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AN EXPLORATION OF FOUNDATION PHASE TEACHERS' KNOWLEDGE OF HANDWRITING IN THE LIMPOPO PROVINCE

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A research report submitted to the Faculty of Humanities, University of the Witwatersrand, Johannesburg, in fulfilment of the requirements for the degree of Master of Education.

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ABSTRACT

This study sought to explore Foundation Phase teachers' content knowledge of Handwriting. South Africa's Annual National Assessments and international comparative research show that learners in the Limpopo Province achieve below their national and international peers. Literature suggests that the teacher's content knowledge is the primary resource for learners' to learn the subject. This therefore implies that if teachers know less than what they are supposed to teach then learners cannot be expected to know more than what they are taught. This research studied six teachers in the Capricorn District. All the teachers sat for a semi-structured interview and two of them were observed teaching Handwriting. The key finding of this research was that teachers in the study possessed partial subject matter content knowledge of Handwriting and that this did not translate fully into pedagogical content knowledge. Teachers also could not integrate their knowledge of the aspects of handwriting thus undermining practices that they did have knowledge of. The research concludes that teachers need training to teach handwriting effectively.

Declaration

I declare that this Research Report is my own unaided work. It is submitted for the degree of Master of Education at the University of the Witwatersrand, Johannesburg. It has not been submitted for any other degree or examination in any other university.

_____

Name of Candidate

_____ day of _____, 2013

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Chapter 1

Introduction

1.1. Introduction

Low learner achievement appears to be an international problem as shown by international assessments (e.g. TIMSS 2003; Howie, et al. 2006, 2011). Of concern is that South African learners score far below their international peers in similar standardized tests. The Progress in International Reading Literacy Study (PIRLS) is an international assessment targeting Grades 4 and 5 with a focus on Reading Literacy. In the 2006 PIRLS study South Africa obtained the last ranking in Reading Literacy out of 45 countries with a national average of 302. This was below the international average of 500 (Howie et al., 2006). And the results for 2011 reveal that little has changed (Howie et al., 2012). Despite writing an easier assessment compared to their international peers, Grade 4s achieved well below the international midpoint. These results also revealed that Grade 4 learners tested in English and Afrikaans performed above the international midpoint and those tested in African Languages performed below, with those tested in Sepedi and Tshivenda achieving lower than other South African learners (Howie et al., 2012). These results are also far below national goals as outlined in national and provincial educational policies such as the Department of Basic Education's (DoBE, October, 2011) ACTION PLAN 2014. South African learners' performance at an international level is not that much different from national assessment reports. The Systemic Evaluation results of 2004 and 2007 ranked Limpopo Province below all the 9 provinces in Literacy) and the ANAs ranked it eighth out of 9 provinces last year (DoBE, 2012; Reeves et al., 2008). The key finding from the Annual National Assessment (ANA) report was that "learner performance continued to be well below what it should be, especially for the children of the poorest and most disadvantaged South Africans" (DoBE, 2011: 20). Limpopo Province is one of the provinces where the majority of learners come from poor backgrounds and it is largely rural.

In Limpopo, many schools in rural areas are under resourced. In a report on the state of education in Limpopo, Reeves et al. (2008) show that schools lack basic teaching and learning resources such as text books, libraries, and have an insufficient number of second language teachers. A lack of resources in schools may partly be a result of mismanagement of funds in the province. Recently, and in accordance with the Constitution of South Africa (see Act No 108 of 1996), the central government took over administration of the Education Department due to mismanagement of funds. The issue of resources and teachers' abilities to use resources is one of the reasons for poor educational provision.

This needs to be seen in the context of teacher training. In 2008 the majority of primary school teachers held a 3 year Diploma from the University of Limpopo (Reeves et al., 2008). Other primary school teachers had obtained their qualifications from Colleges of Education in the province (Reeves et al., 2008). In spite of teachers being qualified to teach, learner achievement has remained low in the province and this suggests that holding an appropriate qualification is not sufficient to improve learner achievement, or that the qualification itself is poor. In fact, research has found no relationship between teacher qualification and learner achievement. Instead, it is the substance or amount of knowledge the teacher has that has a positive relationship on learner achievement and teaching quality (Hill, Rowan and Ball, 2005). This raises questions about the level of knowledge that teachers have in Limpopo.

With this in mind this project focuses on one aspect of the teaching of literacy that all Foundation Phase teachers are required to teach, and that is the teaching of Handwriting. There are a variety of definitions given for handwriting; in this research I used a combination of definitions from different authors (National Handwriting Association (NHA), 2012; Lorrette, 1999; Pasternicki, 1986; and Sassoon, 2003) to create a working definition (see page 10).

For the purposes of this report, Handwriting is not viewed as a mindless and easily mastered skill. Rather the acts of perception, recognition and interpretation are complex acts in themselves that have to be represented in visual shapes. This means that what teachers in fact need is an in-depth understanding of the processes that underpin the act of handwriting and be able to translate this understanding into effective teaching. Handwriting is also an integral skill that all children have to master in order to proceed as writers in their schooling and it is a skill necessary to function in the modern world. In order to set the correct foundations in place for children to

attain mastery, issues of training, teacher knowledge and the transference of knowledge and practice are key at this early stage of education.

The work of Shulman (1986), which frames this research, divides teacher's content knowledge into three categories (i) subject matter content knowledge (SMCK); (ii) pedagogical content knowledge (PCK); and (iii) curricular knowledge (CK). According to Shulman (1986:9) teachers with strong SMCK are "able to explain why a particular proposition is warranted, why it is worth knowing and how it relates to other propositions". When this is related to Literacy and Handwriting in particular, a Literacy teacher needs to know why and how Handwriting is a component of the Literacy curriculum (CK) and what learners need to know in order to write and the skills that underpin handwriting (SMCK) as well as how to teach this (PCK). In addition, a Literacy teacher with strong SMCK understands how Handwriting is related to Reading (which is another area of SMCK) and of course writing.

1.2. Rationale

There are several reasons for wanting to conduct this research. Firstly, when I was a grade 3 teacher, I had a learner in my class who would make all sorts of excuses to avoid writing in Handwriting and Comprehension lessons. All she ever wanted to do was Mathematics. What is worth noting is that this learner had great potential in Mathematics, yet was impeded by her inability to write legibly. What was more serious about this is the fact that I had a learner who needed my help but I did not have sufficient knowledge of handwriting in order to help her. Secondly, as a principal, my work involved monitoring work submitted by Heads of Department. What I noticed was that learners were made to copy notes from work books or the chalkboard. Learners continued to write badly and at times did not finish tasks given in class because, in my opinion, Handwriting was not thoroughly taught and regularly practiced. This denied learners the opportunity to learn and practice Handwriting. When thinking about my own levels of knowledge and practice of my staff, it appears that these experiences may in fact be a microcosm of practices in the province, where the overall literacy performance in Limpopo is poor. This research is one attempt to understand what teachers know and do in relation to one small but essential component of the literacy curriculum.

Handwriting is not just a set of skills to be acquired. It is linked to other aspects for literacy. Apart from its important connection to writing, it is associated with the ability to spell and read words (Sassoon, 1983). Research has found a positive relationship between basic reading and spelling achievement, i.e. learning how to form a letter and sound (Spear-Swelling, 2006). It is also an essential tool in effective communication (New Zealand Ministry of Education, 2007; Sassoon, 1983). It is important that Handwriting is foregrounded in literacy teaching. Kelly (2007) found that if poor handwriting is not addressed, it can negatively affect learning all the way through high school and beyond. Hence there is need to do research to explore teachers' content knowledge of teaching Handwriting in this Phase. In addition, research (Medwell and Wray, 2008) shows that Handwriting has been neglected over the past two decades. In South Africa, handwriting is explicitly included in the new CAPS curriculum for the Foundation Phase (DoBE, 2011). My research hopes to add to a renewed focus to this topic in early year's research.

Research has also shown that teachers who know more of their subject, teach better (Shulman, 1987). The purpose of teaching Handwriting is to assist each learner "to write legibly, fluently, without strain, and with sufficient speed for all practical purposes" (New Zealand Ministry of Education 2007). In spite of this, it is not clear how Handwriting is taught as a component of Literacy in the Foundation Phase in Limpopo, or if teachers have enough knowledge of the curriculum (Shulman,1986) and how this, combined with teacher knowledge (SMCK), impacts on their pedagogical content knowledge. Thus, one of the outcomes of this research is to attempt to show whether teacher knowledge of Handwriting is one aspect in the Literacy curriculum that may have an impact on the overall literacy performance in the province.

That said the importance of this study is that it has potential to bring to light an understanding of teachers' knowledge of Handwriting. Thus the information generated might be useful to teachers themselves, policy makers and researchers in the sense that for teachers this might open up opportunities for professional development in Handwriting. Improving teacher's content knowledge is important because of the positive relationship between teacher knowledge and learner achievement (Hill et al., 2005).

1.3. Research Questions

This research asks the following questions:

1. What knowledge/s of handwriting do Foundation Phase teachers in Limpopo Province draw on in order teach this aspect of literacy?
2. How does this knowledge of Handwriting inform their teaching practice?

1.4 Outline of chapters

The purpose of this section is to provide an overview of each chapter. There are five chapters in this research report.

Chapter 2: In this chapter I review related literature so as to further highlight the problem that I was exploring. Local, regional and international literature has been reviewed to get a better grasp of the problem at these three levels. Regional and International literature points to many instances of low learner achievement in Literacy while locally the Limpopo Province trails behind the other 8 provinces.

Chapter 3: This chapter discusses the research design with particular focus on the participants, methods of data collection and analysis. The trustworthiness and ethical issues are also addressed.

Chapter 4: In this chapter the results from the analysis of interviews and lesson observations are presented. This analysis consists of descriptions of teacher's knowledge of pedagogical content knowledge of Handwriting and I have used extracts from interviews to substantiate my descriptive analysis.

Chapter 5: I conclude this chapter by highlighting the key findings of the research and their implications. In this chapter I also make recommendations based on my findings.

Chapter 2

Literature Review

2.1 Introduction

The literature I have reviewed in this chapter serves as a lens to examine teachers' handwriting knowledge and practices. The key aspects that frame this study are: literacy, handwriting, handwriting programmes and research on handwriting. In order to understand teacher knowledge and the practice of handwriting, I have drawn from several bodies of research.

2.2 Literacy

Literacy is the ability to read and write at an adequate level of proficiency that is necessary for communication. According to Snow, Burns and Griffin (1998:6):

> Literacy [is] the most important skill for the individual and society at large. [It is] an empowerment tool that gives access to further education and life opportunities. Literacy determines educational success and is a significant predictor of success in life. Throughout the early grades it is crucial to educational success as grade three literacy results are a good predictor of whether a learner will eventually graduate from high school.

2.2.1 Early literacy

According to Strickland (2010) early literacy is what children know about reading and writing before they can actually read and write formally. It is the role of adults to help children 'get ready' to learn and Strickland (2010) believes this can be achieved by creating reading, talking, singing, writing and playing opportunities for children. The development of early literacy in

young children has been discussed in the literature by different authors (e.g. Clay, 1991; Schickedanz, 1999; Roskos, 2003; Morrow and Gamrell, 2001).

Clay (1991) and Schickedanz (1999) hold a similar view pertaining to the emergence of early literacy. These authors agree that early literacy begins long before formal learning starts in schools. For instance, Clay (1991) points out that early literacy skills begin to develop in the first five years of life. Engaging young children in early literacy prepares them to learn Literacy in a formal setting such as a school. Roskos's (2003:1) description of early literacy development clarifies and substantiates the development of early literacy in young children:

> Early literacy skills are essential to literacy development and should be the focus of early language and literacy programs. By focusing on the importance of the first years of life, we give new meaning to the interactions young children have with books and stories. Looking at early literacy development as a dynamic developmental process, we can see the connection (and meaning) between an infant mouthing a book, the book handling behaviour of a two year old, and the page turning of a five year old. We can see that the first three years of exploring and playing with books, singing nursery rhymes, listening to stories, recognizing words, and scribbling are truly the building blocks for language and literacy development.

On the basis of Roskos's (2003) above description it is essential that young children are provided with opportunities to acquire early literacy. Providing early literacy serves two important conditions. Firstly, early literacy is the foundation for later learning. Secondly, introducing children to formal learning without early literacy might have a negative impact in the child's learning.

Schickedanz (1999: 5) argues against introducing young children to formal learning before acquiring early literacy and he says that "[f]ormal instruction to require young children who are not developmentally ready to read is counterproductive and potentially damaging to children, who may begin to associate reading and books with failure". Clay (1991) supports this argument when she says that the child's likelihood to succeed in formal learning depends on how much the child has learned about reading in early literacy.

The authors in the area of early literacy also hold a similar view on how early literacy develops in young children. They argue that social interactions with adults and exposure to literacy

materials such as children's story books promote Early Literacy (Clay, 1991; Schickedanz, 1999; Roskos, 2003; Morrow & Gamrell, 2001). For instance, Schickedanz (1999: 2) says that "Early literacy theory emphasizes the more natural unfolding of skills through the enjoyment of books, the importance of positive interactions between young children and adults, and the critical role of literacy-rich experiences".

Clay (1991) also builds on this view by pointing that the child's early experiences with books and language lay a foundation for success in learning to read. She says that evidence of early literacy in children "is often seen in children's behaviours when they use books and writing material to imitate reading and writing activities even though the children cannot actually read and write in a conventional sense" (1991:4).

Success in the acquisition of early literacy skills and abilities is determined by four predictors (Strickland, 2010). These include: (a) *alphabet knowledge, (b) print knowledge, (c) oral language development* and (d) *phonemic awareness*. Strickland (2010) contends that children who access these skills and abilities are most likely to succeed in Literacy when they begin formal learning. All four of these skills affect children's ability to write:

(a). *Alphabet knowledge:* This provides children with the ability to identify letters of the alphabet. These can be achieved by giving children activities of playing with magnetic alphabets, puzzles and blocks.

(b). *Print knowledge*: Children have to understand that print reflects the words and not the pictures or spaces between words. They need to know that the same letter of the alphabet can be represented in lower and uppercase. They have to know that there are different sounds that are associated with each letter.

Research further reveals that:

> Children from middle class families are exposed to a print-rich environment and are encouraged to not only read for content, but to adopt a critical subjectivity that questions the text. Children from lower-income groups are encouraged to read for content only and to regard the knowledge in books as being handed down from a higher authority (Snow, Burns and Griffin 1998).

(c). *Oral language*: this provides a child with a sense of words and sentences and builds sensitivity to the sound system, so that the child can acquire phonological awareness and an understanding of phonics.

(d). *Phonemic awareness*: this gives the children the opportunity to have an idea of sounds in words. Before children learn to read, they need to be aware of how sounds work. This should be included in the curriculum to assist children to learn to read and spell.

Strickland's (2010) assertions about Literacy can best be summarized with her description of the relationship between writing and reading. She points out that writing helps young children to learn to read. Similarly, young children need reading to help them learn to write. She concludes this by noting that in order to learn to read and write children should be able to speak. The relevance of Strickland's (2010) work points to the need and importance of Handwriting, which is the focus of this research. It is important in the sense that Handwriting might be perceived as mediating between writing and reading. Its mediation is evident in the sense that Handwriting provides learners with writing skills such as letter formation, direction and movement, correct pencil grip, and correct shape and size of letters.

2.3 Handwriting

From ancient times Handwriting has evolved and has found a place in our daily lives. According to Feder and Majnemer (2007) ancient people drew pictures on rocks to represent ideas. In addition, they believed that rock paintings later developed into more abstract symbols due to developing civilizations. Feder and Majnemer (2007:312) consider Handwriting to be "the most immediate form of graphic communication and a reflection of an individual's intelligence or capabilities". Just like our writing today, early symbols were used to store information and communicate it to others. Today Handwriting plays a significant role in daily activities such as writing a shopping list, letter, telephone message, completing a form and signing a cheque. In spite of this, Medwell and Wray (2008) show that Handwriting has been neglected over the past two decades. In some countries literacy teachers are advocating for its return into the school

curriculum (Bounds, 2010). Although, it is an integrated part of the South African curriculum (DoBE, 2011).

2.4. Definitions of Handwriting

Handwriting has been defined and described differently by various writers (e.g. Lorrette, 1999; Pasternicki, 1986; National Handwriting Association (NHA), 2012; Sassoon, 2003). The NHA (2012) believes that, for some people, Handwriting can be seen purely as an art form and when viewed in this way, then the neatness and accuracy with which it is presented becomes the main focus. This is a limited definition because handwriting involves much more than this. The NHA (2012) extends this definition by arguing that Handwriting is also a functional tool which allows people to represent their ideas on paper without much effort and with speed (NHA, 2012). When Handwriting is seen as a functional tool, then the focus shifts from neatness and accuracy, to the fluency of the script (NHA, 2012). Others add specific aspects that are needed to write into their definitions, for example, Lorrette (1999:1) defines Handwriting as "a coding of mental ideas into physical visual shapes and consists of perceiving, recognising, and interpreting". Pasternicki (1986:37) describes Handwriting as a "skill that involves an eye-hand relationship, control of the arm, hand and finger muscles". Sassoon (2003) takes context into account when she notes that Handwriting is a taught skill which has rules that differ from culture to culture. A situation where some people write from left to write and others write from right to left fits Sassoon's definition. The NHA (2012:1) further believes that "Handwriting is personal, a part of our self-image and an expression of our personality as the way we dress, and present ourselves". Handwriting is what registers our individuality, and the mark which our culture has made on us. It has been seen as the unknowing key to our souls and our innermost nature. It has been regarded as a sign of our health as a society, of our intelligence, and as object of simplicity, and beauty in its own right (Feder and Majnemer, 2007). Sometimes we would like the image to be different to express our personal identity by adopting a style that suits our personal image. How we see Handwriting depends on the purpose for which we need it at a particular time. For instance when you write class notes it may not be necessary to let the work look neat and legible because the work will be read by you only. When writing tasks that have to be read or assessed

by another person you write neatly and legibly. The reader should be able to read and make meaning out the work. Letter movements should be clear and show the correct starting and finishing points.

In this research I used a combination of definitions of Handwriting as stated by the National Handwriting Association (NHA), (2012), Lorrette (1999), Pasternicki (1986) and Sassoon (2003) to create a working definition. The reason underlying this decision is that there appears to be no one single definition that encompasses all aspects of Handwriting. Hence I made a decision to combine these authors' definitions to create one working definition. In this research therefore Handwriting is defined as

> an art form, a functional tool and a taught skill that involves coding of mental ideas into visual shapes and has rules that differ from culture to culture. It is also a skill that is dependent on the relationship between the eye and hand.

2.5. Role of Handwriting in society today

Although modern technology has changed the way people communicate through writing, Handwriting remains crucial in education, employment, and in everyday life (NHA, 2012). In addition, the NHA (2012) believe that the time spent on teaching and learning of Handwriting in the Foundation Phase is highly likely to yield positive results. The NHA (2012:1) sums this up by saying that "legible writing that can be produced comfortably, at speed with little conscious effort allows learners to attend to higher-level aspects of writing composition and content".

An ability to attend to the higher-level aspects of writing, thinking and reasoning are considered to be important when assessments are based on written work, particularly in time-limited written exams such as our Grade 12 national assessments.

Another point that makes Handwriting essential is that employment situations will involve at least some handwriting to communicate critical information. For example a medical prescription which is not legible might be misinterpreted and have serious implications. Thus, Handwriting with pen and paper has an important role from early childhood to adulthood. This form of

communication is an essential skill both inside and outside the classroom in spite of the invading technological devices (Bounds, 2010; Feder and Majnemer, 2007). More and more people are shifting from paper to electronic modes of communication and this might impact the teaching and learning of Handwriting. However, Kelly (2007) believes that the downfall of Handwriting did not begin with computer; it dates back to the introduction of typewriter. What this implies is that the use of technology such as computers may one day phase out the need for learners to learn Handwriting because they will be able to produce neat and legible written work using technology such as a computer.

2.6 The relationship between Handwriting, Phonics and Reading

It is important for teachers to understand the relationship between Handwriting and other aspects of literacy such as phonics and reading. Phonics is the ability to link sounds together to construct words. There is an interconnection between Handwriting and phonics where the learner is required to know the sounds of letters before learning to write them. Hence it can be said that knowledge of phonics is a prerequisite for the learning of Handwriting because a knowledge of phonics helps the learner to recognise words easily (Chall and Popp, 2001). These authors have also talked about the relationship between reading and Handwriting pointing out that the two are interconnected in the sense that a child becomes a better writer when s/he reads extensively.

Chall and Popp (2001:1) have also described the relationship between phonics and reading asserting that "learners who learn phonics do better in all aspects of reading such as word recognition, oral and silent reading, spelling, fluency and comprehension than those who do not learn it".

2.7. Handwriting from a developmental perspective

The literacy development process is said to occur between the ages of 0 to 8. For Strickland (2010) children come to master reading and writing by different routes. For instance a child might be proficient in writing while emergent in reading or vice versa. An important aspect in

Strickland's work (2010) is the assertion that literacy development is not linear and the process is unique to each child. An important message and implication for teaching literacy is for teachers to understand that proficiency in reading does not imply the same in writing. Furthermore, a child who has mastered writing might begin to regress in this aspect as his/her reading begins to improve. This is because literacy development is circular (Strickland, 2010). Strickland has outlined five stages which she says children go through in order to be able to write:

(a) Awareness and Exploration Stage: Babies and Toddlers

This stage is characterised by infants beginning to hear the spoken words from parents. It is where infants learn to distinguish between the spoken and printed words. According to Strickland (2010) infants come in contact with the printed words when parents begin to read stories to them. This is how literacy develops at this stage.

(b) Experimental Reading and Writing Stage: Preschool Age

During this stage literacy develops as children begin to learn the letters of the alphabet. This they do by singing what Strickland (2010) refers to as the alphabet song. Children also learn the names of the letters of the alphabet. Learning to write own names is an important characteristic of this stage.

(c) Early Learning Reading and Writing Stage: Kindergarten to First Grade

According to Strickland (201) children advance into formal learning and so they begin to read through the recognition of letter sounds. They also read by combining two or more letter sounds to form a word. Children emerge from this stage able to write what they hear. This stage corresponds to what is expected from South Africa's Grade R learners. According to the CAPS document (DoBE, 2011), learners are expected to be able to recognize that words are made up of sounds, e. g they should be able to recognize: (i) beginning letters of their names (iii) vowels and consonants at the beginning of any other word; and be able to (ii) segment oral sentences into individual words. What is different between Strickland's (2010) explanation of the phase and the CAPS documents are more specific requirements that need to be met. Grade 1 learners should be able to (i) identify letter–sound relationships of all single letters; (ii) build words

using sounds learnt; (iii) recognize common consonants at the beginning of a word; (iv) group common words into sound families; and (v) use consonants to break down and build words (DoBE, 2011: 24).

(d) Transitional Reading and Writing Stage: Second and Third Grade

Here children can match words with their meaning and so can read without help from adults. In this stage children's reading comprehension improves and this enables them to grasp the meaning of the message in a given statement. Since they are able to hold onto what they have read previously children at this stage are able to see a bigger picture of what they have read about. In this stage learners have not yet started formal writing instead they are made to draw pictures and scribbles. Their writing is called scribbling because it does not carry any meaning or does not make sense to another person. What is similar to the South African context here is that Grade (2 – 3) learners are expected to be able to consolidate phonics from previous years, which Strickland refers to as matching words and their meaning. The difference is that learners in Strickland's Second and Third Grade learners have not started formal writing while Grade (2-3) learners in South Africa are already into formal writing. But in many schools internationally children have already begun formal writing at this stage.

(e) Competent Reading and Writing Stage: Fourth Grade and Beyond

This is where children become competent enough to read long stories in the form of novels. It is believed that children in this stage can read unfamiliar words. They are also able to comprehend what they are reading without adult assistance. The children's ability to read remains intact as they grow even when their interest in reading declines. Children at this stage use different writing forms such as drawing without including letters, and are able to differentiate between writing and drawing. This is not significantly different from the South African context.

In summary, the importance of Strickland's (2010) conception of literacy development in the child's first 8 years is that it points to when is a child ready to learn handwriting. Strickland's stages of literacy development have similarities and differences with the practice in South Africa. For instance, by comparing and contrasting Strickland's (2010) phases and the expectations of CAPS in some cases South

African learners go beyond Strickland's outlined phases. It should be noted though that she does stress that development is not linear and thus not all children will follow these phases as she set them out in a specific time frame. Also her transitional phase is questionable because physiologically children are capable of performing the movements needed for writing earlier than this stage (see next section).

2.8. Key aspects of teaching Handwriting

There are several aspects of Handwriting that a Foundation Phase teacher needs to know to teach Handwriting well. These aspects are:

(a) ***Posture***: For Sassoon (2003) maintaining a correct sitting position is important because it is one aspect that ensures correct letter formation. Sitting upright with feet on the ground is considered the correct posture.

(b) ***Pencil grip***: Sassoon (2003) describes this as a particular way of holding a pencil properly so that a learner is able to see what she/he is writing. Proper grip of the pen or pencil is another important aspect of good handwriting. Teachers should be able to instruct learners to hold the pencil close to the writing tip with the thumb and index fingers. The middle finger should be curved under the writing instrument, with the instrument resting lightly on the area between the tip and first knuckle.

(c) ***Fine motor coordination***: Landy and Burridge, (1999) define this aspect of Handwriting as the ability to coordinate the action of the eyes and hands together in performing precise manipulative movements (eye-hand coordination). It further involves the ability to control the small muscles of the body. Manipulative activities such as drawing and handwriting, require the use of the two hands working together to perform the task. In general, children show the most improvement in simple fine-motor control behaviors from 4 to 6 years, whereas more complex control behaviors tend to improve gradually from 5 to 12 years. Isolated finger, hand, wrist, and foot movements tend to improve significantly from 5 to 8 years.

Vision is known to play an important role in fine-motor control. Continued visual experience is necessary for feedback and refinement of early guided-hand responses.

(d) ***Letter shape and size***: According to Landy and Burridge (1999) letter shapes should be in proportion. The overall size of writing will depend upon the purpose of the writing and the size of the surface being used. Larger letter shapes help in the establishment and maintenance of combined finger–hand–arm movements in handwriting. Small letter shapes, less than 2mm, may be the result of a tense pen hold and will make the task of identifying incorrect letter shape formation more difficult. McFarlane (1991) believes that within letters, the heads, bodies and tails should be of equal proportions to make letters maintain relativity in both width and height and to each other. Head refers to the part of the letter that goes to the top of the starting point and examples of letters with a head are "b, d, h, k, t, l, f". Body refers to part of the letter that remains within the starting point and examples of letters that only have a body are "a, c, r, w, z". Tail refers to the part of the letter that goes below the starting point. Examples of letters with tails are "p, g, j, and y" (McFarlane, 1991).

(e) ***Letter formation***: This is more about establishing correct movements in order to form letters. Teaching correct letter formation involves providing learners with opportunities to talk about their names and features of letters and the sounds they represent. This enhances letter recognition in texts, and in the environment. When learners practise forming letters they develop a visual and motor memory of their important features. Looking at the letters and undertaking the movement of writing then helps learners see and feel how each letter is formed, fixing the letter in the learner's visual memory for future identification and reproduction (Sassoon, 2003).

Good movement of pencil performance is influenced by pencil grip; finger strength and control, and body positioning. In addition to this teachers need to know that:

> Charts that entice learners to read must be in good legible handwriting, displays in the classroom must be neat and with correct spelling, work on the boards has to influence learners' Handwriting. One school of thought is that, letters should be large, round and straight so as to show a relationship with many readers and to assist learners when they read (Singh, 2009: 100).

Providing learners with opportunities to talk about letters resonates with Vygotsky's concept of oral mediation (see Moll, 2003).Vygotsky (as cited in Moll, 2003) points out that human beings do not act directly on the physical world, rather we make use of symbolic tools and signs to mediate and regulate our relationship and activities with others and with ourselves. Hence allowing learners to talk about

letters is useful since it enables learners and the teacher to communicate their learning and knowledge, respectively to each other.

(f) ***Paper position***: The way a page is positioned before beginning to write has an impact on learners' posture and ability to form letters. Sassoon (2003) recommends that a right hander needs to position the paper over to his/her right side and a left hander should have his/hers to the left side.

(g) ***Direction and movement***: Sassoon (2003) also recommends that learners should be taught to begin letters at the correct point and move in a fixed direction.

The literature indicates a number of ways in which to teach aspects of handwriting that are perceived to be effective. For instance Sassoon (2003:2) suggests that:

> [T]he child can write as much as the letters of their own names, they need to be taught the correct movement of each letter. This should be done to alleviate incorrect movements. This can be introduced through the letter-family [see 2.10] technique as it allows the opportunity for learners to gain vocabulary of short words as each group of letters is learned. The teachers' understanding of spatial and temporal concepts would be of utmost importance.

2.9. Handwriting programmes

Handwriting should be included in the school's curriculum so that all learners can access the learning opportunities it provides. Sassoon (2003) suggests that each school needs to make its own decision about the right time to introduce Handwriting. In South Africa this is prescribed by the curriculum. Handwriting is allotted 15 (fifteen) minutes a day in the Foundation Phase for 4 (four) days a week (DoBE, 2011). It is believed that the more thoroughly it is taught in the early classes the less time will be required in later Grades (DoBE, 2011).

The main area that the policy emphasises is a pre-writing programme in Grade 1 before formal teaching begins. This enables the development of fine and gross motor co-ordination, eye-hand coordination, visual discrimination and body image (DoBE, 2011). According to the DoBE (2011) children need to be taught the correct pencil grip, to form the letters, correct starting

points, size, shape, and direction of movement. Teachers are expected to guide children to position and space letters on and between the lines and to emphasis the correct sitting position (DoBE, 2011).

By the end of Grade 1 children should be able to form all the lower and upper case letters correctly and fluently and copy sentences correctly from the board or from sentence strips (DoBE, 2011).

Sassoon (2003) points out that a good handwriting programme bears in mind the fact that children learn in different ways – as visual information takers, some are kinaesthetic and others learn by action that needs to be described. So to make sure that all learners benefit from what is going to be taught in the early stages of Handwriting, all the three types of learners must be included in teachers' planning.

In addition to this, time needs to be made for children to practice. Promoting neat and legible Handwriting is important because neatness helps convey the learners' message. Teachers need to be able to model neat Handwriting as learners often copy what they write on the chalkboard (Singh, 2009).

2.10. Order of teaching letters

The order in which letters are taught to children is very important for easy learning because not all letters present the same level of difficulty for children. However, different authors (e.g. McFarlane, 199; Sassoon, 2003) suggest different ways to teach children to write letters. What is similar between these suggestions is the tendency to group letters into families but the criteria used to group letters is often not the same. For instance Sassoon (2003) uses strokes or movements and McFarlane (1991) uses the structure of the letter - head, body and tail to group letters. There are letters that are easier to learn to write and others which are more difficult to learn to write. Sassoon (2003:53) says separating letters into families that use the same stroke make teaching the movement of those letters more effective and she suggests that letters should be taught in the order shown below.

1	**i**	**l**	**t**	**u**	**y**	**j**	
2	**r**	**n**	**m**	**h**	**b**	**k**	
3	**c**	**a**	**d**	**g**	**q**	**o**	**e**
4	**s**	**f**	**v**	**w**	**x**	**z**	

The first family of letters is made up of down strokes leading to under-arches. The second family require movements that over-arch. The third family consists of round letters that are based on the letter 'c'. These letters need to be taught more slowly than the first and second families. Sassoon (2003:58) suggests that "more repetition of sequences and frequent talking through of the movement of the letters as well as plenty of kinaesthetic reinforcement" is needed to help children master this stroke. The fourth family consist of letters that involve diagonal strokes (x), zigzag pattern (w, z) and those that change direction (s and f) which are more difficult to write (Sassoon, 2003). Sassoon (2003) therefore, suggests that the letters should be taught in families and in the order she has outlined for easy learning by children. Sassoon's (2003) outline is different from the one proposed by MacFarlane (1991). He groups letters according to structure and he also has four groups that are shown below:

1	**o**	**a**	**e**	**s**			
2	**n**	**m**	**r**	**i**	**u**		
3	**l**	**h**	**b**	**f**	**k**	**t**	**d**
4	**j**	**y**	**g**	**p**	**q**		

The first and second groups consist of letters with a body only. The two groups are different in the sense that the first group require a circular movement and the second require a stroke and an arch. The third group consist of letters that have a body and a head and the fourth group are letters with a body and tail. McFarlane suggests that these letters should be taught in this order because, like Sassoon (2003), grouping letters according to similar movement helps learners practice the same stroke but also write different letters. It is evident from looking at both

Sassoon (2003) and McFarlane's (1991) grouping of letters that they begin with letters that have fewer movements and go on to letters that are more difficult to write. As such it can be said that there is no one way of sequencing letters but it is important that whichever sequence is followed, it must start with letters that are simple to write and letters in the same family should have the same movement or stroke.

2.11. Research on Handwriting

Research demonstrates the important relationship between writing and handwriting. This relationship is often underestimated by Foundation Phase teachers who only focus on the skill aspect of handwriting. Researchers (Bounds, 2010; Bloom, 2011) have found that writing by hand is more than just a way to communicate - the practice helps with learning letters and shapes; it can also improve idea composition and expression, and may also aid fine motor skills development. Bounds (2010) suggests that there is value in learning and maintaining Handwriting even as we increasingly communicate electronically through key boards, touch screen, and iPods. In my research the context in which I study teachers' knowledge is where teachers and learners write by hand. Hence the importance that Bounds (2010) and Bloom (2011) attach to writing by hand tends to strengthen the need for research in this area.

Other researchers highlight the unique relationship with the brain when it comes to composing thoughts and ideas. Bounds (2010) cites Beninger who says that Handwriting differs from typing because it requires executing sequential strokes to form a letter whereas keyboarding involves selecting a whole letter by just touching a key. In another study Beninger (as cited in Bounds, 2010) says children wrote more words faster and expressed more ideas when hand writing essays as opposed to using a keyboard. The majority of primary school teachers believe that learners with fluent Handwriting produce written assignments that are superior in quality, are easier to read and they achieve good results in high grades (Clay, 1991).

This thinking illustrates a conflation that Barton (1994) notes. He says that learning to write involves two important aspects that include (i) the scribal and (ii) authorship. He describes the scribal aspect as one that is concerned with learning the mechanics of writing, neatness and

spelling of words. The authorship aspect is where "writing is seen as a form of thinking" (Barton, 1994:166). He is concerned that the authorship aspect is often neglected in the teaching of writing privileging the skills aspect of handwriting and also there is a tendency to assume that writing is about putting readymade thoughts onto paper and this is not necessarily the case. The authorship aspect is useful for establishing links between reading, writing and spelling.

Despite these important links, teacher training does not always adequately prepare early years teachers to teach Handwriting (Graham et al. 2000). For instance Graham and his colleagues conducted a study in the United States where they found that that only 12 percent of the teachers in their study had taken a course on Handwriting during their teacher training. This suggests that the majority (88%) of the teachers in their study were not adequately prepared to teach Handwriting even though they taught it in their classes. These authors noted this as a serious problem because "[l]ack of instructional knowledge or knowledge of handwriting development could weaken the quality of teachers' handwriting instruction" (Graham et al., 2000:66). Weak Handwriting instruction might have a negative impact on children's Handwriting. For instance poor Handwriting might interfere with content generation, especially for young children who are still mastering Handwriting (Graham et al., 2000). According to Graham et al. (2000), difficulties in acquiring Handwriting may cause children to avoid writing and this in turn, might result in arrested writing development. These researchers found that teachers reported a decline in the quality of learners' Handwriting, letter reversals, and fluency as impediments to learning Handwriting.

In spite of the majority of teachers reporting they had been inadequately trained, Graham et al. (2000) reported positive results on the quality of Handwriting instruction provided by teachers in their study. They found that more than 60% of their teachers used effective practices to teach children how to write letters. Their teachers "modelled how to form the letter, students practiced the letter by tracing it and writing it from copy, praised students' for correct letter formation, and directed students to correct malformed letters as well as identify their best formed letters" (Graham et al., 2000: 66). These researchers also noted that teachers in their study "taught students proper pencil grip and proper paper position, including how left-handers should position their paper" (Graham et al., 2000: 67).

Graham et al.'s (2000) study has significance to my study. The results from their research provide a general picture of their participants' knowledge of teaching Handwriting which provides a comparison for the teachers in my research.

Recent research by Bounds (2010), Feder & Majnemer (2007) and Singh (2009) has shown that teaching learners Handwriting and giving them opportunities to practice it as an integrated learning experience can improve their Handwriting. Research also shows that when learners are taught Handwriting they learn how to express themselves through writing (Graham et al., 2000). The consequence of not having time to practice is that when learners struggle with Handwriting it affects their performance in all academic disciplines (Graham et al. 2000). For example, in the early years Literacy learners fail to spell words correctly and in numeracy they reverse numbers (Graham et al., 2000). Graham and his colleagues argue that all school subjects would be easier to learn if Handwriting was an automatic process.

Graham et al's. (2000) work also shows that from early childhood through to Foundation Phase, learners think and write simultaneously but in later Grades mental composition should be separated from the physical process of Handwriting. These scholars also found that when learners struggle to remember how to form letters, their ability to express themselves in writing, might be affected negatively. These authors believe that there is need for motions to be automatic for both expressive writing and note-taking. Another finding that links to this is that measures of speed among primary school learners are good predictors of the quality and quantity of their writing in senior phase and beyond (Kelly, 2007). The work of Graham et al (2000) shows the importance of studying teacher knowledge in Handwriting, which is the concern of my research.

2.12. The importance of balancing movement and neatness

Many teachers seem to believe that writing neatly is an indication that learners have mastered Handwriting. As a result the teaching of Handwriting tends to be dominated by an emphasis on neatness and the consequences are that the most important aspects of Handwriting such as correct letter movements, speed and fluency are ignored. The teachers' emphasis on neatness

has a negative impact on the learning of Handwriting (Dixon, 2011). For example Sassoon, (2003) argues that neat letters with an incorrect movement prevent joining and also cause faster learners' writing to become illegible. Hence Sassoon (2003) proposes that teachers should put more emphasis on correct movement. In other words Sassoon (2003) says teachers must teach correct movement first and when learners begin to show correct movement of letters then neatness can be introduced.

2.13. Teacher Knowledge: Working with Shulman

In order to evaluate a teachers' content knowledge of Handwriting I draw on the work of Shulman (1986) as an analytical frame.

A deep understanding of the subject matter and strong content knowledge are critical for effective teaching and meaningful learning (Shulman, 1986). According to Shulman (1986) teacher's content knowledge is important for teaching because it enables the teacher to make the content easy for learners to comprehend. This is possible because a teacher with in-depth knowledge of the subject matter knows what is likely to make learning difficult and so he/she is able to anticipate and mediate learning difficulties when they emerge in the class. Strong content knowledge provides teachers with knowledge of facts, principles and explanatory frameworks which are the source the teacher's explanations (Shulman, 1986). How teachers teach, and how well they conduct the work of teaching, is largely dependent on the teacher's content knowledge (Shulman, 1986). Shulman (1986) has sub-divided content knowledge into three categories that include (i) subject matter content knowledge (SMCK); (ii) pedagogical content knowledge (PCK); and (iii) curricular knowledge (CK).

Subject matter content knowledge (SMCK) is "the amount and organisation of knowledge per se in the mind of the teacher" (Shulman 1986:9). Teachers with strong SMCK do not only have to possess knowledge of facts and concepts in their discipline, but also knowing the structure of the subject matter is important. Shulman (1986:9) explains subject matter structure by drawing from Schwab's notions of syntactic and syntax structures. On the one hand, the substantive structure is concerned with the different "ways in which the basic concepts and principles of the

discipline are organized to incorporate its facts", and on the other hand, the syntactic structure "is the set of ways in which truth or falsehood, validity or invalidity, are established" in a discipline (Shulman 1986:9). Syntax is a collection of rules within the discipline which need to be adhered to, to determine whether something is legitimate or not. Teachers need to know the syntax of the discipline they teach because this knowledge enables them to not only define the accepted truths in the discipline but also to explain why a certain proposition is true, "worth knowing and how it relates to other propositions" (Shulman, 1986:9).

Pedagogical Content knowledge (PCK) is another of Shulman's (1986) categories of teacher content knowledge. According to Shulman (1986) PCK is more than just subject matter knowledge in the mind of the teacher, but is rather, subject matter knowledge for teaching. Shulman (1996:9) defines PCK as consisting of:

> The most useful forms of representation of those ideas, the most powerful analogies, illustrations, examples, explanations, and demonstrations – in a word, the most useful ways of representing and formulating the subject that make it comprehensible to others...Pedagogical content knowledge also includes an understanding of what makes the learning of specific topics easy or difficult: knowledge of the conceptions and preconceptions that learners of different ages and backgrounds bring with them to the learning of those most frequently taught topics and lessons.

Shulman's (1986) claim for PCK has since been supported by his later work (Shulman, 1987) where effective teachers were observed using examples, diagrams and explanations to facilitate learner understanding. For Shulman (1987) teaching begins with a teacher first understanding that which he/she is supposed to teach and how it needs to be taught. This is then followed by specific classroom instruction and activities which have been designed to open up a wide range of opportunities for learning (Shulman, 1987). Shulman (1987) concludes by noting that teachers' with strong PCK know what is not understood by learners and so their task is to transform learners' understanding through means and ways that open up a wide range opportunity for learning.

Curricular Knowledge (CK) requires that the teacher needs to know the full range of programs designed for the teaching of his/her subject and topics at a given Grade level. The teacher also needs to know the kinds of available instructional materials in relation to the programs in his/her

area of specialisation (Shulman, 1986). In addition Shulman (1987) mentions the importance of knowing curricular relationships through what he called lateral curriculum knowledge and vertical curriculum knowledge. In lateral knowledge the teachers needs to know how what he/she is teaching in his Grade level is related to what learners will later learn at a higher Grade. Vertical knowledge is where the teacher is required to know how a topic taught earlier relates to the next topic within the same Grade level.

Shulman's (1986; 1987) three categories of content knowledge will guide both my data collection and analysis.

The following chapter discusses the methodological choices made for this research.

Chapter 3

Research Methodology

3.1 Introduction

This chapter describes the research design used in this empirical investigation. It includes the research site; participants; data collection (semi structured interviews with six teachers and observation of two Grade 1 teachers' lessons) and, data analysis; reliability and validity and ethical considerations.

3.2 Research Design

This research adopted a general qualitative approach to data collection and analysis. The rationale for working qualitatively rested on the nature of the problem I was exploring. In particular, this research sought to explore teacher's pedagogical content knowledge of Handwriting. Accessing this knowledge quantitatively through a written test was one option I could have pursued. However, finding teachers who might have been willing to sit for a written test might have been a serious challenge which I might have not been able to overcome. Generally, teachers prefer to be interviewed or observed when teaching than to sit for a written test; hence in this research I interviewed teachers and observed some lessons. As a result, the nature of the data I needed to collect directed the research towards a qualitative research design.

Qualitative research authors (e.g. Creswell, 1998; Lincoln & Guba, 1985; and Hammersley & Atkinson, 1981) generally define qualitative research as a type of research which is conducted in a natural setting where the researcher is an instrument of data collection. In addition, they say a qualitative researcher collects data in the form of words or pictures which s/he analyses inductively with focus on the meaning of participants. Creswell (1998) adds to this by saying that the research ends with the researcher's description of the qualitative research process with an expressive and persuasive language. This particular research had these characteristics in the

sense that the study was conducted in schools where teachers were interviewed and observed teaching by the researcher and is written up descriptively.

3.3. Research Site

Two sites, one township primary school and one informal settlement primary school, in the Capricorn District of Limpopo Province were chosen. The two primary schools were chosen because they have a reputation for producing learners who are just as good as those from suburban schools. Learners from these two schools are also said to be better prepared to begin secondary school education than their peers from neighbouring public primary schools. In addition, the two schools are within a radius of 6km from each other and were easily accessible to the researcher.

Naledi Primary is located in the Seshego Township. Polokwane Primary is in Bikopark, a low income area (informal settlements) west of Polokwane. The two primary schools have feeding scheme projects, that is, the Department supplies the schools with food that has to be cooked for the learners each school day. Both schools attract the same type of learners who are from low socio-economic backgrounds. Each school is discussed in more detail below.

Naledi Primary is a well-resourced school and has a good reputation in the area. The school offers education from Foundation Phase to Senior Phase (Grade R – 7). There are 38 staff members including the principal, two deputy principals (one was deployed to the school for a week as the study started) and two heads of department and 1989 learners. The school has been supplied with mobile classrooms to alleviate overcrowding in the higher Grades where classes have between 37 and 40 learners. There are three Grade 1 classes and each class has between 41 and 48 learners. The class I observed had 41 learners. The majority of learners stay in the neighbourhood and do not have to use transport to the school. The majority of parents are unemployed, and a few parents are public servants. Consequently most families receive social grants. Parents take part in the school activities such as the vegetable garden project and meetings. The unemployed parents take turns to work in the garden so as to raise funds for the school.

Polokwane Primary is a state of the art school. The school has multipurpose hall, Grade R toy centre, computer laboratory, administration block, flushing toilets and modern sports facilities such as a turfed football field, rubberised athletics track, tennis and netball courts. These facilities are not available in neighbouring public primary schools including Naledi Primary. The school offer education from Grades R -7. In 2012 there were 2200 learners and 44 staff members, including the principal, deputy principal, three heads of department and 39 teachers. In spite of the state of the art facilities, Polokwane Primary school experiences overcrowding in the classrooms just like other primary schools in the province. This is due to the growing number of families coming into the settlement. The large learner population has put a strain on both human and material resources. For example, the school has four Grade 1 classes with more than 60 learners per class. During the period of the study one of the three Grade R classes did not have a teacher. The learners from that class were distributed among the other two classes. The Grade 1 class that I observed had 61 learners. Some of the learners in that class sat on the carpet as there are not enough desks. The majority of the learners' parents are unemployed with some receiving social welfare grants.

3.4 Research Participants

The study made use of purposeful sampling which McMillan and Schumacher (2010:598) define as a strategy to choose a small group or individuals likely to be informative about the phenomenon of interest. This included a selection of teachers without desiring to generalise to all teachers, and for this study, refers to six Foundation Phase teachers with more than two years of teaching experience. The profile of the teachers is presented below:

Table 3.1 Profile of teachers in the study

	Naledi Primary School			Polokwane Primary School		
	Tumelo	**Joan**	**Selly**	**Katlego**	**Thabang**	**Kim**
Gender	Female	Female	Female	Female	Female	Male
Age	55	42	40	57	39	40
Number of teaching years	21	12	14	22	4	4
Grades currently teaching	Grade 1	Grade 2	Grade 3	Grade 1	Grade 2	Grade 3
Language of teaching and learning	Sepedi	Sepedi	Sepedi	Sepedi	Sepedi	Sepedi
Qualifications	Primary Teacher's Certificate (PTC) and Bachelor of Arts (BA)	Senior Primary Teacher's Diploma (SPTD)	Senior Primary Teacher's Diploma (SPTD)	National Primary Diploma in Education (NPDE)	Senior Primary Teacher's Diploma (SPTD)	Senior Primary Teacher's Diploma (SPTD)

Participants were conveniently selected for the study because of the limited time I had to conduct the research. The study was conducted from the 6 – 31 August 2012. The principals of the two schools delegated the Heads of Department of Foundation Phase to select teachers who they perceived to be effective Literacy teachers, who would be able to provide information about the study under investigation. Phase meetings were convened at the two schools and two teachers from each of these Grades were selected: Tumelo, Joan and Selly are teachers from Naledi Primary School and Katlego, Thabang and Kim are from Polokwane Primary School. In the study, the Grade 1 teachers are Tumelo and Katlego, the Grade 2 teachers are Joana and Thabang and the Grade 3 teachers are Selly and Kim. The researcher was invited to attend the meeting where these teachers were selected to participate in this research but did not participate in the selection process. The teachers were given information sheets to read. These sheets contained general information about the research. In particular the teachers were informed about how confidentiality and anonymity were going to be observed, the duration of their participation

and the right to withdraw their participation. When teachers had familiarized themselves with the information sheet they signed the consent form to show their willingness to participate

3.5 Data collection

In order to collect data two instruments were used: semi-structured interviews and classroom observation.

3.5.1 Semi-structured interview

All six teachers in the study sat for the semi-structured interview and the interviews were centred on 7 scenarios which were designed to capture teachers' knowledge of Handwriting.

Semi-structured interviews use open ended questions to explore different facets of the phenomenon – in this case teachers' understandings of Handwriting and how to teach it. The study used this method as the primary method of inquiry to gather information from six Foundation Phase teachers. An interview schedule was constructed and written in English (See appendix A). The teachers were interviewed in Sepedi (Language of teaching and learning at Foundation Phase level). During the interviews there was code-switching and this was how it happened: The interview begins with the researcher reading a question in English and thereafter translating into Sepedi. After the translation the teacher responds in Sepedi but would code-switch to English whenever s/he could not find a suitable Sepedi word. This was especially evident when they talked about Handwriting terminology which could not be translated into Sepedi. In follow up questions which repeated particular terminology the researcher used that terminology in the language that the teachers used originally. These interviews were transcribed into English.

In order to ensure that the questions in the interview yielded answers which would be suitable for analysis, the interview was piloted. I interviewed the Foundation Phase head of Department at Naledi primary school in Limpopo Province. This was important to ascertain how long the

interview took and how clear the questions were. Based on the pilot interview I added two questions, 'what is Handwriting?', the 'what is the difference between Handwriting and writing?' Originally questions were based only on seven basic Handwriting skills.

According to Pathak and Intratat (2012) semi-structured interviews are used when more useful information can be obtained from a focused interview that is conducted in a conversational mood with the teachers. The structure of this instrument requires one to formulate detailed questions before the interview. Consequently, key topics and sub-topics were identified and formulated by using questions which were in turn guided by the key research question discussed in Chapter One.

I interviewed the teachers individually for 45 minutes each after school. In order to ensure accuracy of the transcription of the interview, an audio-recorder was used and field notes were also taken. During the interviews, responses to open-ended questions elicited more questions. This was mainly because the researcher wanted to clarify issues the teachers had raised. Furthermore, the study utilised scenarios that gave the researcher a glimpse into the teachers' understanding of the significance of the different skills.

According to Creswell (1998) any other instruments might have fallen short of giving me the classroom experiences as well as the teachers' personal experiences and knowledge. As a researcher I had more control over the flow and sequence of questions. Sometimes it was important to ask a particular question after some other questions had been answered. The researcher was in a position to introduce necessary changes in the interview schedule after initial results. Creswell (1998) further suggests that this method confirmed what was already known and also provided not just answers but reasons for answers. This study was able to collect valuable insights from the teachers in the context of their experiences.

3.5.2 Classroom Observations

Tumelo and Katlego are the two Grade 1 teachers who were observed teaching Handwriting. Grade 1 teachers were observed because it is the Grade where the formal teaching of Handwriting begins.

Lesson observations were conducted after completing the interviews. Observation is a way of discovering unanticipated truths and is conducted in a community setting which has some relevance to the research question (McMillan and Schumacher, 2010). In this research Tumelo and Katlego were observed teaching Handwriting in their classrooms. While in their classroom setting, the researcher made intense observations taking field notes on what she saw and heard. The classroom observations were also audio-recorded and later transcribed directly into English, despite them being Sepedi Home Language classrooms.

In order to ensure that the questions in the observation schedule yielded answers which would be suitable for analysis, the observation schedule was piloted. In preparation, I observed Handwriting lessons in Grades 1, 2 and 3 at Bedfordview Primary School in Gauteng Province. Even though the educational standards were different to where I would be doing the research, it was important to identify what was happening in the classroom as well as to practice taking field notes. An observation schedule was compiled by focusing on how and whether the seven basic handwriting aspects discussed in the literature review were incorporated in the Handwriting lessons (see Appendix B).

Four Handwriting lessons from two Grade 1 classrooms were observed. The observations also served as a way to increase the validity of the study as observations helped the study to have an improved understanding of the phenomenon under study and to establish that the teachers' responses in the interviews corresponded or did not correspond with their practices (Hammersley and Atkinson, 1995). Lesson observations provided the researcher with opportunities to check for non-verbal expressions, determine who interacted with whom, showed how participants communicated with each other and how long various tasks took. In addition, Lesson

observations helped the researcher to verify what the two teachers had earlier said in the interview.

As a researcher I am aware of the disadvantages of observation, that it is time consuming and difficult to document data; it is hard to write down everything that is important while at the same time being an observer. The method is not practical for most research studies which require a short period of time of data collection. As a researcher, I had to rely on my memory and my own personal discipline to write down and expand my notes as soon as possible. The quality of data then depends on the thoroughness of the researcher especially in the manner the field notes were written and expanded.

3.6 Data Analysis

Qualitative data and analysis methods were used to analyse both interview and observation data. In particular, recordings of interviews were transcribed before the analysis begun.

The first step of analysis is where I read and re-read each transcription to internalize and develop a sense of my conversation with the teachers (Creswell, 1998). The second step was to look for evidence of teachers' knowledge of Handwriting from the transcripts and place this in a table which had the seven Handwriting basic skills; (i) posture; (ii) pencil grip; (iii) direction and movement; (iv) page positioning (v) letter formation; (vi) fine motor co-ordination, (vii) shape and size and as column headings.

In doing this, I cross referenced interview data across the Grades to compare teachers' answers and what I saw in the classrooms. Thirdly, I then described what was collected in each column about a particular basic skill by each teacher and I proceeded the same way with other basic skills. Lastly, I drew from literature to explain teachers' understanding of Handwriting, and the nature of their knowledge of Handwriting. I used Shulman's (1987) kinds of knowledge, with PCK in particular, to serve as a lens through which I analysed the knowledge teachers have. These findings are discussed in Chapter 4. Table 3.2 shows a summary of the analysis process.

Table 3.2. Summary of the analysis process

Steps	Analysis Process
1	Read and reread transcripts
2.	For Search for evidence of teacher content knowledge
3.	Description of contents of each column
4	Use of literature to explain teachers understanding.

3.7 Validity and Reliability

McMillan and Schumacher (2010) assert that validity is used to judge the consistency of stability, equivalence and agreement of the data. In this process I obtained validity by comparing the teachers' responses in the interviews and comparing these with observed classroom practices. The relationships would either be positive or negative. A positive relationship would be if what the teacher said during the interviews related with what they did in the class. A negative relationship would be if what the teacher said during the interviews differed from what they were doing in the class.

As validity refers to the effectiveness of the conclusions a researcher makes, an appropriate conclusion of the study will be based on what pedagogical content knowledge the teachers have in this study with regards to Handwriting. A meaningful conclusion would be based on the meanings the study derived from how teachers responded to the questions asked in the interviews.

Reliability refers to an extent to which procedures in a study produce similar results under constant conditions on all occasions. Interviews and observations were selected as tools of collecting data for this study. I piloted the interview questions and observation schedule to ascertain similar results, to gain experience and confidence. I observed Grades 1 and 2 teachers teaching handwriting at Bedfordview Primary School in Gauteng Province. Taylor-Powell and Renner (2003) maintain that by using a combination of procedures such as observation,

interviews, field and audio recorded notes the study can much more easily validate and cross reference findings. Each data source has its strong and weak points, so by using cross referencing the strength of one method can compensate for the weakness of another method.

3.8 Ethical Considerations

In order to undertake this study, I needed to abide by the University of the Witwatersrand ethics protocol procedures. I therefore submitted an application to the School of Education ethics committee for ethics clearance, and to Limpopo Department of Education for permission to do research in the two schools. I received permission from both the University of the Witwatersrand Education Ethics Committee (Protocol 2012 ECE132) and Limpopo Department of Education to conduct the study.

Letters accompanied by a description of the study were given to the principals, the teachers, parents and learners. These letters asked permission to undertake the study including audio-recording interviews the lessons observed. Letters issued to participants ensured that their confidentiality would be guaranteed and they were free to withdraw from the study at any time (see Appendix C and D).

3.9 Limitations of the Study

The study explores Foundation Phase teachers' content knowledge of Handwriting. Although the study was carefully prepared, I acknowledge its limitations. The time spent at the schools was not enough. Only two schools were sampled with a small sample of respondents. There is no doubt that this fell short of being representative and therefore the findings cannot be generalised. The use of diagrams that formed part of the interview schedule were also a possible limitation since the pictures might have not been able to communicate the intended message well to the participants and might have confused them in some ways. In spite of this limitation, the teachers were allowed to ask questions during the interview so that any potential source of confusion may

be clarified. It is important to mention that for a larger scale study the clarity of visuals would be adequately addressed to minimise confusion

Qualitative research results are not always possible to generalise to the larger population because of its method and purpose. While I acknowledge this as a limitation of this research, I also acknowledge the ability of this research to provide in-depth and insightful information that could be useful to other teachers; more so since little research has been done in South Africa on handwriting. Even though this is a small scale project it does provide some insights into handwriting that may be relevant in similar contexts.

Chapter 4

Data Analysis

4.1 Introduction

The study aims to explore Foundation Phase teachers' knowledge of Handwriting and the ways in which this knowledge affects their practice. Several aspects necessary for teaching Handwriting were identified from the literature and form the basis of this chapter. They include pencil grip, posture, page positioning, direction and movement, letter formation, fine motor coordination and shape and size of letters. The study attempts to address the research questions below:

a) What knowledge/s of handwriting do Foundation Phase teachers in Limpopo Province draw on in order teach this aspect of literacy?
b) How does this knowledge of handwriting inform their teaching practice?

During the interviews with the teachers, I used a set of sub-questions that derived from the main research questions above. These questions were asked of every respondent and form the basis of the data that is presented here (see Appendix A).

4.2 Teachers' understandings of handwriting

Shulman (1986) argues that that in order to teach, teachers must first know and understand what they teach, and secondly, understand the various methods of teaching for the area they teach. They should know and understand how a concept relates to other concepts within the same subject and be able to integrate this into their teaching. In addition to this teachers need to have a broad knowledge of the field. This is important for the teaching of Handwriting because Handwriting is closely related to other important aspects of literacy teaching like phonics and

reading. At the same time it is also a skill that is required for all school subjects and functioning in the world.

This section attempts to identify what this group of Limpopo teachers knows about Handwriting. An analysis of the interviews shows that three understandings of Handwriting emerged. All six teachers were able to define Handwriting although the extent of their answers differed. Two teachers foregrounded the curriculum. Selly said 'Handwriting is part of literacy where learners are taught how to write well'. Kim said 'Handwriting is a subject where teachers are expected to teach learners to write neatly and correctly'. Although Kim is incorrect in calling Handwriting a 'subject' both answers indicate that for them Handwriting is a knowledge area that has to be taught and learnt. It could be argued that in only considering the curriculum requirements, these teachers may not have thought about how the teaching of Handwriting and developing an ability to write has implications beyond the subject area. But it can be argued that they demonstrate some CK (Shulman, 1986) by knowing that Handwriting is something that teachers are 'expected to teach'.

The second understanding of literacy was in line with Joubert et al.'s (2008) definition which emphasizes Handwriting as a 'skill' the learner must acquire, where attention must be given formation of letter sizes, spacing, neatness and writing at a reasonable speed. Joana defines Handwriting as 'a way of writing', for Katlego its 'is learning to write letters of different shapes and forming words' and Thabang explains it 'is when we teach learners how to hold a pencil, how to sit and form letters so they can write'.

These answers indicate that teachers have an understanding of some of the most important skills that children need to be able to master. This makes sense because no child is born with the ability to read and write. These are learnt skills that are taught in a formal environment. Teachers did not comment on spacing, which has implications for literacy development — children need to be able to recognize and group letters correctly to show how these combinations make up words. The issue of speed was also not mentioned. Children must also develop enough speed to use writing efficiently in tasks such as note taking or test taking. A finding that links to this is

that measures of speed among primary school learners are good predictors of the quality and quantity of their writing in senior phase and beyond (Kelly, 2007).

It also is useful to distinguish different standards for legibility depending on the purpose for writing: for example, in taking notes, "messy" handwriting is entirely acceptable as long as children can easily read their own writing.

Several teachers mentioned the importance of neatness and correctness.Promoting neat and legible Handwriting is important because neatness helps convey a message. Teachers need to be able to model neat handwriting as learners often copy what they write on the chalkboards (Singh, 2009). This is unsurprising in some Foundation Phase classroom because legibility and neatness can be linked to intelligence. However, much focus on neatness disadvantage learners from learning and making meaning (Dixon, 2011).

Tumelo and Kim, who are not Foundation Phase trained, have a much broader understanding of Handwriting. They noted that Handwriting is 'putting thoughts on paper' (Kim) and presenting 'thoughts in written form' (Tumelo). The two teachers refer to Handwriting not just as a skill but also as being functional mode in which to communicate. This is closer to the definition given by NHA (2012) that Handwriting is a means of expressing language, and like speech it leaves a lasting trace on one's persona because here it is seen as a cognitive ability. It is a physical way of expressing thoughts and ideas, as well as a means of communicating with others.

The evidence in the teachers' responses shows that their understanding of Handwriting ranges from limited to broad in knowledge and understanding of what constitutes Handwriting. Limited definitions are restricted to certain aspects, namely: Handwriting as a 'subject', 'as a mechanical skill', where neatness/legibility is emphasized, compared to explanations that see it was a 'performance artifact' and a way of 'expressing thoughts to communicate'. It is not surprising that most of the Foundation Phase teachers focused on the mechanics of Handwriting, especially since it is what they need in order to help learners to master Handwriting. This distinction becomes evident when the teachers were further asked to distinguish Handwriting and writing.

Tumelo, Selly, Katlego, Thabang and Kim noted the connection between writing as a communicative act and Handwriting being a skill required in order to write. Tumelo noted that 'Handwriting is a skill that one needs to learn in order to write well. Writing is a way of sharing ideas in a written form'. But Joana's answer showed little distinction between the two terms. She defines Handwriting as a 'way of writing' and writing as 'the way we write'. The implications of such thinking are likely to be that Handwriting is privileged over writing with children having little opportunity to write and make meaning in the Foundation Phase.

To conclude this section of the discussion, except for Tumelo and Kim, the other Foundation Phase teachers focused on the demonstrable aspects of Handwriting such as neatness in writing and thus saw it as a skill. If they focused on the pedagogical aspects required to teach Handwriting, neatness would be taken care of since it comes with mastery of Handwriting. To a certain extent, Tumelo and Kim have an understanding of what is to be learned and how it is to be taught as compared to the other four teachers (Joana, Selby, Katlego, and Thabang) as the two have displayed a broader understanding of the two terms discussed.

4.3 Aspects of teaching handwriting

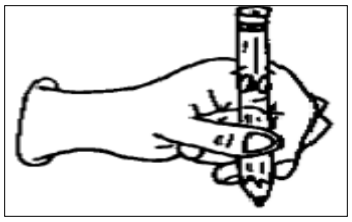
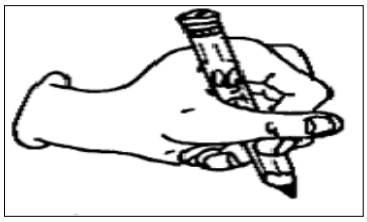
This section examines in more detail the specific elements of handwriting that teachers need to know and understand (Shulman, 1986) in order to teach handwriting. These seven aspects (*Pencil grip, Fine motor coordination, Posture, Letter formation, Shape and size, Direction and movement and Page positioning)* that teachers need to know were drawn from the literature and discussed in the interviews with teachers. It is important to note that these are all interrelated and the absence of one aspect or a misunderstanding of its importance will affect children's ability to master Handwriting. For the purposes of this research each aspect is analyzed separately. Table 4 below contains the main expectation of each aspect drawn from different sources in the literature review chapter.

Table 4.1: Seven key aspects of Handwriting

Key Aspects of Handwriting	Main expectations from each Aspect
Pencil grip	A proper grip entails: Holding a pencil close to the writing tip with the thumb, pointing and index finger forming a tripod.
Fine motor coordination	Ability to coordinate eyes and hands together, ability to control small muscles, being able to draw, use of the two hands.
Posture	Correct way of sitting, sit upright with feet on the ground.
Letter Formation	Establish correct movement in order to form letters, oral mediation.
Shape and Size	Letter shapes in proportion. Equal head body and tail.
Direction and Movement	Starting letters at the correct points, moving the writing tool in a fixed position.
Page Positioning	The way a page is positioned before beginning to write. Left handers position their page to the left side, right handers position their page to the right side.

4.3.1 Pencil grip

Pencil grip is a particular way of holding a pencil properly so that a learner is able to see what s/he is writing (Sassoon, 2003). In order gain insight into teachers' knowledge of pencil grip, teachers were given four pictures (see Figure 4.2) showing different pencil grips and then asked to identify pictures that represented the correct pencil grip. After identifying the pictures they were asked to explain why they thought that what they had identified represented correct pencil grip. All four pictures represented an incorrect pencil grip. It is evident from the pictures that none of them corresponds to the 'three-point-grip'. The three-point-grip is a grip where the pencil is held between the thumb and the forefinger with the middle finger supporting the pencil from below (New Zealand Ministry of Education, 2007).

(a)  (b) 

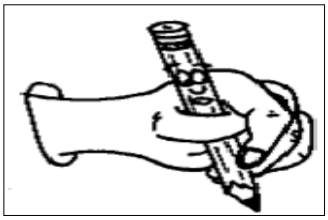
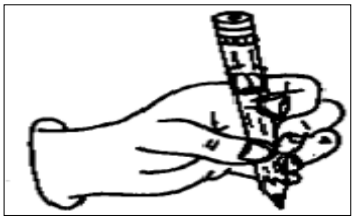
(c)  (d) 

Figure 4.1: Examples of pictures of pencil grip (Source: Landy and Burridge, 1999:210)

All the teachers identified (a) as the correct example of pencil grip. There were variations as to why they felt the rest were not correct representations of pencil grip. The six teachers' utterances are presented together below.

> Tumelo: Picture (a) looks like the pencil is held ok. These other pictures are wrong at how they hold a pencil. When you hold a pencil you use three fingers to assist the root of the thumb. Picture (d) is holding the pencil with the tips of the fingers; I don't think it can produce good writing.
>
> Joana: This one is correct, picture (a).Picture (b) and (b) are incorrect, and the child will not write well. Hm! These two fingers! A pen should sit on top of the third finger. If the thumb is inside, the child will not write well.
>
> Selly: The child is holding the pencil correctly in picture (a).Picture (b) is not a way a pen is supposed to be held. Picture (c) also seems not to be correct. Picture (d) is worse. It is not a way to hold a pencil.
>
> Katlego: Picture (a) is correct. Pictures (b), (c) and (d) are incorrect. The way the fingers are, is not correct.

Thabang: The correct one is (a). In the other three pictures, the way they are holding their pens, they will not be able to write properly.

Kim: This one (a) is better. These other three (b), (c) and (d) are wrong. The thumb goes through the hand. Their thumbs are badly used. The pens are straight up, a child cannot write in that position.

The six teachers identified Picture (a) as the correct pencil grip when it was incorrect. This picture might look correct to someone who pays attention to fingers only and ignores the pencil and thus the picture may have confused the teachers who were expecting a correct answer so it is important to examine their answers. A close look though reveals that (a) is not correct. When one examines the teachers' responses it is clear that teachers do not have a complete knowledge of pencil grip because they gave partial explanations of why the other three were incorrect. For instance Joana and Kim identified the incorrect positioning of the thumbs but did not say anything about the forefinger and the middle finger which together with the thumb, form the tripod. Tumelo, Katlego and Thabang said all the fingers were not correctly positioned but failed to notice that the way the pencil was positioned between the fingers was also wrong. Joana's explanation could have been correct had she not said that picture (a) was correct. What she gives as an explanation did not help her to see that none of the pictures was correct. She said '[a] pen should sit on top of the third finger. If the thumb is inside, the child will not write well.' Tumelo indicated the use of three fingers and the thumb but was not clear on the specific placement of the fingers. There was also some recognition that a poor pencil grip affected children's writing and was evident by the position of the pen (although ironically this was Kim's comment and picture (a)'s pencil is, in fact, in his words, 'straight up'.) It is important to note that none of the teachers used the term three-point-finger grip or tripod grip.

This lack of identification does not relate to all the teachers' own pencil grips. When asked to hold a pencil, Katlego, Selly and Joana held their pencils correctly. Tumelo, Thabang and Kim did not have a correct pencil grip. What is interesting is that although Thabang's interview answer implies she has some understanding of pencil grip, her own habitual practice is incorrect. This has an impact on classroom practice. In a follow up question teachers were asked to explain how they teach pencil grip in their own classrooms. Tumelo, whose grip was incorrect, and

Joana and Katlego, who had correct grips, gave similar responses. They each said that they demonstrated pencil grip on the chalkboard. In the interviews and during my observation of Katlego's lesson the teachers wrote on the board and drew the learners' attention to the way they should hold their pencils. Particularly in the case of Joana, her interview answer indicated that she does have SMCK but this does not translate into her own habitual practice and thus also her PCK. The angle of the hand when writing on a board as opposed to on a page placed on a desk is different. Although the pencil grip might remain the same, for children watching the teacher write on a board means it is not easy to see exactly where the fingers are placed. In addition to this is a lack of verbal instructions. This was confirmed in Katlego's observed lessons. It emerged again when Selly explained her practice. She put the children in groups and modelled pencil grip to them –although she demonstrated this grip it was not accompanied by verbal instructions. Although the children see the pencil grip in a space that they will be working on, the fact that the children sit or stand in a circle does not take their perceptual development into account and their ability to take what they have seen that is upside down and correct hold a pencil. Thabang said she writes for the learners in their books when they come to show her their work but her pencil grip in itself is incorrect. Kim was not able to explain how he taught pencil grip because he did not have a particular strategy that he used. He repeatedly said he was trying to teach pencil grip but it remained a problem in his class. This lack of subject knowledge evident in his answer then meant that there was no PCK and his teacher training had not equipped him to deal with Handwriting in the Foundation Phase.

In conclusion, the follow up answers and demonstrations reveal that it is not unexpected that all the teachers failed to recognise that all the pictures were incorrect — half of the teachers' own pencil grip was incorrect which points to gaps in their own handwriting training as children. There are gaps in knowledge: they could not express clearly thumb and pencil positioning, and none mentioned anything about the correct tension of the pencil so that it is held firmly enough. The teachers' failure to attend to pencil position might have led to all of them saying picture (a) was correct when it was incorrect. What is interesting is that a lack of subject matter knowledge or partial subject knowledge does not translate into PCK. Teachers did not appear to use any verbal instructions to help children hold a pencil and in demonstrating what children should do, did not take their own position in front of the board and the class seating arrangements into

account, and also did not consider the perceptual development of the children. This raises questions about teachers' own habits and whether these can be changed if they were incorrectly trained. Katlego noted that although she was trained as a Foundation Phase teacher she only learned to teach Handwriting when she worked in a model C school and was taught by another teacher. While her overall understanding appears to be deeper than the other teachers her pedagogical practices in this instance are not effective.

4.3.2 Fine motor coordination

Fine motor coordination refers to (i) learner ability to hold a pencil; (iii) eye-hand coordination; (iii) strong finger muscles; and (iv) head-hand movement (Sassoon, 2003).

To gain insight into teachers' knowledge of motor coordination the six teachers were asked to share their understanding of fine motor coordination and its role in handwriting. There were variations in the teachers' responses and these are discussed below. Kim response was different from the other five. Kim's response was strange in the sense that he associated undeveloped fine motor coordination with family background. He said, 'I could relate the incident to family problems and send the learner to a wellness centre at school.' While family background may indeed play a role in poor fine motor coordination what this answer does not address is how it affects children's ability to write. Kim says he would refer a learner to a wellness centre in the school for help but this is a place where learners with social family problems such as poverty, abused, orphans, and 'delinquents' go to for help for counselling and support in the school setting. So it is puzzling that rather than Kim working with the learner, he chooses to send the learner to a wellness centre. Teachers should be trained to engage learners in activities which are able to help them develop fine motor coordination. This is evident from the some of the teachers' talk about how they would help learners develop fine motor coordination and others talking about indicators of undeveloped fine motor coordination. But it also points to Graham et al's (2000) research on American teachers who felt that they did not receive enough training as pre service teachers.

Joana, Katlego, Thabang and Selly's understanding of fine motor coordination were similar. They talked about the need for learners' finger muscles to be strong and firm. They said this will enable the learner to hold a pencil. For example Joanna and Selly said,

> Joana: The learners' muscles must be strong. The muscles must grow so that the child must be able to hold a pencil, they need strength. The other indication of muscles not being ready is seen when a child is unable to finish tasks in class.

> Selly: The child's muscles must be firm so the child can be able to write. (Go bohlokwa) It is important. [She was emphasising that it is important for the child's muscles to firm].

This links back to two aspects outlined by Sassoon (2003). Both Katlego and Thabang's responses comment reveal some PCK when they mentioned strategies they have in place to help learners develop greater fine-motor coordination:

> Katlego: The child's muscles are not well developed yet. I make the learners to do lots of handwriting patterns before they can start to write.

> Thabang: The child's muscles are ready when the child is able to write and complete tasks in class. I try to make the learners do exercises before handwriting lessons starts.

In her response Tumelo talked about the need for strong finger muscles; head movements and moving eyes from left to right. These are three content areas of fine motor coordination. She was able to mention more fine motor content areas than other teachers. It is evident from her utterance that Tumelo appears to have a deeper knowledge of fine motor coordination among the 6 teachers. This knowledge also appears to translate into her practice:

> Tumelo: We always go out of the classroom to do some finger exercise, clapping of hands, do eye and head movements and ask them to write from left to right on the ground.

Tumelo further said that she makes it a daily song in her class to always remind learners to button their shirts appropriately, she instructs boys to put their shirts into their trousers and to fasten their shoe laces at all times. Even though she is not using the actual terminology, she recognizes that learners should have the skills and to achieve this learners have to exercise the

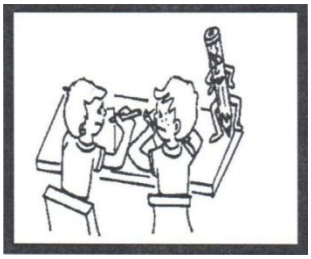
small muscles of the hands. She is the only teacher who recognized that part of fine motor coordination also occurs in the eyes and the head which speaks to an understanding of the importance of perceptual development.

In conclusion, the analysis of teachers' responses on fine motor coordination indicate that only Tumelo knew three aspects of fine motor coordination that are important for Handwriting and was able to talk about their relevance to learning of Handwriting. Four teachers knew two of the aspects while one could link fine motor coordination to the teaching of Handwriting. From the analysis only Tumelo might be said to have in-depth knowledge of fine motor coordination and an ability to translate this into practice. The other five teachers do not have in-depth understanding of this aspect of Handwriting. My argument rests on Shulman's (1986) viewpoint that teachers need to not only know the content they teach, but even more, they need to be able to explain the content to others.

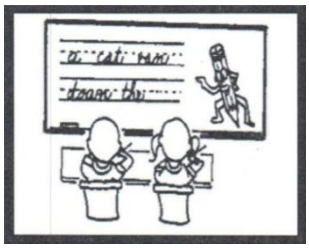
What is of concern is that fine-motor coordination is not required only for Handwriting but affects learners' ability to function in a classroom with texts, with peers, and as beings in the world. For instance, in the classroom children in the age range, 1 – 6 years need to use their small muscles to turn book pages, fold papers and use a pair of scissors to cut pictures (Rhyner, 2009). According to Rhyner (2009) teachers use the child's ability to cut along a dotted line, button a shirt, pull up socks and zip up trousers as an indication that his/her small muscles have developed. These abilities are also an indication that there is coordination between the eyes and hands.

4.3.3 Posture

For this aspect of Handwriting teachers were given four cards (see Figure 4.1) to study. The teachers were then asked to identify the picture where the learners maintained the correct Handwriting posture. After identifying the cards teachers were asked to explain what was not correct in the other pictures. In Figure 4.1 cards (b) and (d) show learners maintaining the correct Handwriting posture and (a) and (c) show the wrong Handwriting posture.

(a) 

(b) 

(c) 

(d) 

Figure 4.2: Handwriting posture pictures (Source: Landy and Burrigde, 1999: 144-5)

The six teachers' responses to this task were slightly varied with three teachers identifying one correct posture and the other three not able to identify any of the two correct postures. Katlego, Kim and Thabang noticed that card (b) represented a correct posture but failed to recognize that (d) was also a correct posture. Tumelo, Joana and Selly could not identify any of the cards representing a correct posture. The six teachers' statements about posture are presented below:

> Katlego: Picture 'b' is correct. Posture is important as it affects how letters are formed. Learners need to sit well at all times as they write.
>
> Kim: Picture 'b' is correct. Every learner should sit straight up and not lean, otherwise the handwriting is not going to be correct.
>
> Thabang: This child is well seated in picture 'b'.
>
> Tumelo: This one her legs must not be put together, they should be space left between the legs so that the child can be able to breathe.
>
> Joana: This one is not well seated picture 'b'. The chair might slide as she is writing and the pencil will fall.
>
> Selly: Picture'd' she is seated but not properly even though she can write well

What makes picture (b) correct is the fact that the learner's feet are properly placed on the ground and the body is in an upright position. Picture (d) shows one characteristic of correct posture and this is represented by feet which are properly placed on the ground. Teachers did not make the link between the placements of the feet as being one aspect that affects the entire body. Tumelo, Joana and Selly were not able to identify that picture card (b) and (d) represented correct posture. For them, all the four cards were showing incorrect posture. For instance, Tumelo thought that the learner in picture card (b) is not properly seated because there is no space between her legs. However the feet need to be put together in order to maintain a good posture. Joana and Selly's comments are a little concerning especially when posture is so important and is a signal to teachers that there may be other problems like low muscle tone, poor gross motor co-ordination that may affect other aspects of a learner's performance. It can then be said that as a group the six teachers have partial understanding of the correct posture required in order to write and points to a gap in their knowledge about what they are expected to know and teach (Shulman, 1986).

4.3.4 Letter Formation

Teachers were interviewed about letter formation and direction and movement separately but these aspects of Handwriting are interrelated and the discussion on movement follows this section. Letter formation is more about establishing correct movements in order to form letters. Teaching correct letter formation involves providing learners with opportunities to talk about their names and features of letters and the sounds they represent (Sassoon, 2003).

The six teachers were asked to explain how they normally teach letter formation in their classes. The teachers' responses indicated that Katlego was the only teacher who was able to give a partial response. Below is an excerpt from Katlego:

> Katlego: I draw lines on the chalkboard. These helps me to be able to show the learners correct starting and finishing points as we write letters. Correct movements are very important. As I write, the learners verbalise the letter and at times write the letter in the air.

In Katlego's excerpt she says she draws lines on the chalkboard. What is positive about the lines is that they help to position the letter in space and learners have a point of reference for the starting point of each letter. Another positive aspect in her talk is where she says she lets learners verbalise the letter and write it in the air (New Zealand Ministry of Education, 2008). This is good practice because it reinforces the phoneme-grapheme correspondence. It is important to point out that what Katlego says in the above excerpt is supported by what the researcher observed in her Grade 1 lesson where she was teaching learners to form the lower and upper case letter 'l'. In that lesson she made learners verbalise and write in the air. This oral mediation (Vygotsky, as cited in Moll, 2003) Verbalisation is useful because it reinforces the important visual cues such as movement and shape of the letter (New Zealand Ministry of Education, 2008).

What is missing in Katlego's talk is how she works with learners individually because in the excerpt she is focused on whole class. Working with learners individually helps the teacher to see the mistakes learners make. Sassoon (2003) recommends that the teacher should attend to learners individually to check that they are producing the correct movement. Another important aspect of letter formation that is missing in Katlego's talk is that she does not mention the importance of practice. Learners need opportunities to practice letter formation because it develops their visual and motor memory of the important features of the letter (Landy and Burridge, 1999).

The remaining five teachers' responses did not contain the core aspects of letter formation. The following excerpts contain the five teachers' responses:

> Tumelo: I drill this on the chalkboard with the learners. Sometimes I take learners out of the classroom so that they can practice on the ground.
>
> Joana: When I teach, say letter 'a', I will demonstrate how it starts with a circle and a stroke.
>
> Selly: I think it is important that learners must be shown that letters must fill in the lines so that they should not write letter 'a' like number 9.

Thabang: I group them. I move around and check as they write and I correct them and show them with a pen or demonstrate to them where they are experiencing problems.

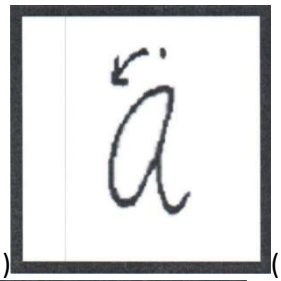
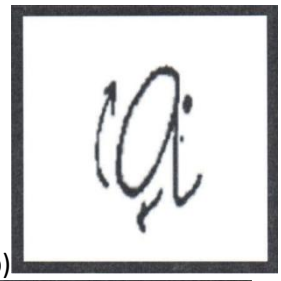
Kim: I will invite a learner to write on the chalkboard so that I can identify what learners need to know and then I will show them.

From the above excerpts it is evident that the five teachers could not explicitly say or explain how they teach letter formation. Tumelo's response is too general and does not contain core aspects of letter formation. Drilling and letting learners write on the ground are general teaching strategies that are used even in other aspects of Handwriting. Joana's talk is about practicing a pattern for writing letter 'a'. She does not mention anything in relation to how she teaches learners to form letters. Selly's response is also too general and what she says can be done in other aspects of writing. Showing learners that letters must fill the lines is not a core aspect of letter formation. Thabang's talk basically explains her teaching practice and is not focused on the teaching of letter formation. Grouping learners and moving about assisting learners is a normal teaching practice which all teachers need to do irrespective of what they are teaching. Kim is also talking about a teaching strategy which may be used even in when teaching other school subjects. His explanation is also not related to the teaching of letter formation.

The above descriptions of the five teachers' responses show that they are not able to explain how they teach letter formation. Teachers need to know how to explain the content that they teach if they expect to make it easy for learners to understand. They also need to know important aspects of the content. However, the five teachers could not talk about starting points, finishing points and correct movements which are core aspects of letter formation. On the basis of their talk, it can be concluded that these teachers' knowledge of letter formation is weak and they are not likely to teach letter formation effectively in their classes. Teachers are expected to know the content and be able to explain it to the learners. In spite of that, the five teachers might not be able to meet this expectation especially in letter formation.

4.3.5 Direction and Movement

Direction and movement are important aspects of letter formation. As a follow up question teachers were given pictures that appear in Figure 4.4 to identify the pictures that showed the correct movement of letters by studying the starting points and arrows in the pictures. The teachers' responses are presented and discussed below:

(a)  (b)  (c)

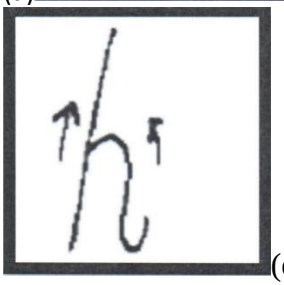
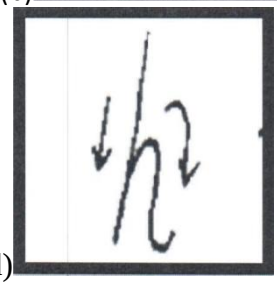
 (d) 

Figure 4.3 Examples of handwriting direction and movement (Landy and Burridge, 1999:192)

Katlego: Letter cards (a) and (d) are correct. I think letter cards (a) and (d) show the correct direction and movement of letters. Letter cards (b) and (c) show incorrect movements.

Joana: The letter 'h' has slanted a stroke. Actually all these letter cards are wrong.

Selly: All these letter cards are not correct. This arrow on card (a) shows me this 'a' does not look the same as on card (b) They are both wrong. Same as cards (c) and (d), they are incorrect.

Thabang: I really am not good in cursive. I do not know which of these letters are correct or incorrect.

Kim: The correct way of teaching movements is by starting from top and move to the bottom. [He was reluctant to select from the letters that were shown to him].

Tumelo: In Grade 1 we do not teach cursive, we teach print. When I teach a letter, I start by practicing patterns. For instance letter 'a' the learners will draw circles and strokes. They will practice a lot, and then later I will introduce to them the letter 'a'

The teachers' responses show that only Katlego was able to choose the correct letter cards (a) and (d). Katlego's response indicates that she knows the correct movement and direction and this suggests that she might be able to teach this aspect of letter formation correctly. Her knowledge was evident in her lesson that the researcher observed. In that lesson she constantly encouraged her learners to write from a particular starting point.

Joana, Selly, Thabang and Kim showed limited knowledge on how these letters should be formed. From these answers one can assume that these teachers do not teach letter formation correctly, or if they do, they cannot explain the correct starting and end points and direction to write these letters for their learners. They also are likely not to be able to correct learners where they experience difficulties. These results raise concern because letter formation relies on learners' ability to execute correct movements and in the correct direction. Tumelo did not give a response that was related to the question. She said she could not identify letters showing correct direction and movement of letters because she does not teach cursive. Her response might be interpreted as an excuse for not answering the question. It is probable that she realised that she could not give a positive response and so she decided not to respond directly to the question. The above section contains evidence that suggests that perhaps she did not know the correct movements.

In her response, Tumelo says she does not teach cursive but focuses on print at Grade 1. Children only begin to learn cursive in Grade 3 (DoBE, 2011). Starting with print is useful because learners are already familiar with this type of writing which they see in the books that they use. Tumelo specifically notes that learners practice patterns. Practicing patterns is

important because it gives learners the opportunity to practice the movements of the letters that they will later learn to form. This activity also strengthens learners' fine motor coordination which plays an important part in Handwriting in general.

What is concerning is how teachers construct their own range of knowledge and limit it to the grade requirements. Foundation Phase teachers should have a sound knowledge of the phase requirements – and cursive is one of these. What is also concerning is the level of SMCK; none of the teachers recognise that these letters are not cursive letters, and that the starting and end points are the same as if they wrote the letters in print. It is clear that this lack of knowledge does not resonate with Shulman's (1986) description of what a teacher needs to know to teach effectively.

4.3.6. Sequencing of Letters

Deciding on the sequence of letters to teach children is another important aspect of letter formation. Teachers can make a range of decisions. Sassoon (2003) suggests that they can introduce letters using the same terminology used for patterns, but stressing that each letter starts at the head. She says that suitable letter sequencing for Handwriting practice needs thought as does the method. Teachers may be in a good position to decide this for individual learners.

To gain insight into teachers' knowledge of letter formation in relation to groups of letters teachers were asked to respond to questions related to the order of a sequence of letters they would teach. Teachers were presented with 4 strips containing letters of the alphabet (see Figure 4.3) and were asked to explain the sequence they would follow when teaching letter formation.

(a) o c a e s

(b) n m r i u

(c) 

(d) 

Figure 4.4: Examples of letter strips showing sequencing of letters of the alphabet (McFarlane, 1991:19)

Teachers' responses were similar and they were able to explain their choices clearly. It appears all teachers had some knowledge of sequencing that was informed by the letter shapes:

> Tumelo: I will start by teaching the letters that fills the 'body' then follows those letters that the 'body and the 'head', the letters that fills in the 'body' 'and the 'tail'.
>
> Joana: I will start with strip (a) then (b), (c) and (d). Letters on strip (a) and (b) fills only the 'body'. Strip (c) the letters goes up and strip (d) the letters go down.
>
> Selly: I will start by teaching letters that fills in the 'body' then follows those letters that fill the 'body and the 'head'. Then I will teach those that fill the 'body and the 'tail'.
>
> Katlego: I will teach letters that fill in the 'body', and then follows those letters that fill the fill the 'body' and the 'tail' and then, those letters that fill in the 'body' and the 'tail'
>
> Thabang: I will start by teaching learners the letters that fills in the 'body', the vowels. Then follows those letters that fills in the 'body' and the 'head'. The letters that fills in the 'body' and the 'tail' will be last. I think vowels are easy to start with, not many movements are made here.
>
> Kim: I will start by teaching the vowels. Then the letters that fills in the 'body' and the head and lastly those that fills in the 'body' and the 'tail' Vowels are simple, the learners know them from Grade R.

Although the teachers begin with the 'easier' body letters, as the previous example shows, the letter formations they model may not be correct.

It might be said that letter formation is one area where all teachers appeared to have partial knowledge. This is evident from the way teachers talked about letter formation. Firstly, five teachers were able to produce the correct sequencing of letters. Only Kim said he would start with vowels as the learners know them from grade 1. Secondly some teachers did not know how to form letters and identified them incorrectly.

4.3.7 Shape and Size

According to Landy and Burrigde (1999) letter shapes need to be in proportion and this is realized when the head, body and the tail of a letter are proportional. When asked to share their views on the importance of shape and size in teaching Handwriting, the teachers mentioned the following:

> Tumelo: I emphasize that when you write names you start with a capital letter. You cannot put a capital letter in the middle of a word. For example, the word 'aba' (share) the letters has to be of equal size.
>
> Joana: Shape and size is very important. This makes the learners work neat. Small letters damage our eyes, we cannot read. I can mark a learner wrong while answers are correct because of very small letters.
>
> Selly: I draw lines on the board so that I can model how letters must be written at all times. The 'head', 'body', and 'tail' must be of equal size. The letters must fill in the lines.
>
> Katlego: The learners must copy work that is neatly presented on the board. The letters must be of the same size so that they can look neat
>
> Thabang: I personally need training because in this Phase we have to teach everything. I learn from group learning.

> Kim: I try to show them the difference between small and big letters. Generally as teachers we need to go through training. Here at our school we do different styles and this will confuse learners as they move across the Grades

The teachers do not have the knowledge of this skill as their responses focused more on letters being of equal size and that learners should know lower and upper case letters. Selly's utterances were closest in line with Landy and Burrigde's (1999) discussion of the importance of the shape and size of letters. She said letters must fill the lines – but the others do not demonstrate why shape and size are important.

It was in this discussion that teachers revealed that they, like the American teachers (Kelly2007), had not received sufficient training in teaching handwriting:

> Thabang: Sometimes we teachers contribute to the bad ways of writing and learners copy that. As teachers we need to write well-proportioned letters on the chalkboard especially in the Foundation Phase. Learners copy these incorrect practices from teachers.

> Kim: Teachers need to be trained well in teaching handwriting so that they can model good practices. We have to know so as to be confident as we teach the skill.

However, the six teachers shared a similar view that for learners to master writing correctly and produce letters in proportion, teachers have to model good practice at all times when they write in class on the chalkboard, in learners books, on all teaching aids and classroom displays (Singh, 2010).

According to Shulman (1987) it is expected that a teacher should be more knowledgeable than the learner so that s/he will be able to transform understanding, performance skills and values into pedagogical representations and actions. Shulman (1987:7) explains pedagogical representations as "ways of enacting or representing ideas so that the unknowing can come to know, those without understanding can comprehend and differentiate and the unskilled can become skilled." Relating the teachers in the study to Shulman's (1987) argument, it can be said that teachers in the study do not seem to meet this expectation. The teachers might know more than learners they teach but it cannot be said that they know more than what they teach and what they teach or know is limited.

4.3.8 Page Positioning

Sassoon (2003) recommends that when writing a book should be positioned in relation to midline of the body, for the right-hander the book is placed to the right of the midline with top left corner tilted down, for the left-hander the book must slant even more to the right of the midline but with a greater tilt (Landy and Burridge, 1999). Sassoon (2003) further says the way the book is positioned before beginning to write, has an impact on the learner's posture and the ability to form letters.

In the study teachers were asked to look at two pictures that showed book/paper positioning and to identify which book is incorrectly positioned.

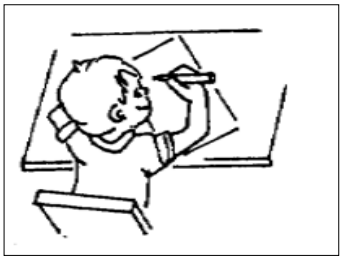
(a)  **(b)** 

Figure 4.5 Examples of handwriting book positioning (Landy and Burrigde. 1999: 146)

Three of the six teachers incorrectly identified picture (a) as the correct picture. Katlego, Selly and Thabang's answers indicated that they had some knowledge of the relationship between posture and page positioning. But what is interesting is that their understanding of what constitutes correct posture is incorrect. As discussed in the literature review Sassoon (2003:32) says that "in order to sit comfortably to write, and at the same time to see what they are doing, learners should have their paper over to the side of the hand that they write with. That means that right handers need their paper over to the right side, and more importantly, left handers need their paper over to their left side". Thabang had a partial understanding as she was able to identify one of the two correct postures. Selly and Tumelo could not identify the correct posture, this also related to their confusion about appropriate posture.

Thabang: This one is seated well, picture (a).This other one I don't think it's correct. The child is leaning in the book

Selly: When I look at this one (b) the learner leaned on top of the book; the corners of the book will be damaged. The way the child is sitting is incorrect. Picture (a) looks better.

Katlego: These two pictures are incorrect .The corners of the book will get damaged.

The teachers' concern about the child in the picture 'leaning' on the book means that they do not address the question about the position of the book. This may indicate that they may not know that the position of a book is an important component of learning to write; it may also indicate that they do not know what a correctly positioned book looks like. For children who attend the schools in this study it is very likely that many children have had little or no exposure to writing, so this is something that teachers are likely to have to explicitly put in place.

These teachers seemed to be overly concerned with the condition of the book. Thabang noted that 'the edges of the book will be damaged' and Selly talked about using pegs 'to clip the corners of the book to avoid damage.' Katlego also noted damage to books but she related it to position: 'I always show the learners how the book must be placed'. In this case the teachers seem to have only thought of the book getting damaged more than how incorrect book positioning impacts on learners' posture, direction and movement of letters and the ability to form letters (Sassoon, 2003).

Fear of using resources made the teachers to think only of saving the books more than the impact it has on the learner. While children do need to learn manage to their books carefully, an overemphasis on the condition of the book potentially takes away the focus on learning to write and practising all the skills necessary that children need to master, in the same way that an overemphasis on neatness limits children's ability to make meaning through writing.

In contrast to Selly and Thabang, Joana is aware of positioning. Although Joana does not explain in detail about the degree to which a book must be tilted, or in her words, 'slanted' she does indicate the importance of the hand in stabilising the position of a book when one writes:

> Joana: A book must not face any direction. It must be in front of the learner, slant a bit to allow movement. As the child sits, one hand must be on the book to support that the book must not move unnecessarily.

Tumelo and Joana were able to identify the correct picture which was picture (b). This picture is correct because the learner's positioning of the book is in agreement with the recommended position (Sassoon, 2003; Landy and Burridge, 1999) for a right-hander.

> Tumelo: This one, Oh! It is (b) it is well positioned as I take a look, but the pen hold is not correct. The book edges will be damaged. The child might start in the middle of the page.

One of the issues about book positioning is that left handed children need to be catered for in a different way. Kim raises this distinction but his answer is confusing:

> Kim: I think both pictures are correct as one picture shows a right handed child. The book is put in such a way that a child can write.

The position of the book for the left handed child in the picture is incorrect, as it would also be if this was a right handed child.

In conclusion, only Tumelo and Joana were able to identify the correct page position while the other four teachers failed to do the same. Their understanding resonated well with Sassoon's (2003) definition that the book must be positioned correctly in relation to midline of the body, with the right-hander to the right of the midline with book's top left corner tilted down, the book must slant for the left -hander to the left of the midline and book tilted more. Thus, teaching begins with a teachers' understanding of what to be learned and how it is to be taught. This, proceeds through a series of activities during which learners are provided with specific

instruction and opportunities for learning. Though the learning itself remains the responsibility of the learner. An end-product of good teaching is new comprehension by both the teacher and the learner (Shulman, 1987).

4.2. Summary of the Six Teachers' Content Knowledge on the 7 Handwriting Aspects

Aspects of Handwriting	Tumelo	Katlego	Joana	Thabang	Selly	Kim
	Grade 1	Grade1	Grade 2	Grade2	Grade3	Grade3
Pencil grip	(x)	(x)	(x)	(x)	(x)	(x)
Fine Motor Coordination	✓	✓	✓	✓	✓	x
Posture	(x)	✓	(x)	✓	(x)	✓
Letter Formation	x	✓	x	x	x	x
Direction and movement	(x)	✓	x	x	x	x
Shape and size	✓	✓	✓	x	✓	x
Book Positioning	✓	x	✓	x	x	x

Key: x - Incorrect understanding;

(x) - Incorrect answer accompanied partially correct explanations;

✓ - Correct understanding

All six teachers failed to identify the correct pencil grip. Teachers' explanations of their responses were focused on individual fingers or thumb instead of talking about the forefinger, middle finger and thumb. The six teachers were not able to demonstrate the correct the pencil grip. Five teachers had some understanding of fine motor co-ordination. Tumelo had the most knowledge and Kim's response was not relevant and showed a limited knowledge.

Half of the teachers were able to identify the correct posture it is interesting that posture was the only aspect that Kim got correct. Only Katlego could identify the correct letter formation. In her talk about letter formation Katlego referred to the correct starting points, finishing points and correct movements. The other five teachers were not able to give a sufficient explanation on how

they teach letter formation. Most of their talk was focused on general teaching strategies which apply in other aspects of Handwriting.

Four teachers were able to correctly describe how letters should appear in terms of shape and size. The teachers mentioned that letters in the same line should be proportional. They pointed out that shape and size affect neatness. The other two teachers were not able to respond to the question due to lack of knowledge of this aspect. They conceded that they needed training in Handwriting so that there can be uniformity in the way they teach. Tumelo and Joana were able to identify the correct book positioning but could not sufficiently explain why the other book positioning was incorrect. The teachers' explanations did not focus on how wrong book positioning might affect other aspects of Handwriting.

An analysis of the table reveals that teachers have a partial knowledge of Handwriting. There is not one among the six teachers who was able to produce correct responses in all the seven aspects and this raises serious concerns because teachers teach what they know. This suggests that learners in these teachers' classes might learn some aspects of Handwriting and not others due to teachers' limited knowledge. But, the overall lack of understanding means that what teachers do know and teach in their classroom may be undermined by a lack of understanding of other aspects.

4.5 Observations of handwriting lessons

I observed two lessons for each teacher. Both teachers taught the same letter and used government supplied workbooks.

4.5.1 Tumelo's Lessons

There were 41 learners in the classroom. The learners were seated two to a desk in rows facing the chalkboard with left handed children sitting on the left side of the desk. This was a thirty minute lesson. In this lesson, the lower and upper case letter 'l' was introduced. Tumelo wrote

the letter on the board several times in a row, while the learners were watching. She explained how to write the letter referring to the lines she had drawn. The learners were asked to write the uppercase letter 'L' in the air and then trace it in their workbooks. The activity in the workbooks required learners to trace lower case letters and then upper case letters. Next to each letter, which was made up of dotted lines, were numbers and arrows to show the direction required to form the letter. Even though the workbook had several letters to trace the learners traced the same number of letters as were on the board.

The teacher continued to demonstrate writing the lowercase letter 'l'. Learners were asked to write the letter in the air several times and trace it in the workbook. They repeated this pattern and for the final row traced a combination of the lower and uppercase letters.

In the second lesson that lasted for ten minutes Tumelo wrote the word 'letamo' (dam) on the board and then drew a dam. The children then copied this from the board for the rest of the lesson in their handwriting books. I did not consider this to be a Handwriting lesson not is it in line with CAPS.

I used the seven aspects of Handwriting to analyse Tumelo's teaching. Tumelo could demonstrate the correct letter formation with the correct movements for both letters. She drew 3 lines and she used them to show learners where to start the letters and end them. She also explained this verbally, unlike Kim and Thabang who appeared to only demonstrate without explaining how to form letters. Even though the cat cartoon was drawn on the board, she never referred to it although she said she used this in her interview. As a way of helping learners to orientate themselves spatially this is a missed opportunity. As Tumelo continued to write she invited the learners to repeat after her. Although her knowledge of letter formation is correct, and her ability to explain how to write the letters is correct, I observed a number of learners who did not use the correct starting point and wrote from the bottom up, several did not leave a space between the upper and lower case 'l' thus forming a 'U'. A problem for me was that this exercise, which took place in August, did not require the children to do any independent writing (Landy and Burridge, 1999).

Unlike in the interviews, where Tumelo showed an understanding of posture, not all the learners had the right posture for writing. Tumelo told the children 6 times to "sit properly", when she

did they moved but not into an appropriate posture for writing. As she walked around the class to give individual attention she did not comment on children's posture. Some of the children's posture was affected by their book positioning. They were not tall enough to reach the top of the book so they leaned forward, lifting themselves off their chairs in order to write. This could have been solved by the teacher telling the children to move their books closer to them and by tilting the books. Despite her answer in the interview that she understood this, page positioning clearly has an impact on children's posture which in turn affects fine-motor co-ordination and letter formation. What this illustrates is that a lack of knowledge of one aspect of handwriting impacts other areas and affects children's competence.

Tumelo did constantly remind the learner to hold their pencils properly, and her interview revealed she did have the correct pencil grip. But she did not demonstrate or remind the learners what this grip was. I observed several children with an incorrect pencil grip. The consequence of this was that some of the learners pressed too hard in their workbooks.

One aspect of teaching that is important is to use resources in an appropriate way in their classrooms. Tumelo obviously follows the sequence of work in the workbook. But she made little reference to what was in the book and how she taught the letter L. The page of the book began with the lower case letter, but she made the children write the harder upper case L. This letter was at the bottom of the workbook page. Learners were confused and did not know where to start. For early literates one aspect of reading they need to master is that texts are read top down, not middle down and then top to middle. This indicates a lack of planning or careful thought about the relationship between her teaching, the resources available and the children's needs.

4.5.2 Katlego's Lessons

Katlego had 61 learners in her class. Three to four learners sat at the 14 desks and shared chairs. Learners who had no desk had to sit on the carpet. Learners who are naughty sat on the carpet more often. This lesson, which was also on writing the letter 'l', took 40 minutes.

Katlego asked the children to look at the chalkboard. She told them they would write the capital and small letter 'l'. She drew attention to the cat cartoon – and wrote 'l' and asked the learners where the letter 'l' started. They responded that it starts at the head. She reinforced this by tracing over the first letter and talking about the starting point and the mid-point (body) and the end point (the tail). She asked the learners what she needed to do to in order to write more of the letter. Research (Clay, 1991; New Zealand Ministry of Education, 2008; Vygotsky as cited in Moll, 2003) confirms that saying is important as language plays an important role in focusing learners' attention on letter shapes and movements. This makes learning more effective and fun if learners say what they copy. After demonstrating this, the learners wrote two lines in their own Handwriting books and Katlego moved around the class to give assistance. Each book had a cat cartoon in it that she had drawn for them the previous afternoon. She repeated the same process for upper case 'L'. The workbooks were used as a reference for the children to check if they were confused.

In the second lesson she taught the lower case 'ɑ' and the numerals 1, 2, 3, 4, 5. The HOD had said that she did not want the teachers to use the cat cartoon, but to use XXO to represent the head, body and tail[1]. Katlego tried to introduce this change in this lesson to the great confusion of the learners. These letters and numbers would have already been taught earlier in the year. Katlego drew circles with 'sticks' next to them on the board. The children copied this pattern and then she introduced the letter 'ɑ'. She erased the cat cartoon and replaced it with XXO and asked them to write the circle with the stick attached next to the second X. The children wrote this in their books. After this she moved to the numerals with the same discussion as in the first lesson about how the numbers are formed and then the learners wrote these in their books. Katlego realised that the learners were confused and the class did not complete the task.

The strength of Katlego's first lesson is the way she encourages the learners to verbally tell her back what she is supposed to write. Saying letters out loud helps improve the learners' language and makes learning more fun. This was not rote learning at all as compared to Tumelo's responses that were choral in response. Figure 4.6 shows a learner's work from the second

[1] It is interesting that even though Katlego did try to suggest that new changes be implemented at the beginning of the year the HOD insisted that Katlego should change from cat cartoon to XXO. In Handwriting, it is not advisable to change from one strategy to another especially in the third term because by this time learners are already used to the old strategy.

lesson. The work displays consistence in shape and proportion and correct numeral formation. Unlike Tumelo's class, the learners practice writing independently and have produced more writing than Tumelo's class. What is concerning in Katlego's second lesson was that she still used patterns in the third term of the year. She also taught the letter 'ɑ' incorrectly which is a letter she would have taught earlier in the year. The second lesson may not reveal her daily practice. Changing her teaching strategy confused her and she was unable to explain the changes clearly to her learners.

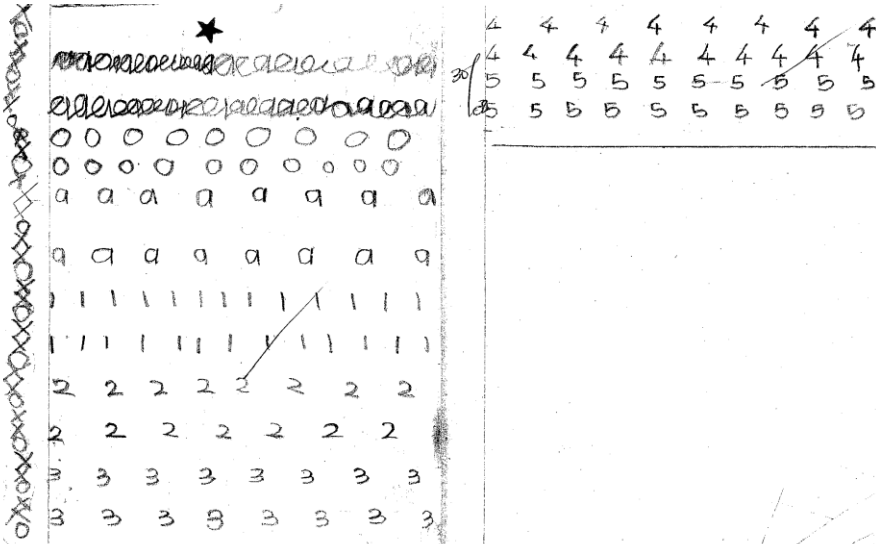


Figure 4.6: Sample from a learner's book

Letter Formation in these lessons was also affected by the environmental conditions. A lack of desks has a direct impact on posture. The learners have very limited space to sit and move their arms and hands to write well. With other learners sitting on the carpet and having to sit on the haunches and having to write, this presented major problems for the learners.

From a pedagogical perspective Katlego teaches handwriting to the whole class and has not thought about another way she could do this. The issue of Lesson planning arises again because it shows how important planning is before a teacher goes to teach. Katlego could have opted to use the school hall where are enough desks and space, to offer a good possibility to teach

Handwriting. The incident with the cat cartoon demise could show that there are probably other political issues to be negotiated and speaks to the impact that the imposition of other teachers with poor knowledge can have on practices that are sound.

4.6 Summary

Tumelo taught her learners both the capital and small letter 'l' in one lesson and there was nothing wrong with this decision. However, her sequencing of the lesson was flawed especially her decision to introduce capital letter 'L' before small letter 'l'. Capital letters are generally more difficult to learn than small letters. Tumelo constantly told learners to hold the pencil correctly and sit properly but her instruction did not produce the desired results because she never took time to demonstrate to learners correct pencil grip or posture. Learners spent most of the time copying and tracing. The result was limited opportunity to learn the actual writing of the letters. This opportunity was hugely limited in the second lesson where they spent the entire lesson drawing a dam. A positive aspect of Tumelo's two lessons was the fact that all learners were engaged throughout the lessons.

Katlego also taught the small letter 'l' and capital letter 'L' in her first lesson. Unlike Tumelo, she followed the correct sequence by introducing the small letter 'l' before capital letter 'L'. She constantly referred learners to the cat cartoon and drew attention to the starting and ending points of the letter. She was not able to demonstrate correct letter formation especially in the second lesson despite identifying it in the interview. Her learners were fully participating in the first lesson compared to the second due to the shift from cat cartoon to the XXO strategy.

4.7 Conclusion

This study aimed to explore teachers' knowledge of Handwriting on selected tasks that covered seven aspects of Handwriting. Teachers' responses to these tasks were varied. There were instances of correct and incorrect responses. There is no aspect where all the six teachers responded correctly. In most aspects it was common for some teachers to get it correct while

others got it wrong. Furthermore, there was no single teacher who responded correctly in all aspects of Handwriting. There was one teacher who appeared to be much stronger than the rest. The teacher responded positively in most aspects and negatively in just a few aspects. In the teaching profession however, there is little room for mistakes because teachers are trusted with the task of moulding the minds of the young. The few things that the teacher does not know might be the most destructive in the learner's education. So whoever professes to teach must know more than what he teaches (Shulman, 1999).

The teachers were given the chance to talk about how they teach Handwriting. The extent of their understanding was often limited by their explanations – although they may have identified the correct picture in their explanations it was clear that they were not able to translate this knowledge into practice. The lesson observations show that while some aspects of handwriting are present in the lesson they are undermined by a lack of attention/lack of knowledge of the other factors. This has a knock-on effect on the children's ability to master all the other aspects. It is clear that a lack of training has played a role in teachers being able to teach Handwriting and teachers who were trained to teach senior primary have less knowledge of Handwriting. But some guidance is provided in the CAPS document and points to a lack of curricular knowledge.

Chapter 5

Conclusion and Recommendations

5.1. Introduction

I went into this study with two main aims. The first aim was to find out what knowledge of Handwriting Foundation Phase teachers in Limpopo province had. The need to explore the teachers' knowledge was influenced by two main factors that included (i) my personal experience; and (ii) continuous provincial low learner achievement in national and international assessments. The two factors are each summarised below.

5.1.1. Personal experience

In my teaching experience as a Grade 3 teacher I encountered learners who could not read and write. These learners might have not had enough early literacy skills. Among these learners was a learner who was doing exceptionally well in numeracy but not so in subjects that required her to put her thoughts into writing. Other teachers noticed this and we all talked about it and accepted her as she was. We did not have the capacity to assess and understand the possible source of her problem. But looking back to that time, especially during the course of this research I realise that with the knowledge I acquired from conducting this research I now have the language to describe that particular learner's problem. Today I can describe that learner's situation as a case or an example of arrested development and this might have been a result of her teacher's lack of content knowledge of Handwriting. For instance, the learner's pencil grip was not well developed and this affected her letter formation. As a result, she avoided writing letters and preferred writing numbers.

5.1.2. Provincial low learner achievement

In South Africa, Limpopo Province is generally known for producing learners who achieve less than their peers in most academic related activities such as Annual National Assessments (DoBE, 2011) and several international assessments (Howie et. al., 2006). Hence it was important to conduct research to help me gain some insight into the province's history of low achievement. Low learner achievement cannot be understood on its own, but within the context in which it takes place. According to Shulman (1987) teachers' knowledge is the primary source for learners' own learning of the subject. This suggests that teachers and their knowledge play an important part in the learners' learning, and in the case of Literacy what learners know is dependent on what was made possible to learn in the class. So we cannot talk about learners' low achievement in the ANAs without asking about what was made possible for them to learn.

5.2. Summary of main findings

My research had two questions that guided the study and the findings to the first and second questions are provided below

5.2.1. What knowledge/s of handwriting do Foundation Phase teachers in Limpopo Province draw on in order teach this aspect of literacy?

Results from the analysis of interview data revealed that all six teachers in the study possessed partial knowledge of Handwriting. These results were not surprising especially when interpreted in the context of the Limpopo province's low learner achievement in national and international assessments. According to Shulman (1987), the teacher's content knowledge is the primary resource for learners' own learning of the subject matter. Shulman's (1987) assertion suggests that teachers with little content knowledge of what they teach might create few opportunities for learners to learn the content. Teachers with little knowledge might not know how to translate this into practice and cannot improvise especially when faced with challenges such as overcrowding

and limited resources. Such teachers confine themselves to daily routines even when the situation demands them to be creative and innovative. In contrast, teachers with strong knowledge possess the explanatory frame work to explain and make the content easy for comprehension by others (Shulman, 1986).

5.2.3. How Does this Knowledge of Handwriting Inform Their Teaching Practice

Classroom observation data from Tumelo and Katlego's lessons was analysed to answer the second research question. The findings from the analysis revealed that the two teachers' PCK was partial. The teachers had some appropriate activities in their teaching. For instance both teachers used the cat-cartoons to teach letter formation. They drew lines on the chalkboard to help learners see to how letters should be positioned on the lines. Tumelo did not demonstrate good posture and pencil grip even though she was constantly reminding learners to sit correctly and hold the pencil correctly. This was evident when she was demonstrating the formation of letter 'l'. The teachers performed well in some aspects and not well in others due to their partial understanding of Handwriting.

5.3. Implications of the findings

The implications of the findings are that the teachers desperately need training because their knowledge of Handwriting is not adequate and their teaching is not correct. The teachers need to know that parts affect the whole especially in Handwriting where the seven aspects are interrelated. Knowing some and not other aspects has a negative impact on learners' knowledge of Handwriting in general. Teachers also need training to know the importance of planning. For instance if Tumelo had planned for her lesson she would have used her resources properly and not begun the lesson with the capital rather than the lower case letter. Adequate training is needed to provide teachers with knowledge about different approaches to teach Handwriting.

Teachers with partial knowledge of Handwriting would impart little or no teaching and learning to the learners. In this case learners will continue to write badly even though Handwriting is included in the curriculum because teachers fail to realise the impact it has in literacy.

Teachers often are unable to improvise in cases where they can, as they are used to following daily routines and nothing beyond. For instance, the issue of overcrowding can be managed by using the school hall when teaching Handwriting to allow learners the opportunity of learning in a proper way. Learners can also be divided into smaller groups and take turns to attend a handwriting lesson. All these are possible if teachers are willing to learn from each other and work closely as a team.

5.4. Conclusion

The study explored Foundation Phase teachers' content knowledge of Handwriting. This study was motivated by continuous low performance by learners in international assessments (e.g. TIMSS 2003; Howie et al., 2006) and other national assessments. In particular, I focused on literacy with special attention on Handwriting. The study revealed that teachers in the study had partial knowledge of teaching Handwriting. They were strong in some and weak in other aspects of Handwriting hence their knowledge is classified as partial. These results suggest that learners in these teachers' classes might not be learning all that they are expected to learn. This is because the teachers in this study are likely to spend more time teaching what they know and less on what they do not know. Teachers are also unable to translate the subject matter content knowledge they did have into effective pedagogical content knowledge.

The findings of this study have been limited to two schools and only six teachers. It attempted to raise awareness of the importance of Handwriting by exploring the importance of teacher knowledge. Further research is needed where teacher knowledge continues to be explored with the intention of developing programmes that will empower teachers, especially in Limpopo Province where learner performance is a worrying factor.

5.5. Recommendations

On the basis of the above findings, and in particular the fact that teachers have partial understanding of Handwriting, it is recommended that:

1. Handwriting needs to be a component of pre-service courses at all tertiary institutions.
2. Teachers are provided with in-service professional development to strengthen both teachers SMCK and PCK of Handwriting.
3. The Limpopo Department of Education needs to visit teachers in their classroom to provide support.
4. Teachers' CK knowledge of Handwriting needs to be improved.
5. There is a need to make classrooms conducive for teaching and learning by adhering to the official learner to teacher ratio of 40 learners to 1 teacher and adequate furniture.
6. School furniture e.g. desks, need to be of the appropriate size for the learners.
7. There is a need to make sure that subject advisors are knowledgeable about the teaching of handwriting.

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LIST OF APPENDICES

APPENDIX A: INTERVIEW SCHEDULE

Kindly introduce yourself and remember this interview will be recorded.

- Share with me what you think Handwriting is?
- What is the difference between Handwriting and Writing?

I asked you to look at THESE pictures tasks so that we can talk about them today. Did you manage to go through them? (FIND ATTACHED)

TASK I- PENCIL GRIP

Would you share with me which of the FOUR cards show the correct *pencil grip?* (SMCK)

Following on the teacher's response:

What do you think makes the other three incorrect pencil grips? (SMCK)

Why do you think these three are incorrect pencil grips? (SMCK)

Do you think pencil grip is a problem in your class? (PCK)

What do you normally do to assist learners who cannot hold pencils properly? (PCK)

TASK 2-FINE MOTOR COORDINATION

Share with me your understanding of fine motor coordination

Following on the teacher's responses

Share with me a few experiences you usually encounter with learners in your class if there are any.

What do you normally do to assist learners who have difficulties in tying up their laces?

Why would this be an important skill for learners to master?

TASK 3- POSTURE

Share with me what you think of these FOUR cards in relation to handwriting

How would you assist these learners in this regard?

Do you think this can cause some difficulties to the learners?

Following on the teacher's responses:

Why would this situation be problematic?

Do you also experience this situation in your classroom?

How do you usually intervene?

TASK 4 - LETTER-FORMATION.

Together, let us look at these FOUR letters on the cards. Would you like to share with me the letters that show the correct letter formation?

Following the teacher's responses:

What makes the other letter formation incorrect?

Why do you think these are incorrect?

Do you think letter formation is important as part of learning Handwriting?

How do you normally assist learners in your class who experience difficulties is acquiring this skill?

TASK 6 –DIRECTION AND MOVEMENT

Let us look at these strips of different kind of letters.

Which strip would you use to begin to teach learners with?

Following the teacher's responses:

Why would you not choose the other 3 strips?

Which letters do learners usually experience difficulties with?

How do you normally do to assist your learners?

TASK 6–SHAPE AND SIZE

What is important in this skill?

Following on the teacher's responses:

Do you have this kind of situation in your class?

How do you attend to this?

Why is it important to keep letters in proportion when writing?

What is the role of teachers in these regard?

TASK 7-PAPER/BOOK POSITION

Looking at these TWO pictures would you select a correct one and share why you consider the other to be incorrect

Following on the teacher's responses:

Why do you think this one is wrong paper / book positioning? (SMCK)

Do your learners have difficulty in positioning their books when they write? (PCK)

If so, what do you normally do to assist them? (PCK)

APPENDIX B: OBSERVATION SCHEDULE

In this document I provide examples of the nature of the Observation schedule I propose to develop for use during lesson observations. Below are the types of questions I want to answer through lesson observation

Item 1: Posture	**FREQUENCIES**	**COMMENTS**
How do learners sit when they write?		
What does the teacher say about how learners sit when they are writing?		
Does the teacher give attention to how learners are sitting?		
Item 2: Pencil Grip		
How do left-handed and right-handed learners hold pencils in this lesson?		
What are the sizes of pencils used by learners in this lesson?		
What is the teacher doing or saying about this?		
Item 3: Direction and Movement		
How do learners begin letters?		
Are learners making the correct letter movements?		
What is the teacher doing or saying about this?		
Item 4: Paper Position		
How do left-handed and right-		

handed learners in the lesson place their books when they write?		
How are learners seated with respect to the position of the writing surfaces?		
What is the teacher doing or saying about this?		
Item 5: Letter formation		
How do learners form letters?		
What is the teacher doing or saying about this?		
Item 6: Fine motor co-ordination		
Are learners able to sit properly and hold their pencils well?		
What is the teacher doing or saying about this?		
Item 7: Shape and Size		
Are the letters that learners write have head, body and tail?		
What is the teacher doing or saying about this?		

APPENDIX C: ETHICS CERTIFICATE

Wits School of Education

27 St Andrews Road, Parktown, Johannesburg, 2193 Private Bag 3, Wits 2050, South Africa
Tel: +27 11 717-3064 Fax: +27 11 717-3100 E-mail: enquiries@educ.wits.ac.za Website: www.wits.ac.za

Student Number:
593804

Protocol Number: 2012ECE132

Date: 24-Oct-2012

Dear Mmetja Kgomo

Application for Ethics Clearance: Master of Education

Thank you very much for your ethics application. The Ethics Committee in Education of the Faculty of Humanities, acting on behalf of the Senate has considered your application for ethics clearance for your proposal entitled:

AN EXPLORATION OF FOUNDATION PHASE TEACHERS' CONTENT KNOWLEDGE OF HANDWRITING IN THE LIMPOPO PROVINCE

The committee recently met and I am pleased to inform you that clearance was granted. The committee was delighted about the ways in which you have taken care of and given consideration to the ethical dimensions of your research project. Congratulations to you and your supervisor!

Please use the above protocol number in all correspondence to the relevant research parties (schools, parents, learners etc.) and include it in your research report or project on the title page.

The Protocol Number above should be submitted to the Graduate Studies in Education Committee upon submission of your final research report.

All the best with your research project.

Yours sincerely

M Mabeta

Matsie Mabeta
Wits School of Education
011 717 3416

CC Supervisor: Dr. K Dixon

APPENDIX D: LETTER OF APPROVAL

LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF
EDUCATION

Enquiries: Dr. Makola MC, Tel No: 015 290 9448. E-mail: MakolaMC@edu.limpopo.gov.za.

Dear Mrs. Kgomo M.E

RE: Request for permission to Conduct Research

1. The above bears reference.
2. The Department wishes to inform you that your request to conduct a research has been approved- **Title: AN EXPLORATION OF GRADE 1 TEACHERS KNOWDGE OF THE TEACHING AND HANDWRITING IN RELATION TO LITERACY,** i.e. Capricorn District Primary Schools

3. The following conditions should be considered:

   3.1 The research should not have any financial implications for Limpopo Department of Education.

   3.2 Arrangements should be made with both the Circuit Offices and the schools concerned.

   3.3 The conduct of research should not in anyhow disrupt the academic programs at the schools.

   3.4 The research should not be conducted during the time of Examinations especially the forth term.

   3.5 During the study, the research ethics should be practiced, in particular the principle of voluntary participation (the people involved should be respected).

   3.6 Upon completion of research study, the researcher shall share the final product of the research with the Department.

4. Furthermore, you are expected to produce this letter at Schools/ Offices where you intend conducting your research as an evidence that you are permitted to conduct the research.

Page **1** of **2**

Cnr. 113 Biccard & 24 Excelsior Street, POLOKWANE, 0700, Private Bag X9489, POLOKWANE, 0700
Tel: 015 290 7600, Fax: 015 297 6920/4220/4494

APPENDIX E: LETTER TO LIMPOPO DEPARTMENT OF EDUCATION

29June 2012

Limpopo Department of Education

Sir/Madam

RE: Request To Do Research In Limpopo Province: Capricorn District Primary Schools

1. The above matter bears reference.
2. I am currently studying at Wits University for a Master's degree specializing in Foundation Phase literacy. My proposed area of research study is teacher knowledge of Handwriting in relation to literacy.
3. I have earmarked to do this in two primary schools .Suggested names of the two schools are: Naledi Primary School and Polokwane Primary School .
4. I would like to visit the two schools during the third term of 2012, as I am expected to complete my studies at the end of the year.
5. Find attached:

(i) A letter from the department of higher Education and Training that further explains the project I am in.

(ii) A letter from University of Limpopo where I will be based, upon accomplishment of my studies.

(iii) My proposal report that will serve to clarify you further on my area of research.

Looking forward for a positive response

Yours faithfully,

KGOMO, M.E (Mrs)

(0720740777) Contact number

APPENDIX F: PRINCIPAL LETTER

The Principal

Dear Madam/Sir,

My name is Elsie Kgomo (student number 593804) and I am currently a student in the School of Education at the University of the Witwatersrand. I am currently in my last year of study for a Masters Degree in Education. In order to complete my studies I need to do a research project in the fields of teaching and learning at Foundation Phase level. The title of my research project is, *"An Exploration of Grade 1 teachers' content knowledge of Handwriting in Limpopo Province".* The study is not an assessment of teaching and learning in your school. Rather, the study aims to explore teachers' understanding of Handwriting as a component of Literacy. Thus, the purpose of my research is to contribute to the body of disciplinary knowledge in Handwriting at Foundation Phase level

Specifically, I am interested in understanding how teachers working in disadvantaged communities facilitate the learning of Handwriting. Hence I have chosen your school for my study because it serves learners from disadvantaged communities. I am interested in how teachers work to support children's Literacy development, with particular focus on Handwriting. Hence I wish to request for permission to conduct my research in your school. I have already obtained permission from the Limpopo Department of Education to allowing me to conduct research in schools in the Limpopo Province. However, I still need your permission to enter and conduct research in your school. If I am given permission, I will interview three Foundation Phase teachers about their teaching of Handwriting. I will interview each teacher once for 40 minutes and I will conduct the interviews after school to avoid interrupting lessons. After interviewing each of the three teachers, I will observe one Grade 1 teacher and then interview the teacher after teaching a Handwriting lesson. Altogether, I expect to spend 3hours 20 minutes in your school.

In order to substantiate interview and observation data, I would request for permission to collect documentation that would include copies of learner's Handwriting workbooks and teachers' lesson plans. I want to conclude by mentioning that I will also seek teachers' and learners' consent to participate in my study. Since learners are underage, I will ask their parents to consent on their behalf. The contribution of your Foundation Phase teachers is integral to understanding how teachers serving in disadvantaged communities facilitate the learning of Handwriting.

All participation is entirely voluntary and teachers will not be paid for their contributions to this study. Teachers may withdraw their consent at any time during the study without any penalty being held against them. There are no foreseeable risks to participating in this study and they will not be disadvantaged in any way should they choose to participate. The name and identity of the school and of all participants will be kept confidential at all times and will remain anonymous in all academic writing of this study through the use of pseudonyms.

All research data will be kept under lock and key at the University. Only I and my supervisor will have access to the data throughout the duration of the study. After a period of 3-5 years the data will be destroyed.

I look forward to your response as soon as is convenient and thank you for your support.

Yours sincerely,

Elsie Kgomo

Should you have any questions or concerns please do not hesitate to contact me further via email mekgomo@yahoo.com or by phone on 0720740777. You may also contact my supervisor, Dr. Kerryn Dixon, via email kerryn.dixon@wits.ac.za or by phone on (011) 717 3007

APPENDIX G: TEACHER INVITATION LETTER AND INFORMATION

Teacher

Invitation to participate in the MMETJA ELSIE KGOMO's Research Project Titled

'An Exploration of Grade 1 teachers' content knowledge of Handwriting in Limpopo Province

Undertaken by myself **MMETJA ELSIE KGOMO**, a Masters student at the University of the Witwatersrand

Dear Mr. / Ms/Mrs…….. [***Individual names will be inserted into all teacher letters***]

I hereby invite you to participate in my research project. The purpose of my research is to gain some insight into Foundation Phase teachers' content knowledge of Handwriting. Information about my research is provided in the attached **Information Sheet** which is for you to keep. Below I ask you to indicate whether you are willing to take part in my research.

Please show your consent by signing below.

I ***Consent /Do not consent*** to participate in **MMETJA ELSIE KGOMO**'s Masters Research project. [*Please circle your choice**]***

Signed……
……

Date

……
……

Name

……
……

The project has the support of the Limpopo Department of Education, and the Capricorn District Office.

Thank you

Yours faithfully

MMETJA ELSIE KGOMO: University of the Witwatersrand, Wits School of Education. Email: 593804@students.wits.ac.za . Mobile: 0720740777. You may also contact my supervisor, Dr. Kerryn Dixon, via email kerryn.dixon@wits.ac.za or by phone on (011) 717 3007.

INFORMATION SHEET FOR TEACHERS

WHAT WILL THE RESEARCHER DO?

In my research I will interview six (3) Foundation Phase teachers and observe two of the 3 teachers teaching Handwriting. Prior to conducting data collection I will visit schools to come and introduce myself and my research to you.
I will need to obtain information from you, specifically:

- To gain insight into your teaching of Handwriting to understand how you facilitate learning in a school where majority of learners are from disadvantaged communities. I will be in your school for about 3hours 20 minutes. I expect to be at your school between 13 August and 30 August 2012. During this period I will interview Grade 1, 2 and 3. Grade 2 and 3 teachers will be interviewed once while I will interview the Grade 1 teacher before and after a Handwriting lesson. In addition, I will observe the Grade 1 teacher in a Handwriting lesson and this I will do once.

I will need to collect data from learners, specifically

- To obtain additional data to corroborate information from interviews with the Grade 1 teacher. This data will be obtained from learners' written class work. I will obtain a total of 8 learner books after observing a Handwriting lesson.

HOW WILL THE INFORMATION BE USED

All interviews will be audio-taped and later transcribed by me. I wish to audio-tape the interviews because audio-taping will enable the interview to flow without disruptions as I will not have to take notes. In addition, audio-taping the interviews will make it possible for me to capture all our discussions. I will analyze data for my research from the 3 interviews and 1 lesson observation.
From the data analysis I will write a Masters Research Report which I will submit to the University of the Witwatersrand for the award of a Masters Degree qualification. The benefits of participating in this research are that the findings, which will be made available to the Limpopo Department of Education (LoDE), might provide them with insight into the status of teacher content knowledge of Handwriting. Depending on the status of teacher content knowledge, the LoDE might be prompted to avail necessary support to teachers in the Province.
All data will be used for the duration of my research project and later returned to my supervisor who will store it for 5 years. After this period the data will be destroyed.

YOUR RIGHTS

I will not use your name in my Thesis or in any reports or articles that will emerge from this research. That is, anonymity and confidentiality is guaranteed. Furthermore, I will enhance confidentiality by conducting individual interviews and no other person will know what you would have said in the interview.
The research is independent of your professional responsibilities in your school. At no point will any of the information obtained for research purposes affect your appraisal.
There is no problem if you do not wish to take part in the research and note that no negative consequences will accompany your decision of not participating

If you agree now to participate and later decide that you no longer want to continue participating in the study, you are free to withdraw at any time. Please understand that your participation is voluntary. Hence you are free to withdraw at any time you so wish.
For more information please do not hesitate to contact myself at the following addresses:

MMETJA ELSIE KGOMO
University of the Witwatersrand, Wits School of Education
Email: 593804@students.wits.ac.za . Mobile: 0720740777. You may also contact my supervisor, Dr. Kerryn Dixon, via email kerryn.dixon@wits.ac.za or by phone on (011) 717 3007.

APPENDIX H: TEACHER CONSENT LETTER FOR INTERVIEW

Teacher

Date: 6 July 2012

Dear Mr. / Ms/Mrs…….. [***Individual names will be inserted into all teacher letters***]

I write to ask for your consent to be interviewed by myself about teaching of Handwriting.
If you consent to be interviewed by myself about your teaching of Handwriting, please show by signing below.

I **Consent/Do not consent** to be observed by **MMETJA ELSIE KGOMO** while teaching Handwriting.

Signed ……

Date ……

Name ……..

My contact details are shown below:
MMETJA ELSIE KGOMO: University of the Witwatersrand, Wits School of Education. Email: 593804@students.wits.ac.za . Mobile: 0720740777. You may also contact my supervisor, Dr. Kerryn Dixon, via email kerryn.dixon@wits.ac.za or by phone on (011) 717 3007.

APPENDIX I: TEACHER CONSENT LETTER FOR LESSON OBSERVATION

Teacher

Date: 6 July 2012

Dear Mr. / Ms/Mrs…….. [***Individual names will be inserted into all teacher letters***]

I write to ask for your consent to be observed by myself while teaching Handwriting.
If you consent to be observed by myself while teaching Handwriting, please show by signing below.

I **Consent / Do not consent** to be observed by **MMETJA ELSIE KGOMO** while teaching Handwriting.

Signed ……

Date ……

Name ……..

My contact details are shown below:
MMETJA ELSIE KGOMO: University of the Witwatersrand, Wits School of Education. Email: 593804@students.wits.ac.za . Mobile: 0720740777. You may also contact my supervisor, Dr. Kerryn Dixon, via email kerryn.dixon@wits.ac.za or by phone on (011) 717 3007.

APPENDIX J: TEACHER CONSENT LETTER FOR AUDIO TAPE OF INTERVIEW

Teacher

Date: 6 July 2012

Dear Mr. / Ms/Mrs…….. [***Individual names will be inserted into all teacher letters***]

I write to ask for your consent to be audio-taped during the interview that I will conduct with you.

If you consent to be audio-taped by myself during the interview, please show by signing.
I **Consent / Do not consent** to be observed by **MMETJA ELSIE KGOMO** while teaching Handwriting.

Signed ……

Date ……

Name ……..

My contact details are shown below:
MMETJA ELSIE KGOMO: University of the Witwatersrand, Wits School of Education. Email: 593804@students.wits.ac.za . Mobile: 0720740777. You may also contact my supervisor, Dr. Kerryn Dixon, via email kerryn.dixon@wits.ac.za or by phone on (011) 717 3007.

APPENDIX K: PARENT CONSENT LETTER AND INFORMATION

6 July 2012

Dear parent/guardian

My name is ……. and I am registered at the University of the Witwatersrand for a Master of Education Degree in Foundation Phase Education. As part of my studies I am conducting research where I want to understand what teachers know and how they teach Handwriting to Foundation Phase learners.

Your child …… is invited to be part of my research project.

In particular, I would like to request for your consent to use your child's written class work to be part of the data for my research. In addition, I also request for your permission for me to sit in a lesson where your child will be taught Handwriting.

Please sign below if you allow your child to participate in my research and to allow myself to observe a lesson where your child is in attendance. Please note that even after you have given permission, you can still withdraw your child at any time of my research. Information from your child's book will not be shared with anyone else and the child's real name will not be used in my write-up. Your decision of not granting permission will not affect your child's education in anyway.

Thank you

Yours faithfully

Signed ……

Date ……

Name ……..

MMETJA ELSIE KGOMO: University of the Witwatersrand, Wits School of Education. Email: 593804@students.wits.ac.za . Mobile: 0720740777. You may also contact my supervisor, Dr. Kerryn Dixon, via email kerryn.dixon@wits.ac.za or by phone on (011) 717 3007

INFORMATION SHEET for PARENT/GUARDIAN

WHAT WILL THE RESEARCHER DO?

I will sit in two lessons where I will be observing your child's teacher teaching Handwriting. Thereafter I will ask the teacher to allow me to make copies of what learners were writing during the lesson.

HOW WILL THE INFORMATION BE USED

I will use your child's written work to corroborate interviews that I will conduct with their teachers. During lesson observation I will take notes on what the teacher and learners are doing and saying with respect to Handwriting. I will later analyse the data and then write-up a research report for my Master's Degree qualification. I also hope to present my research at conferences and in journal articles. The data will be stored by my supervisor for a period of five years. Thereafter all data will be destroyed.

YOUR RIGHTS AND THE RIGHTS OF YOUR CHILD

I will not use your child's real name in my research report and journal articles that I will later write.

The research is not related to your child's school work. All information obtained for research purposes will not affect your child's assessment in school. In addition, your decisions about whether he participates in my research or not, will not affect his academic progress at all. Hence there will also be no problem if you do not want your child to take part in the research. Your child's participation is voluntary. As such, if you later decide that your child should no longer continue participating in the research, you are free to withdraw this consent at any time. You should then inform me. My contact details are given below.

If you wish to discuss the research further, feel free to contact me.

APPENDIX L: LEARNER CONSENT LETTER AND FORM

Dear Learner,

My name is Mmetja Kgomo

I am a teacher and I am happy to be visiting your class. I come from the University of the Witwatersrand in Johannesburg. The purpose of my visit is to ask you through your parents and teacher to allow me to sit in your class so that I can observe how you learn Handwriting. While I am in your class, I will ask for you, your parents and teacher's permission to make copies of your work on Handwriting. Once I have copies of your work I will not let any other person to see it and I will not write your actual names on it so that no one can associate it with you. I must let you know that even after you give me permission to copy your work, you are free to ask me not to use it in my research. Asking me not to use information from your work will not disadvantage you in your learning. As a result, feel free to withdraw your consent at any time even after I have left your school.

Thank you

Learner consent form

- Please CIRCLE right (√) or wrong (x) for each sentence.

You can choose to allow me in your class or not.

- It is fine for you to sit in my class. √ or x
- It is fine for you to watch my class. √ or x
- It is fine for you to take my work. √ or x
- It is fine for you to audio-record in my class

Things I know:

I can choose to be part of Elsie's project .I do not have to.

- I can stop to be part of this project anytime I want. Nothing bad will happen if I want to leave the project. √ or x
- Nobody will know my name. Elsie will use a pretend name for me. I must be kept safe. √ or x
- Elsie will not keep my work forever. She and her teacher will keep it safe in a safe box. √ or x

Name of Learner: ……

Date: ……..