the cluster was to provide guidance to teachers with the new curriculum, Foundations for Learning. Teachers were confused, certain issues needed to be highlighted, certain issues needed to be clarified, so teachers brought these issues into the cluster meetings. At the cluster meetings every educator, being a representative from their school, has to provide a summary of what is going on in the foundation phase in their school. Their problems are heard and all educators together try to provide solutions, so that every school is uniform.

Another major issue was the reading time. Each school implemented it differently and teachers needed clarity on that. All teachers brought their ideas and the idea from our school seemed to be working best as we had not increased the school hours yet we had

covered the reading time. Schools adopted this idea and in subsequent meetings, reported that it was working well.

In this cluster teachers are getting guidance, support and clarity in the implementation of the new curriculum. Cluster learning provides opportunities for common approaches to teaching, common curriculum design and sharing of ideas to establish best practices.

Ramona - reinforces the kinds of opportunities that cluster learning provides by adding that:

The Social Sciences (SS) cluster came about so that all schools would follow a common work schedule and to set a common exemplar paper for SS. In order to do this we had to go back to our policy documents. We had to draw up a common work schedule. One of the teachers in the cluster volunteered to do this. The next issue was to set the common examination paper. All the educators give their views and make their input, it's not just the person who is conducting the meeting who comes up with ideas. It's a pool of ideas that is put together. It's good that we work as a team and the educators are willing to help us when we are lost. The cluster also met at times outside school hours to fast-track the setting of the papers. The more we interact, the more we learn.

Sharing of ideas, working together and providing assistance to colleagues even outside of cluster meetings suggests that collaboration and collegiality are important value constructs being developed through learning clusters and these value constructs are deep learnings that teachers take away from cluster learning, and use in their own and other learning spaces.

Nora shares similar experiences:

At the cluster meetings there is always an agenda, but once that has been completed, the teachers express their worry and concerns. The main concern was that we did not have a common scope of work and therefore learners in some areas had performed poorly in the common English examination paper. Well this led to us all being given a

scope of work in the next meeting, and I found it easier to work from there. When other teachers voiced concerns, I could identify with them because I thought I was the only one who had those problems. Issues that are brought up are clarified in the meeting.

Members of the cluster are able to identify with each other as they have similar concerns. When they voice their problems, it leads to positive action where they benefit. They realize that each working in isolation is not a good thing. The cluster provides a platform for teachers to speak out and ask for support and guidance.

Felicia, the novice, has this to say about their cluster meetings.
Issues that were raised were regarding work schedules and learning programmes for Natural Science. I attended the cluster meetings because I needed assistance. In the meetings teachers bring up matters for discussion. There was a lot of confusion in teaching Natural Science. There was no work schedule and teachers were uncertain if they were doing the correct thing. There were also teachers in the cluster who were teaching Natural Science for the first time. They were seeking knowledge and guidance. We had to go back to the policy documents because all our work schedules were different. We then drew up a common work schedule.

Teachers in this cluster are really seeking knowledge for practice and pedagogical content knowledge because Natural Science, for example, is a practical learning area with experiments and living organisms. Teachers in this cluster are not shy or embarrassed to state what their needs are. They expressed their uncertainty and confusion because they were not specialist teachers in that learning area and they expected to get help, support and guidance from teachers in the cluster.

These were some of the activities in the cluster meetings that were expressed by the participants. Teacher learning that appears to emerge from cluster formations relates to content knowledge, pedagogical content knowledge, knowledge for practice relating

to best practices, curriculum design, value of collaboration and collegiality and most of all taking responsibility for their growth and development. Teachers saw the cluster as a safe space where they could share their shortcomings and explore alternatives. There were also those teachers in the cluster who took the lead in volunteering to draft work schedules for all schools hence providing spaces for leadership to develop. Clusters also provided spaces for clarity, guidance, common approaches and support that teachers were crying out for during their training and initial implementation of the new Outcomes Based Education (OBE) curriculum (Harley and Wedekind, 2004). The cluster was able to address all participants issues.

4.4.4 Outcomes of Clustering

This section presents the effects of clustering on the participants. I have identified specific outcomes and selected vignettes from the data that captures the experiences of the participants. The outcomes relate to confidence, opportunities to be leaders or co-ordinators, self-initiated learning, shared expertise and knowledge of self.

4.4.4.1 Confidence

Graven (2004) expresses that confidence is both a product and process of teacher learning and it is part of an individual teacher's way of learning through experiencing, doing, being and belonging. In my study I have found that the notion of confidence emerged more as a product of clustering. The following are expressions of participants on the issue of confidence.

Ramona expresses how she gained confidence from the cluster.

It did widen my knowledge of lots of aspects where we needed clarity. Things were clarified. It has also assisted in preparation of my work when it comes to lesson plans. I think we all should take advantage of being in a cluster for our own personal growth. At the same time we become better equipped. We also become more confident, knowing exactly what we have to do in class. It makes us more confident.

Nora says:

In terms of my teaching, I am able to plan, to prepare more confidently as well. I have grown so much so that I am actually advising others on what is to be done in grade 7 English. Last year I had nothing to work with. When I attended the cluster meetings, I needed to know what to do. I didn't really know how to go about doing the grade 7 English, as you don't follow a specific text book. You work directly from your learning outcomes and assessment standards.

Felicia expresses that:

Being in the cluster has really made me grow as a teacher. It is beneficial to me because I learnt to draw up my own work schedule. It has boosted my confidence and personal growth as a growing young teacher. Although I encountered problems with a teacher at school, regarding equipment for experiments, it has made me realize that I can succeed without their help. A teacher from another school advised me and I've learnt not to rely on any one person.

While these three participants expressed confidence gained in content knowledge, in terms of clarity, pedagogical content knowledge, knowledge for practice, improved planning, improved classroom practice as well as confidence in guiding other teachers who didn't belong to the cluster, confidence was expressed in the ability of the two teachers to lead the cluster at its inception. They expressed a sense of responsibility to the teachers in the cluster.

4.4.4.2 Leadership Opportunities

Despite clustering being initiated by the Superintendent of Education Management, the senior departmental representative, the actual functioning of the cluster was left to the teachers themselves. This suggests that while the co-ordinators of the cluster always had an agenda for the cluster meetings, they were also in positions of authority to make decisions in the interest of its members.

Whereas Giordano (2008) found that clusters had no hierarchical structures, I have found that in the clusters that the participants belong to, a hierarchy does exist. Two of the participants, the manager, Faye, and the teacher with higher qualifications, Sam, hold leadership positions in the clusters they belong to. They mediate between the Superintendent of Education Management or subject advisor and the members of the cluster, indicating that there is a hierarchy of authority. However, their external leadership was limited to liaison with higher departmental representatives. Internal leadership emerged through their engagement within the cluster and this kind of leadership did not just reside with the co-ordinators of the cluster, but a notion of distributed leadership is quite evident in the cluster engagement, where participants in the cluster take leadership for different things; like developing and sharing resources and drawing up guidelines.

4.4.4.3 Self – Initiated Learning

This study found that teachers who accessed the cluster were motivated to learn in different ways to address the deficit in their knowledge. The following vignettes are an indication of how the participants initiated their own learning to improve their knowledge for practice.

Felicia explains:

After our cluster meeting I went back to the policy documents. I was now able to draw up my own work schedule, not just for Natural Science, but also for the other learning areas I teach. I had to learn on my own through Resources and looking at the internet. At the meetings teachers who are having problems, and are not familiar with something or do not understand something bring topics for discussion. Maybe they don't know because they don't have knowledge of the learning area because they were not given the opportunity to learn about the learning area. This is because at primary school we have to teach all subjects. Therefore in the cluster, there were teachers who can assist others by showing them what needs to be done. So, I learn from other teachers because

I also share the same problems as some of the teachers. If I need that assistance, they are willing to support me with various materials and resources.

This novice teacher, although she is overwhelmed with teaching many learning areas, uses the knowledge gained from one cluster as a springboard for further learning. She initiates her own learning by going on the internet as well as looking towards teachers in the cluster for support. She makes the effort on her own to learn what she does not know.

Faye says:
Personally – I know – I sit till late in the night exploiting those LO's and AS's, exploiting a textbook to see how I'm going to marry my content into those LO's and AS's and it takes a lot of time. It's a lot of work because I have to keep in mind the child, a human, how I'm going to develop him. I have to draw a balance. It is absolutely time – consuming.

Faye initiates her own learning because as leader she feels that she has to have a thorough understanding of the curriculum in order to guide the teachers in the cluster, always keeping the learner in mind. By initiating her learning she is striving to obtain a balance between the type of learners and how to interpret the curriculum to suit their needs.

4.4.4.4 Shared Expertise

One of the salient features of a cluster is that of shared expertise (Shulman, 2004). There were teachers in the clusters who had over 20 years of teaching experience and occupied senior positions in their schools. These experienced and senior teachers volunteered to take on extra work so that teachers in the cluster would benefit from their knowledge and experience. They see themselves as resources to the cluster, where they willingly offered to take on additional responsibilities of drawing up the common

work schedule, as well as to assist, guide and provide support to teachers. Teachers valued the curriculum knowledge that was shared in the clusters. The following vignettes indicate how teachers learned by sharing their expertise.

Faye:

The cluster is new and we are absolutely busy, always comparing information, making new discoveries. There are so many aspects that we did not teach properly in class. I find it very beneficial especially with Afrikaans. As we are learning we are becoming more knowledgeable. At our most recent cluster meeting I invited the high school Head of Department. I made mention that by us sitting together and brainstorming, our lesson plans will become more fleshy and rich. I'll never want this cluster to die down.

Sam:

It encouraged us to go back to the planning of the new curriculum. Merging the old and the new so that we gain new knowledge and merge it with the old. It encourages us to try new things. To discuss different issues and we are able to meet other teachers in school and share all the different ideas. We hoped to help other teachers to streamline their work.

4.4.4.5 Knowledge of Self

In identifying knowledge of self as an outcome, I found it most noticeable in Sam. She was the only foundation phase teacher of my five participants. I felt that it was important to differentiate her learning from the other participants for two reasons. Firstly, the age group she teaches is younger than that of the other teachers, and secondly, I detected a strong sense of the ethic of care from her data, as opposed to the other participants. Her interaction with teachers in the cluster who came from schools in rural areas made her look at children, in her own class, with fresh eyes. She now looked for signs of hunger and social security needs of the children – these were things that she hadn't considered before. Therefore, her knowledge gained was a more

powerful learning because it wasn't related to the curriculum but rather related to knowledge of her children as human beings, as well as recognizing the particular needs of teachers.

Sam:

For my part, we get to understand the plight of each and every teacher who is in that cluster. I encourage them to present their problems so the teachers who have more resources can help those who don't. I encourage them to ask questions to provide materials for those who don't have. For example – many of them didn't have access to computers. We had to get a few people to sit aside and they had to take on the typing and the running out of worksheets for these schools.

I would say that the teachers go back with a different perspective on what they've gone through in a cluster meeting. Everybody's different experiences would have had to make an impact on them, so they, I'm sure, view the teaching and new knowledge in a different light, because not everyone has the same experiences. But if you go back, taking knowledge from other people, especially the social aspect, it gives you a different insight on how you going to teach the child. For example – in the past, I did not even ask the child if he had breakfast but now I would think twice and ask them – did they have their breakfast. Are they able to sit and cope. If the child is fidgeting, probably I'd know the child has not eaten anything and can't concentrate.

Faye:

I think I reached a little more realization that perhaps maybe I was slack too. Maybe I forgot certain things. As chairperson and by the discussion led by the committee it made me more aware that I need to come on board also. I need to assist the committee so I can help myself and help the committee too. I am learning with every step that I take.

She was able to identify her own weaknesses and in admitting this, she was able to find a way forward in the cluster to address these.

4.4.5 Knowledge in Practice

This section answers the question – what does the teacher do after the cluster meetings? I shall present vignettes on how the participants utilize the knowledge they gained from the cluster in their daily practices. I have identified two ways that this knowledge is used. These are in teachers' classroom practices and when they provide feedback to other teachers in the same learning area.

4.4.5.1 Classroom Practices

After the cluster meetings teachers indicated a change in their planning and preparation of lessons and assessments which led to successful teaching. They expressed more clarity and confidence in knowledge of the curriculum which was apparent in their actions following the cluster meetings.

Faye:

When we look at each of our lessons – it dictates to us what knowledge, skills and values we must impart to our children. I realized that some of these key issues were already in the policy document and that we now need to unpack them. Basically going back to life skills for children irrespective of which learning area the knowledge, skills and values that we impart will help them one day to blend into the community and become independent human beings.

Ramona says:

My teaching style has improved because now I go into the classroom fully prepared and fully geared to do that aspect of work. Even our learner performance has improved. Clustering has helped us become more uniform with the various assessments that we are doing.

Sam:

It changed my view of the learners that came to the classroom. First I had to appreciate that 80% of them were already at the level where they can start learning in the morning. Then I had to look at the other 20% where I had to cater for their social needs and it gave me a different insight into the lives they lead. I, in fact, appreciated having those meetings because it increased my knowledge of the different types of children that come into our school. It helped me as a teacher. I had to find different strategies in coping with these learners. Not only their language difficulty that they experience, but their social life itself.

Teachers from the clusters reached the realization that first and foremost the learners' needs should be met. They were able to look at a child in totality.

Nora explains about her experiences in practice.

Well, I practice it in my classroom, I also use it during the planning and preparation of my lessons. I use whatever knowledge and aspects have been discussed at the cluster meeting. You become better informed as to what's to be done. By practicing whatever suggestions were made, positive feedback from the learners as well, when you put this practice into the classroom, you also have new and innovative methods to transmit that information to learners. You also find suggestions from other educators. You try out these new things to see whether it will work for your learners.

Ramona explains how the knowledge gained from the cluster led to success in teaching the concept of scale.

If you look at the aspect of scale when it comes to map reading. In the text book the examples that are given there, contain very big numbers and children are not able to calculate the scale because of the number of digits it contains. What they mentioned at cluster level was if you make up your own scale, using small numbers, for example – 1 is to 100 (1:100) instead of using 1:100 000. Use simple scale like 1:100 and when

learners have to calculate the scale, using these smaller numbers, they are able to calculate and get the answers correct. The important thing is that the concept is being grasped by them, whereas using the bigger number, it becomes a mathematical problem for them, because they aren't able to multiply.
I implemented this and I found that I am not so frustrated anymore because you know now, the learners have understood the concept.

Aside from improving their classroom practices, teachers also gave feedback to other members in the same learning area when they went back to school.

4.4.5.2 Cascading Information

After cluster meetings teachers provide feedback to other teachers in the learning areas that they belong to. They did this in the form of feedback workshops by designing new recording sheets, preparing handouts that teachers could follow in their learning areas and also by providing support and guidance to other teachers at school.

Nora explains:
When we go back to school, we do a feedback of the meeting that we attended and at our LA committee meeting at school, whatever info I brought in is disseminated to other English educators. I make copies and give them the hand-outs. I also informed teachers from grade 4 to 6 to start introducing the different aspects of literacy so that when the learner comes to grade 7, the work is not new to him.

Ramona took the initiative of drafting a common mark sheet for all the teachers teaching in her learning area at school.
At school level, for Social Sciences we were given a breakdown of our assessments and how our mark sheet ought to be. So, I took it upon myself to draw up a mark sheet for our educators in our school, especially for Social Sciences showing the breakdown of the different aspects. In Social Sciences, we have four aspects for assessment each

term that has to be completed. So, that is what I had introduced at school that came down from the cluster at ward level.

This is how the novice Felicia used the knowledge she gained from the cluster.
I now know something that I can work with, something concrete. It was able to make me grow and broaden my horizons. I was able to look at every aspect of the different topics. I was able to learn about the different LA's. Even the reading – going back to policy documents and drawing up the work schedules. In the classroom it makes me try new things. I also use my year planner and start planning ahead.

In this section we see that the teachers are enthusiastic and willing to try new suggestions made at the cluster meetings in their classroom practice. In using these suggestions they are transforming their teaching practices. They are becoming better informed and initiate further development with colleagues at school level by having constructive feedback after cluster meetings.

The cluster also engaged teachers in reflection. They went back and looked at how they could change their practice to achieve success. They were able to do this in the planning of lessons and assessments. Therefore, the cluster had a positive effect on the teachers' knowledge in practice.

4.5 Conclusion

This chapter presented the analysis of data on clustering. By presenting vignettes from participants I attempted to interpret the learning journeys that began in the cluster meetings. Every participant gained new insight from the cluster that helped them transform their teaching practices. They engaged in reflection and took the initiative to access new resources to enhance their learning so that they could improve their teaching.

What becomes apparent is the dedication and diligence as well as the enthusiasm to try new things and share the knowledge they have gained.

CHAPTER FIVE

TOWARDS THEORISING TEACHER LEARNING THROUGH CLUSTERING

5.1 Introduction

The previous chapter presented data as well as vignettes in participants' words to indicate specific themes related to clustering that has led to teacher learning.

In this chapter the analysis of the data is extended to present key findings as well as to theorise about these findings within an existing body of literature and to contribute towards it.

This chapter is divided into three sections. The first section summarizes the main findings, the second section illuminates aspects of teacher learning that is possible through clustering and the third section explores the progression from state-driven cluster initiatives to teachers forming organic clusters.

5.2 Main Findings

5.2.1 Organisation and Access to clusters

In this section, the organizations of clusters and reasons why teachers accessed the cluster will be explored. The findings suggest that there has to be an organization to facilitate teacher learning and clusters were formed to provide that organization where people could come together to learn and gain knowledge.

The process of clustering schools into learning area clusters was initiated by officials from the Department of Education. The purpose was to address issues related to curriculum, content knowledge as well as pedagogical content knowledge.

The cluster was organized according to schools that belonged to particular wards in Phoenix, as this process appears to be unique to the Pinetown District. Each ward

formed their own cluster for each learning area. Cluster leaders were either selected by the Superintendent or by the teachers in the cluster.

Teachers who accessed the clusters were compelled by the Department circular to attend the initial meeting if they were teaching that learning area. Teachers attended the meeting but were unsure about what the agenda meant by "Formation of Clusters". Those teachers who did attend were curious to discover what the cluster was about and how they would benefit from belonging to it. Therefore, teachers in the school came into the clusters as a result of the pressure that was put on them by the Department of Education.

Consistent with Maistry's (2005) study where teachers formed a learning community to address the needs of novice Economic and Management Sciences teachers, teachers who accessed these clusters were enthusiastic to discover what the cluster would offer them in terms of curriculum and pedagogical content knowledge. Teachers indicated that there was a need for this type of gathering in groups or clusters where they could share knowledge and ideas and learn from each other. Teachers expressed this need because they were not adequately trained to implement the new curriculum. There was also confusion about the content knowledge being taught because all schools were using different textbooks and following different work schedules.

5.2.2 Leadership and care

Clustering provided opportunities for teachers to occupy leadership positions. According to McDermott (1999) learning communities are held together by people who care about the community. Consistent with this, the findings indicate that these clusters are held together by people who care. Cluster leaders displayed attributes of care and commitment to the cluster and its workings. Care appeared to be the driving force of the cluster leaders – care for the learning area, the teachers and the learners.

Although both cluster leaders indicated that being chairperson of the cluster was absolutely time-consuming, their care and commitment to the teachers was of primary importance and spurred them on to work in the interest of the teachers so that the learners would benefit, and the cluster could be sustained.
Noddings, cited in Smith (2004) has made a significant contribution on the idea of care. What is relevant to this study is the idea that the carer responds to the cared-for in ways that are hopefully, helpful. This caring involves a connection between the carer and cared-for with a degree of reciprocity, because both gain from the encounter and they both contribute (the encounter in this study being the cluster meeting.

The leaders assumed responsibility of the clusters by ensuring that all needs of the learning area expressed by teachers were met. They worked together with the teachers and ensured that no teacher in that cluster was left behind. The element of care of leaders is what kept the cluster together to the benefit of the teachers, as they were able to connect with teachers on a human level as well as having the added advantage of having specialized knowledge that lends value to the cluster.

Cluster leaders structured the cluster meetings in a way that ensured that learner needs were adequately taken care of. In caring about the cultural diversity and demographics of the learners, leaders were able to identify learner needs. Thus, they were able to empower teachers to address these needs in an understanding and caring way.

Therefore, it can be concluded that key factors driving cluster formation are elements of care and commitment in leaders. This is crucial to the sustenance and maintenance of clusters. I have identified the issue of care as an area for further research.

5.3 Contributions towards Teacher Learning

This section presents findings that contribute towards teacher learning through clustering. Here the idea of learning through building confidence, learning through reflection what teachers learn about themselves and self initiated learning will be explored.

5.3.1 Learning through Confidence building

Here the concept of confidence as a positive feeling arising from an appreciation of one's own abilities (self assurance) is explored as an outcome of clustering.

Clustering provides opportunities for teachers to become confident in what they know, can do and can teach (knowledge in practice) and also advise others (knowledge of practice). Consistent with the findings of Graven (2004), the concept of confidence emerged as a consequence of teacher learning in clusters.

Confidence is crucial to produce teacher learning. Graven (2004) found that the notion of confidence was used by teachers in the PLESME study as a means of describing and explaining their learning. I have found that the participants in my study linked confidence to personal growth which came about as a result of cluster learning. They also expressed that they have become more confident in teaching certain concepts in the classroom. This confidence arose as a result of their increased understanding of the new curriculum which enabled them to improve their classroom practice.

Nora's new found confidence was related to planning and preparation of lessons. This became easier because she now had a scope of work to use as a guide when preparing lessons. She is now confident about what she has to teach. The cluster has empowered her and improved her confidence so that she has not only improved her classroom practice but has also presented circulars to other teachers in the learning area. Her increased and improved understanding of the curriculum has boosted her self confidence.

This sharing of knowledge and information with peers and colleagues has the effect of other teachers now having more confidence in her.
Officials from the Department of Education had expressed their confidence in Faye to lead the cluster whereas the teachers in the foundation phase expressed confidence in Sam to lead their cluster. These two leaders where put into those positions because their colleagues and officials had confidence in them as teachers. These new responsibilities also gave them new identities and increased their own personal confidence in their ability to lead the clusters.

With regard to confidence, the findings of this study appear to be consistent with the four categories of confidence identified by Graven (2004). These were firstly, classroom practice, where teachers were now more confident about what and how they would teach in their classrooms.

Secondly, gaining increased understanding of the new curriculum. Here teachers indicated they were more confident and clear about planning and preparation of lessons and assessment.

Thirdly, being involved with other people. The cluster allowed for interaction with teachers who were willing to share experiences and expertise which led to empowering those teachers who belonged in the cluster.

Fourthly, others now had more confidence in them as teachers. By providing feedback workshops at school, designing mark sheets, presenting hand-outs with valuable content knowledge and so on, other teachers now had more confidence in them.

Therefore, confidence is a powerful and crucial element in teacher learning within clusters.

5.3.2 Learning through Reflection

According to Shulman (2004) reflection is an integral part of enduring teacher learning. Clustering allows the space for teachers to learn through reflection of their practice (Knowledge of practice and Knowledge in practice) as well as reflecting in, on and about their values, purposes, emotions and relationships (Knowledge of self).

According to Cochran-Smith and Lytle (1999) the basis of knowledge of practice is that teachers across the professional life span play a central and critical role in generating knowledge of practice by making their classrooms and schools sites for inquiry. Teacher networks, inquiry communities and other school-based collectives in which teachers and others conjoin their effort to construct knowledge, are the major contexts for teacher learning in this conception.

Knowledge in practice refers to knowledge teachers acquire during teaching experiences where teachers generate practical knowledge through their own systematic inquiry, by reflecting on experience.

Based on these two perspectives, teachers learn from experiences or might share ideas with others, where they construct new knowledge by connecting it to existing knowledge.

Teachers engage constantly in reflection as this is part of their identity as teachers. During and after cluster meetings teachers reflect on their practices and make changes to existing practices. This is how Ramona reflected on her practice.

Ramona used knowledge gained from the Social Sciences cluster to construct new knowledge. Evidence of this is in her new methods of teaching the concept of scale.

Ramona describes how she took the knowledge from the cluster about the teaching of the concept of scale in Social Sciences and changed the learning strategy in her classroom. She found that the suggestions she gained from the cluster worked because the learners were able to grasp the concept and her lesson was successful.

She also realized that they were not covering all four aspects of assessment every term. She went back to the policy documents and looked at what she was assessing. Reflection then resulted in her designing an entirely new mark sheet that indicated all four aspects of work.

Content knowledge that was shared in the cluster meeting enabled teachers to go back to their lesson planning preparation to revisit assessment strategies that they were using. Nora indicated that she now had clear direction and clarity about content knowledge and pedagogical content knowledge for English. This allowed her to make changes in her classroom practices. These changes were noticed by learners who gave positive feedback about the lessons and were successful in grasping concepts.

Felicia, being a novice teacher, engages in reflection constantly because she wants to assess strategies and methods that work in the classroom. She gains assistance from more experienced teachers in the cluster who are willing to support her with various materials and resources, in order to improve her classroom practice.

Knowledge of self (Day and Sachs, 2004) is generated by teachers engaging regularly in reflection in, on and about their values, purposes, emotions and relationships. This kind of knowledge will involve shaping the identity of teachers and its is transformative because it involves reflection. Self-reflection allows teachers to learn about themselves and here one sees the emotional aspect of their profession comes to the fore. As teachers they feel duty-bound to be care-givers, to stand in for parents, to make children comfortable and to understand the context and background of the children they are teaching. In order for them to teach, they go beyond teaching to understand the context of poverty and social justice of the children. This kind of knowledge that experienced teachers learn from can be referred to as tacit knowledge and includes how teachers make judgements, how they conceptualise and describe dilemmas, how they

name and select aspects of classroom life for attention, and how they think about and improve their craft (Cochran-Smith and Lytle, 1999).

In order to impart values teachers themselves must possess these values and attitudes. It is part of their make up as humans and their identity as teachers, where their personal learning impacts on their professional behaviour.
Clustering contributes positively to this kind of learning as teachers continuously reflect on the learners they are teaching to find strategies and methods that would always benefit learners, to impart values that would guide learners through life.

Faye, as Afrikaans cluster co-ordinator, made reference to the 'cultural diversity' of the learners and 'the demographics of the school' as these must be taken into account when drawing up work schedules. Reflection also allowed her to identify areas of weakness and shortcomings in her own content knowledge.

Sam, as cluster leader learnt from teachers in her cluster that basic needs of children must be met first in order to facilitate learning. This had the effect of her now looking at her learners in class differently. Reflection has given her new perspectives, made her aware of the human aspect of teaching and learning.

Reflection happened informally in the cluster when teachers shared knowledge of their classrooms and their practices. This in turn led to teachers learning more about themselves and the learners who attended their schools. Information shared in the cluster led to teachers focusing on their own schools classrooms as sites for inquiry where they could reflect on their experiences with the aim of improving classroom practice.

5.3.3 Self – initiated learning

Self directed learning has been defined by Long (1994, p. 14) as

> *"the learner's psychological processes that are purposively and consciously controlled, or directed for the purpose of gaining knowledge and understanding, solving problems and developing or strengthening a skill".*

Cluster meetings serve as a stimulus to teachers to engage in further learning. Beyond the idea of care and reflections, clustering allows teachers opportunities to learn on their own, in their own space, pace and time, suggesting that it is a consciously controlled activity. I refer to this as self initiated learning because teachers make the effort on their own to empower themselves and increase their knowledge base. Teachers do this firstly, by going back and reading the policy documents to gain a better understanding of the learning outcomes and assessment standards of the curriculum. This then necessitates further reading and location of information in text books, newspapers and magazines to gain relevant information to satisfy their content knowledge. In addition to this teachers also access other resources to gain information. These resources are the internet or interaction with experienced teachers in and out of the cluster.

This type of learning has the effect of improving their professionalism, improving their confidence, increasing their understanding of content knowledge and pedagogical content knowledge and impacts positively on classroom practice.

5.4 Negative effects of clustering

Although clustering has many positive effects, there are negative effects as well. However, the positive effects far outweigh the negative effects. They are worth mentioning as they provide a more complete picture of the happenings when a cluster

meets. These by no means hinder the progress of the cluster meetings, as they adopt an inclusive strategy.

Firstly, non – attendance of teachers means that other teachers in the cluster assume the responsibility to inform those teachers of what transpired during the meeting, and furnish them with relevant information, hand-outs or resources. It also impacts negatively on the teacher as his/her problems/issues were not brought up in the meeting.

Secondly, cluster meetings add to the already heavy work load of teachers as very often they have to bring important information to the meetings. This has the effect of non – participation by certain teachers whereas others work harder in order to bring in information that is required, and the non-participants merely ride on the bandwagon. Teachers in leadership positions have the added responsibilities of extra administrative work such as keeping minutes, liaising with officials from the Education Department, calling up meetings and faxing notices of meetings to teachers.

Thirdly, some teachers in learning area clusters do not have specialized knowledge of the learning area in which they are teaching as they were not trained in that learning area. These teachers have a lot to benefit from the cluster meetings however, there is no continuity when that learning area is taken away and the teacher is given other learning areas to teach. For example a Social Science teacher may attend and benefit from the Social Science cluster meetings in 2009 but in 2010, that teacher may be asked to teach Economic and Management Sciences and Natural Science and not Social Sciences.

Fourthly, cluster meetings are time-consuming as they are scheduled from one o' clock in the afternoon to three o'clock on school days. This means that some teachers may be losing instruction time because they have to attend these meetings. In certain clusters,

meetings are continued in days to follow even if it is on a Saturday. Teachers who are in leadership positions and those who volunteer to take on extra work, such as drawing up a scope of work or the work schedule, sacrifice personal and family time to ensure that these tasks are completed.

5.5 From State-driven to organic clustering

In the context of educational reform, teachers are expected to learn and adapt their knowledge to changing professional circumstances. Knowledge on teacher professional development is expanding to explore new ways of teacher learning. Officials from the Department of Education initiated the process of cluster formation as a response to poor results of common exam papers obtained by particular schools. Officials from the Department of Education provided the impetus for the formation of clusters in order to address issues of equity in content knowledge and pedagogical content knowledge.

Therefore, the cluster creates opportunities for teachers to think more creatively on how they can use the state of clustering to enhance their own learning by improving their content knowledge and pedagogical content knowledge. What has emerged is that we move from state-driven to organic clustering where teachers find themselves clustering on any topic, or any issue and on any matter that affects them. This then suggests a spontaneous process that is unplanned and incidental, where learning occurs through informal interaction in response to certain needs that relate to teachers and learners. This kind of interaction that leads to teachers looking towards each other for clarity and support in a learning area has led to the formation of organic clusters. Organic, because they grow and thrive and focus on practical aspects of teaching.

5.6 Conclusion to dissertation

This study focused on teacher learning through teacher clustering. Using vignettes of teachers' experiences of being within a cluster, this dissertation explored the learning

emerging from being part of a learning cluster. The findings suggest that cluster learning is crucial to engender a spirit of collegiality and collaboration amongst teachers in order to enhance school education systemically. While this research is limited in terms of scope, the findings are valuable to inform the discourse on teacher learning and more specifically teacher learning through clustering. This study is valuable to all teachers as it provides a glimpse of what can be possible if teachers do engage in on-going teacher professional development activities; for departmental officials as it provides a lens through which the Department of Education can engage teachers in professional development activities; and to researchers to contribute to the knowledge domain on teacher learning through teacher clusters by drawing on empirical evidence on the possibilities and challenges of teacher learning through learning clusters.

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