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**UNIVERSITY OF CAPE TOWN
FACULTY OF EDUCATION**

JOURNEYING INTO THE SPACE OF POSSIBILITY.

**Minor Dissertation presented in partial fulfillment of the
requirements for the Degree of**

MASTERS OF EDUCATION

Specialising in Teaching

**AGATHA L. LEBETHE
LBTAGA001**

SEPTEMBER 2004

DECLARATION

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

Signed by candidate

Agatha Lebethe

LBTAGA001

University of Cape Town

September 2004

ACKNOWLEDGEMENT

Like Dali who described his painting (below) as 'transcending the limits of knowledge', I have attempted to do this by participating in this inquiry.



This journey would not have been possible without:

YOU-Carol. To the mom who has already had lots of tea parties to celebrate the growth of 'thesis'. Thank you.

YOU-Hanspeter. Vielen Dank. Ohne deine Liebe, Geduld und Unterstützung, hätte ich es nicht geschafft. Herzlichen Dank auch für das eine oder andere Glas "rotae Wy, und die vielen Roestis die ich essen durfte.

YOU- Kendal and Neil. I'm done. Come on, say something now!!!

YOU-Salim. At least I don't have to hear "thesis must get done now" anymore. The silence will be beautiful. Thank You so much.

YOU-OU Baas. Thank you for allowing me to be me. That the emphasis on life/learning should be on watching, noticing an opening oneself to experiences so that Agatha and the world ultimately emerge.

YOU-Marlis. Danke für unseren Drucker, den ohne ihn wahre dieses Manuskript nicht vorhanden. Kannst Du es glauben, ich bin fertig?!

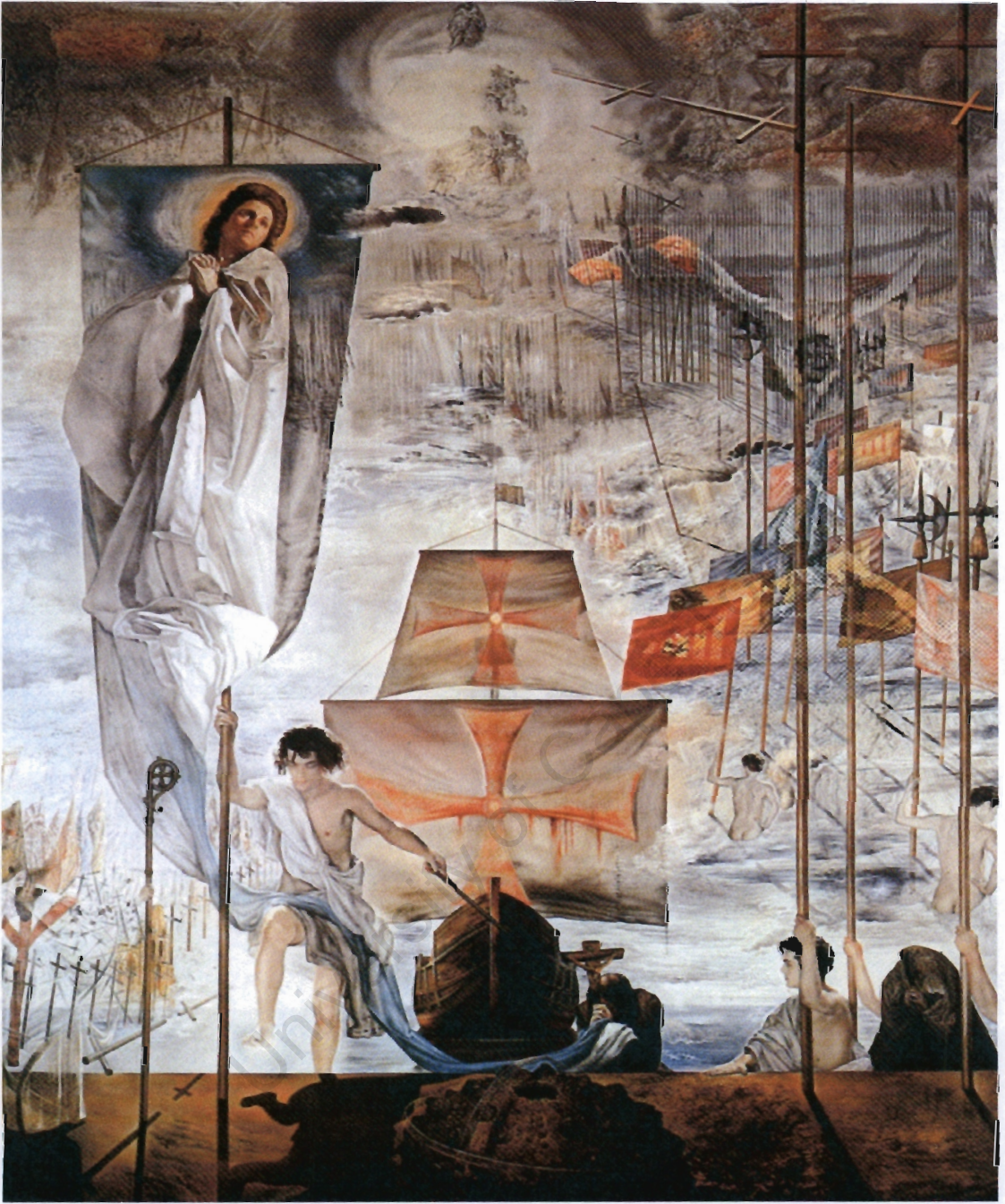
YOU- Nigel and Jan, my lecturers in Teaching and the Modern Condition. Thank you for acknowledging my multiple identities and that what matters is felt knowledge, knowledge as a lived engagement.

And YOU-Babs. MY VRIND!!! Gees what do I say? You more than anyone understands and knows the journey that I have taken, that you have taken with me. We're about to start a new one, me and you. So this thesis is for YOU BABS!!!

Abstract

This thesis stories the journey of a teacher who teaches teachers. On this journey, this teacher sets out to examine a mathematics in-service course that she teaches on at the University of Cape Town. The journey starts in frustration as the teacher questions the purpose and intent of the course and its curriculum. As she travels through the thesis, the teacher stops to enter into a conversation with four of her students. While she pays attention to the voices of her students, the teacher examines her assumptions, prejudices and habits of practice. The teacher tells her story in different voices and shows her connectedness to the research journey by her use of linguistic play and narrative style.

The research journey becomes more than just an investigation. It is the expression of who the teacher/researcher is and who she eventually becomes as she journeys through the research.



JOURNEYING INTO THE
SPACE OF POSSIBILITY

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This thesis does not have the formal contents page structure. You might get lost, but that is part of the experience you are going to have.

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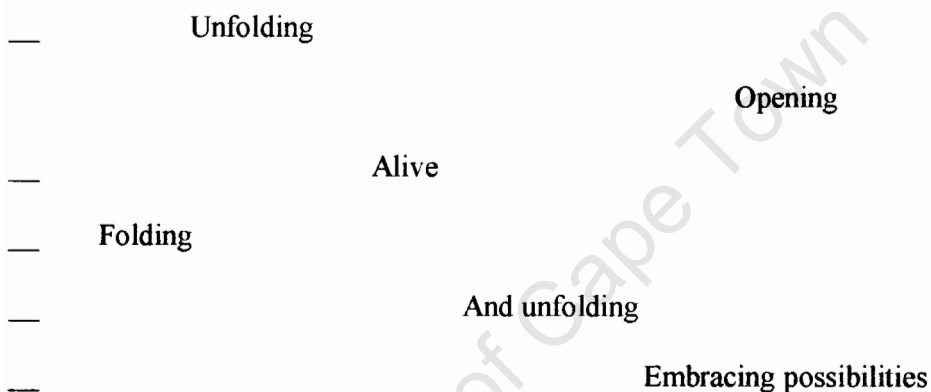
Orientation: A guide for
the perplexed.

University of Cape Town

Orientation: A Guide for the Perplexed.

The reader is about to read my dissertation which I have submitted as part of the Masters in Education (Teaching) at the University of Cape Town. At one level I could describe this dissertation as a piece of research which explores the world of a group of African primary school teachers. I could have written it in this way, but too much would have remained hidden or missing. Instead I have chosen to write it in my own way. The reader is invited to join me as I try to report my research. So walk with me and lets see what unfolds as I journey into the un/knowning.

This dissertation is the creation of a South African Sacred Storyⁱ- a Story which tells the tale of MEⁱⁱ.



In the dissertation I also use story as used by Connelly & Clandinin (1999) as a way of

shaping

my professional identity.

The Story tells of Agatha and the roads traveled as a Mathematics Inservice Field worker and the experiencesⁱⁱⁱ gathered.

It tells of my discomfort, my turmoil, confusion and the complexity I experienced in trying to make sense of my teaching and more specifically a programme that I teach on.

It attempts to unfold my need to understand my practice and describe

my journey to continuously alter my self.

It also begins to unravel the layers of habitual actions that I have lived whilst teaching.

These layers of action, I believe have gone unnoticed during my teaching.

I live on several layers or stor(i)e(y)s, of

Action

—
Action

—
Action

—
Action

and decision making.

O.1 The autobiography

This Sacred Story acknowledges the **different biographical and situational contexts** that have contributed to my shaping myself as a mathematics-in-service fieldworker.

I have been a Mathematics In-service-fieldworker supporting teachers for the last 10 years. A decade gone. A decade well lived. I have grown beyond my wildest dreams.

I have experienced moments that have been so simple yet so precious. I have been so satisfied in my work with teachers.

Yes, we have to stop grasping experience. I don't think we "reflect on" experience but we re-experience our socio-historical coupling as worldly bodies. Experience is never the same and cannot be replicated exactly. Like a river or waterfall, our bodies arise not by the same water molecules passing over rocks, but by their constant flow and exchanges with one another. As experiencing is never truly disembodied, perception arises through embodied awareness, not going away but boiling forth through moments of (inter)action. (Haskell, 2002)

As a field worker most of my efforts have been concentrated supporting teachers in the Western Cape Province although I have worked in other provinces in the country too. I have worked closely with teachers in their classrooms in both urban and rural areas. My most satisfying work has been working in schools that we South Africans term or refer to as 'disadvantaged'. These are predominantly black schools, where resources are scarce or most often non-existent. There would often be 50 to 65 learners to one teacher and by 11 am in the morning the teacher would be exhausted and the learner extremely hungry. Space was a huge issue and three learners huddled together in a desk would be the norm. I braved the strong smell of paraffin that the learners brought from their homes as well as claustrophobia. The times spent in these schools tested my ability to be resourceful. Continuously I had to think about different ways of the teacher and I teaching maths without fancy equipment and ensuring that each learner understood the work and that we had time to assess each learner individually. My most challenging times have been working with teachers that struggled to make the shift from 'downing tools' or striking pre-1994, to arriving at school on time and returning to the classroom immediately after the breaks. The teachers were so used to fighting and resisting education and government authorities that they found it really difficult to change their behaviour and thinking. I can still hear my pleas: 'we have to now do it for our children' and 'we have to give our children the best we can, this means we have to work hard, even stay after school'. The township was alive 24 hours a day. I loved the sense of community. While working at a school in Gugulethu, the principal informed me that the community that lived around the school came to her office to inform her that something was happening at her school. There was a new buzz at the school that was not there before. They did not know what it was, but it was good they said. They saw big shifts taking place at the school. Teachers were getting excited about teaching and were slowly starting to enjoy teaching again. The learners were eager and hungry to learn. Their teachers were experimenting with different teaching methodologies, making the classroom visually appealing and stimulating. The little ones (Foundation Phase, Grade 1-3) were excited because they were learning English from me as I did not speak their mother tongue, Xhosa. Yes, these were exciting times. As I travelled and walked around the townships from Gugulethu to Khayelitsha I learnt to appreciate my strong sense of direction. One could not take for granted that you will always find a school. If you returned the next day the school could be enveloped by new shacks

which transformed the entire area. I learnt to be streetwise or else I would be robbed at knife or gunpoint. I left all jewellery at home.

I learnt to control my anger when teachers would physically beat the learners with hose-pipes and then I would have to carefully explain to the teachers that this kind of behaviour is inappropriate and destructive. I would have to then explain to the entire school that there are new national policies about corporal punishment.

Working with teachers in Mitchells Plain brought along different kinds of moments. The teachers in these schools were all coloured and quite often Afrikaans speaking. I admired the guts these teachers had. They had to continuously (well nearly every Friday) brave the gangster shootings. Quite often we would get the children to lie down under the desks when a shooting was taking place. To my horror the children would be able to name each of the gangsters that were fighting. Resources in these schools were still scarce but definitely by far better than the schools in Gugulethu and Khayelitsha. When I think back about the Mitchells Plain teachers I remember teachers that were very angry. They certainly let us know that it was about time that we (University of Cape Town) came down from the mountain and worked on the Cape Flats. They also challenged me considerably. As a coloured woman, I did not match their impression of someone from the University of Cape Town. According to them I should have been white. I did not experience this from the teachers in Gugulethu or Khayelitsha. I had to continuously prove my ability and knowledge to the Mitchells Plain teachers. However once they were convinced that you had something to offer them and could handle their direct manner then you made friends for life –and I have.

The concerns about their learner's ability to achieve were the same. Some teachers would say that: 'our children will not be able to do this kind of maths'. They were all concerned that children struggled to learn their tables and the teaching and learning of fractions was their biggest nightmare. Quite often the teachers did not enjoy teaching maths because they feared the subject.

I have been very aware of how my experience of working in the township has shaped who I am and the kind of teacher and inservice worker that I have become. I cannot put it down on paper or capture everything. There is simply too much. So being a maths field worker was more than just supporting teachers in the classroom and walking away at the end of my interaction.

O.2 Aims of the Sacred Story

I come to my Sacred Stories with developed aims. Some of the aims are discussed in this the first part of the tale and are continued in the second part.

- The purpose of this research project will also be to acknowledge my own voice and not to disembodify my voice from the text and so the dissertation will at times be written in the first person and by so doing I take responsibility for my statements or opinions. By illuminating the 'I', I am authoring a professional self in order to become responsible for that self and to ultimately accept answerability for my practice (Graham 1998). Authorship of and within the research text will take place not only through my narrative but will also develop through my narrative (Young 2000). He further explores the development of authorship through narrative by stating that individuals give meaning to their life experiences by representing them in narrative form and "develop morally by 'authoring' their own moral stories and by learning the moral lessons in the stories they tell about their own experiences" (Young 2000).
- An important aim of this dissertation is to gain an experience, access it and explore it. Varela in an interview with Claus Otto Scharmer said (Scharmer 2000): I maintain that there is an irreducible core to the quality of experience that needs to be explored with a method. In other words, the problem is not that we don't know enough about the brain or about biology, the problem is that we don't know enough experience..... We have had a blind spot in the West for that kind of methodical approach..... Everybody thinks they know about experience, I claim we don't." I will demonstrate in the dissertation the process of 'becoming aware'^{iv} in a variety of ways.

O.3 The opening of possibilities through language.

I am a person of many passions, or so I have been told. I always have the need to describe situations in a rather dramatic way and form. When I speak I do so with my whole body and always I use my hands in a rather expressive manner. So at this point I want to introduce you to one of these hands.



This symbolises for me my presence and personality in the text. My hands also symbolise an honesty and bareness of the experience.

This Sacred Story consists of my tales and these tales tell who I am and the experience that I have undergone as a teacher researcher. Therefore the Sacred story needs to be told in my voice.

I have employed (in typical Agatha fashion) a number of forms or alternative paths to do this. Firstly I have written this Sacred Story using the 'I'. According to Whitehead (2000) the inclusion of 'I' in explanations for an individual's professional learning can lead to the creation of 'living' educational theories which can be related directly to an individual teacher's educative influence with his or her students.

I have also used past writings to trace beliefs, understandings and influences. The purpose is to create an autobiographical presence in the Sacred Story and to show that narrative knowing can be offered through the genre of autobiography.

In the third tale I have employed the use of poems, writing in different fonts and font colour, short stories and newspaper articles to contribute to and shape the analysis.

I want my Sacred Story to be alive, to breathe and to avoid being flat and conservative as my past experience

Yes, as educators, we need to begin to look creatively at the stances we embody when we engage with texts. We need to seek out diverse modes of interaction that extend the written, incorporating verbal communication, body language, and other forms of performance. Can we negotiate this tension between the structure of the dance/text and the need to transcend it, using the "variant meanings of motion, space and time to articulate aspects of our identities" (Linds 2001)

and the experience of journeying through this research was certainly not without vitality, nor without emotion and was also not abstract in anyway. So my writing style in the Sacred Story is framed by the free expression of a practitioner. I have chosen a style of writing that allows me the movement to free myself from habitual action and accepts that the 'I' is not consistent, can be contradictory and that there are different 'I's' that emerge during the Sacred Story.

There are moments in the dissertation that challenge the linear form of discourse that dissertations normally require. The purpose of this free-style of language is to dramatise how ambiguous and inexact our verbal representation of experienced-reality can be.

The interaction of the text of words and images play with each other in the space^{vi} of the dissertation and create a web of relationships. Hocking, Haskell & Linds (2001) say that when spaces interact, delightful possibilities spring forth. They say that the space becomes dynamic because the living world, our bodyminds, are always evolving and developing through interaction with one another. Therefore this Sacred Story is a space of possibility. This interaction and the creation of a space of possibility is captured by Varela, Thompson & Rosch (1991) in what they call structural coupling^{vii}, a co-emerging of a bodily entity with its encompassing world.

Hocking, Haskell & Linds (2001) in *Unfolding Bodymind* say that storytelling through poetry or other items of writing reintegrates us with the living worlds. Therefore this Sacred Story allows me to interact with the text as a living medium. I do not seek answers but rather to understand the journey I have undertaken in this Sacred Story and to appreciate my interaction with my environment to embrace possibilities.

I hope to create a text that moves, that dances between the "I" that will continually change throughout the Sacred Story, the text and the reader's/audience's worlds. Together with the style and form I have used, I hope to create a text that is interactive where the reader does not just look for the meaning of the author but rather becomes comfortable in exploring meaning that emerges through the text.

The use of multiple voices has also been used and it is my intention that this contributes to understanding the text through an acceptance of a multiplicity of voices (Johnson 2001).

O.4 The Tales.

The dissertation will be presented in the form of six tales which make up the Sacred Story.

In this **First Tale** there are two voices present in the text. These voices indicate spoken and thinking voices and are signaled by different writing styles. The first tale will set the scene for the research. I have chosen not to isolate the theoretical foundation of my work into a stand alone section.

The theories that I draw on exist as an integral part within the Sacred Story as **the Second Tale**. They will be found within each tale, as well as in the form of notes at the end of each tale. These will appear on yellow paper at the end of each tale. The second tale also occurs as text boxes within other tales.

This Second Tale could be recognised as a tale on its own but it is also a tale that is part of the other tales.

This Second Tale of my Sacred Story makes explicit the development of debates and theories of my undertaking and describes my journey through theoretical fields that serves as a supportive framework for understanding my environment. The choice of literature aims to support the objective of the study, which is how to stop moving continuously

from 'readiness-for-action'^{viii} which are the habits we continually employ in our practice or daily lives.

So throughout the Sacred Story you will have tales within tales. This is to show that theory is not far removed from my everyday life and that my narrative tales of experience, theory and practice, methodology and analysis are all enfolded within one another.

This tale is not just about the review of the literature but is also a journey of self-discovery. I do not want to hide the mess in the research process because I do not experience my world as linear. It is spontaneous, creative and it is a muddle. It is ever-present. My second tale begins at the start of this tale.

The third tale focuses on the data collection process. This journey makes explicit what constitutes data in the study and evaluates the strength and weakness of the interviewing technique employed. In this tale I also describe my role as the interviewer making explicit my bias.

The fourth tale presents the data and describes the first stages of the data analysis.

The fifth tale describes the data analysis and the emergence of new selves through this process of inquiry.

The sixth tale is actually the start of another journey and contains a second autobiography of learning which describes my understanding of my environment and the attempt to understand the plea put forward by Varela (1997) for a re-enchantment of wisdom, understood as non-intentional action. The narrative describes the attempt to comprehend and because there is no arrival at a destination, the tale will demonstrate the inescapable web of the hermeneutic circle.

This tale connects the understandings learned and the awareness raised and shows the connection to the theoretical field discussed in the second tale.

I am aware that I am taking a professional risk by wanting to move outside the story of expert, knowledge production, certainty and hierarchy. I am prepared to give up a familiar and privileged story for the uncertainties of one of equality which is constructed I believe in collaborate conversations.

So I invite you to join me in walking the path of possibility into the un/knowning of bodymind.

The Second Tale Starts.....

This second tale will thread its way through all the tales and where possible will be indicated by the use of yellow paper. I have broken the normal numerical sequence because

When writing about my relationship with theory I have often used the well worn metaphor of journeying. I have also described how I have stored theories that I have met in antique leather bound suitcases that I collect.

So in the second tale I unpack and often throw out on a heap the theories that frame the research.

The journey in the other tales will attempt demonstrate that it is possible to integrate the theories and allow them to enfold in my research and so in my life.

I find the prospect of travelling in this tale pretty frightening and daunting.

My suitcases and their contents have supported previous travels.

I collect old leather suitcases. When inquiring and reflecting on my experience I have used the well-weathered metaphor of a journey. As always I never leave behind my suitcases. In a suitcase you will find my theories packed. Sometimes they're neatly folded other times just jumbled and I have to search for them. There were times that the theories developed out my practice and influenced the nature of some of the research I have engaged in and moments existed when I was introduced to a theory that I found I could relate to. The theories that are discussed below are examples of ones that caused conflict with my practice while teaching on the ACE.

Let me unpack some of them. Be warned I make no excuses for the ones that are creased! (Lebethe, 2003).

Listening hard to my past experience I hear that I should take along my suitcase this time too. I have far too many bags and suitcases.

So for this journey I need to empty and transfer the contents to my ol' favourite suitcase. The contents are some theories that are well worn and there are new ones that will be packed. My well-worn comfortable theories are Narrative Inquiry, Enactivism, The Discipline of Noticing and Hermeneutics.

I have lived with these theories. I have walked what feels like a long path in trying to make sense of these theories, to smell them, to roll and wrap myself in them. As I

The Second Tale Starts.....

This second tale will thread its way through all the tales and where possible will be indicated by the use of green paper.

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have tried to understand the tensions in my teaching and learning they have sometimes concealed and revealed. So as I jumble and sift my experience the theories live along side me in my mess.

My engagement with the literature is personal. I do not want a distant view and review of the literature. I want to demonstrate that by placing the theory alongside my experience and within the story that the literature has lived with me and has enabled me to look at different aspects of my practice.

ⁱ I have coined the term Sacred Story from Crites (1971 as cited in Gudmundsdottir (1996). These Sacred Stories orient the life of people through time and when seen, told or heard they appear as mundane, but each mundane story is embedded in a Sacred Story.

ⁱⁱ I understand the 'ME' or the "I" when I refer to Agatha within the Sacred Story as an observer. Within the Sacred Story the observer is a living system who can make distinctions. The observer does not stand apart from circumstances in which he/she finds him/her self. This is due to the fact that the entire and the only domain in which he/she operates is that of his/her closed (self-interconnected) nervous system. Whitaker (2001) says that the notion of the observer circumscribes all enquiry and all discussion. This makes autopoietic theory 'relativistic' in the following three ways: "First, the precise form(s) and function(s) by which systems are distinguished are unavoidably imposed by whatever observer is addressing them. Second, the resulting qualification of any set of observations over time with respect to the vantage events of a given observer makes autopoietic theory inherently relativistic with respect to the history of the observer. Third, since shared or collectively negotiated descriptions of experience (e.g. recollections [past], consensus [present], plans [future]) are qualified with respect to the interactions among given observers, autopoietic theory is inherently relativistic with respect to the persons of interacting observers and their joint history of interactions."

“observing is both the ultimate starting point and the most fundamental question in any attempt to understand reality and reason as phenomena of the human domain. Indeed, everything said is said by an observer to another observer that could be him – or herself, and the observer is a human being. This condition is both our possibility and our problem, not a constraint” (Maturana, 1988).

Maturana (1988) says that we human beings operate as observers, which means that we make distinctions in language. He goes on to say that if we accept that what we distinguish depends on what we do then as modern physics does, we operate under the implicit assumption that, as observers we are endowed with rationality and that this need not or cannot be explained.

ⁱⁱⁱ I take my understanding of experience from Varela and Shear (1999).

To speak of experience as being standard, raw, or pure generally makes no sense. All we have is experience at its own level of examination, and depending on the kinds of effort and methods brought into play. It moves and changes, and its exploration is already part of human life, albeit generally with other objectives than understanding experience itself (Varela and Shear, 1999).

^{iv} See Varela (1999).

^v I also draw on my understanding of the I when exploring enactivism.

Enactivist view adapted from work of Varela et al. Which in turn was guided by writings of Merleau-Ponty: The Fundamental Intuition of double embodiment states that our bodies are considered as outer physical-biological structures and as inner lived, experiential phenomenological structures between we circulate back and forth.

^{vi} I have taken the term space from Maturana and Varela (1980) who reserve the term space for the context in which unities are delineated – a static referential background within which systems are defined.

“space is the domain of all the possible interactions of a collection of unities (simple, or composite that interact as unities) that the properties of these unities establish by specifying its dimensions. It can be said, of a composite unity on the one hand, that it exists in the space that its components specify as unities because it interacts through the properties of its components, and, on the other hand, that its is realized as a unity in the space that its properties as a simple unity specify. Once a unity is defined, a space is specified.” Maturana 1978:33)

that which is distinguishable from a background, the sole condition necessary for existence in a given domain. The nature of a unity and the domain in which the unity exists are specified by the process of its distinction and determination; this so regardless of whether this process is conceptual or physical.

Maturana and Varela (1980) define a 'unity' to be the most basic elementary object of perceptual/cognitive reference.

^{vii} Maturana and Varela (1987) use the term for structure-determined (and structure-determining) engagement of a given unity with either its environment or another unity.

^{viii} Varela (1999) calls readiness-for-action a micro identity and its corresponding lived situation a micro world. Therefore who people are at any moment cannot be divorced from what other things and who other people are. He suggests that we not catalogue our micro worlds but rather notice their recurrence, which give us the ability to take appropriate action.

My Sacred Story
The first tale: Seeing
who I am
....and the Second Tale

MY SACRED STORY

The First Tale

Seeing who I am



1. The voice on the left.

There is the voice on the left hand side of the page that belongs to Agatha the story teller, who tells this story to a group of people she has carefully selected to be her audience. The audience members are trusted friends and colleagues that help create a safe place for her story to be heard.

They are:

Gabeba

Ann-Marie

Mthunzi

Heather

This story telling draws on aspects of the Xhosa Ntsomi, which is a performing art of story telling. There is a general theme and some repetition and it acknowledges that everyone in a Xhosa society is a potential performer. The tools of the Xhosa artist are traditional core images, the contemporary milieu, and her audiences. The emphasis is on production, the fashioning and integrating of the various elements to create a comprehensive work, which is pleasing in form.

This voice draws on some of the ways that the audience is used. The artist projects her Ntsomi image on to the audience and is assisted in the projection by the active participation of the audience. The audience could not participate if its members were not familiar with the Ntsomi tradition, and if they did not have their own repertoire of core images.

The voice on the left articulates for me a return to tribal storying, which accounts for my interest and respect for local identities. The voice shows its integrity in its colloquial use of language.

The second voice in the right column steps outside of the story and although still told in the first person it offers justification for the story. This voice does not speak to the audience but rather directly to the reader. This voice is my acknowledgement that I am made up of multiple voices. This voice tells of what the Sacred Story is about and gives the objectives of the research.

Garinani wa garingani (*I want to tell a story!*)

Garingani (*Tell it*)

I do believe friends it is time I told my story. You've all had a chance and I must say it has been lekker going back in time, Hmm?

Hmm.

Ja, well where do I start? I am going to focus on vexation. So this is the story of my discontent.

"You primary people don't do any mathematics with the teachers!" I can still feel the rage swelling, rising and closing up my chest as our secondary colleagues used to say this to us primary field workers. So angry, so bloody angry. It was as if I had to adopt a certain discourse, academic (what ever that may be) and then I would get heard. I could not say things in plain and simple language, in my own voice. Hey remember it had to be the language of Paul Dowling at the time and I did not have access to it and so, was excluded. The sheer arrogance of this kept me on the periphery and forced me to just watch them. And watch I did. And

In this Sacred tale I attempt to contextualise the study by explaining my own autobiography of learning in narrative form, the aims and objectives of the study and go on to outline the structure of the study.

The study is the tale and journey of my own educational enquiry and my apprenticeship into understanding Me and my world and Me and myself. It is the ordinary, everyday story of a teacher who teaches teachers. Hence the tale takes the form of a Sacred story.

The creation of this Sacred South African story acknowledges the role that experience brings to the tale.ⁱⁱ

While supporting teachers in the discipline of mathematics education, I have often found myself in spaces that I find

while I watched I explored theories new to me. There was the work of Caleb Cattedano and John Mason. Oh I read quietly and scribbled in my journal. I did not have the guts to share my stuff with the secondary people. Far too feely-feely for them. Validation, Agatha, where is the data Agatha, Proof dear child, Proof! What I was good at was my work and interaction with teachers. Hell I have to admit I learnt a lot of maths from the secondary people. Don't look so pitiful, Mthunzi-from you too. Gotta thank them for something. Heather, let me tell you, what I was good at was working with teachers. Hey, Babs, remember how we used to attract hoards of teachers to workshops and courses. Anyway where was I? How good I was? O.K. Well one day Gabeba and I decided to focus on improving our courses. We were attracting the masses but were our courses really good and were we beginning to do things habitually? Now there was no way, I mean no way were we going to ask the WIP sessions to help us. They would slaughter us. Uh uh. I needed a safe place. There was only one person to go to. Chris Breen. He was interested in the same stuff we were. He was more on our kinda wavelength. To be quite honest he was the only person that turned up when Gabeba and I had certification ceremonies for teachers. Man you see, he was interested in teaching and teachers. We were even prepared to have him watch us teaching no matter how vrek bang we were. So we approached him. *Dankie* tog that he offered us to watch him teaching instead. We used the methodology proposed by John Mason and collected critical incidents or moments during Chris's class and then met each again to discuss the moments. We wrote all of this

confusing, that I struggled to understand; a space where there is a bit of turmoil. When these spaces open I tell stories to seek clarity, to unravel the space in order to see the gaps that exist; so that I can begin to repair the space. This dissertation is the description of my space and I. This dissertation becomes the story of how I unfurl the space, seek clarity and begin to repair and restore balance and to create opportunities for choices. As I seek to change the space, so I change and evolve.ⁱⁱⁱ Every tale in this dissertation forms part of my space and so there is continual change occurring.

As a Mathematics Education in-service field worker based at a university I have mostly talked about my work from an intuitive space and often offered entry into my work through my experiences. Therefore I have been shaped by the words and images that I have used to describe my work and myself (DeVitas & DeVitas 1998). Claire Petitmengin-Peugeot (1999:77) advocates the reinstating of intuition as a study.

It is in this immediate, pre-representational and pre-discursive experience of the world that all our cognitive mode of knowledge; intuition would be a burgeoning thought the source of thought. The fact that the original genetic level of thought has been so little studied is one of the most inexplicable aspects

up and the miracle is bloody well turned into a chapter in a book. *Ghommala!!* I tell you now, that process *né* was probs one of the best ways that I learnt to think about teaching and also about how collaborating with others can help one to reflect on one's learning. I also think that I picked up a *bietjie* guts along the way. The enactivism picked me up along the way and we laid a path while walking. That was a rather clever line hey Babs.

Hey I think my story is turning away from one of discontentment. Anyway I think life started improving a wee bit. Well I must have had some guts because while the book was in production I enrolled to do a Masters in Teaching. I could moan about the assignments but what was wonderful about it was that I could relate the courses directly to my practice. I have never and I mean never enjoyed studying so much before. I am struggling to articulate myself here and I can feel that my hands and eyes are rather speaking for me. Mind that cup it will get knocked over. These hands of mine are all over the place aren't they Ann-Marie? Where was I? Oh yes, my course work. I remember the course research in maths education with an emphasis on classroom maths was one of the most difficult assignments but the most useful and life changing. Gabeba and I video taped our teaching and then I looked for critical incidents. This particular assignment allowed me to reflect on and begin to define the experience that I brought to inservice work. I mean, for the first time I stated my belief and *jong mense* I did it in my own voice.

I remember making a conscious effort to write the assignment in the first person and to show the process

of western thought, which probably pays heavily for this oversight.

All I have is my lived experience and a belief that if there is an attempt to access it, that will lead to transformation. The process of moving towards change within my practice is the essence of this dissertation. It is not my intention to finally arrive at a 'know-what' but as Francisco Varela (1999) says "It is the know-how that counts, not the know-what. When you get to this point, the know-what is only used to get started, but it is the know-how that counts and that is going to be transformative."

Varela (1999) uses the distinction between know-how and know-what from John Dewey in *Human Nature and Conduct*:

We may be said to know how by means of our habits...

We walk and read aloud, we get off and on streetcars, we dress and undress, and do a thousand useful acts without thinking of them. We know something, namely, how to do them . . . [If] we choose to call [this] [knowledge . . . then other things also called knowledge, knowledge of and about things, knowledge that things are thus and so, knowledge that involved reflection and conscious appreciation, remain of a different source.

of learnings simultaneously by using a different font. This was the start of an interest in narrative enquiry, learning by experience, personal theories of teachers and uhhh can't think of anything else right now.

You know the course allowed me to draw on the theories I picked up along the way in a manner that was respectful and that acknowledged my own voice.

Ja well, there I was a bietjie confident and able to talk more informingly about my practice. Man, how do I explain this. I knew where I was coming from.

Hey this story is like a bloody circle, back to the discontent. I was wondering when it would arrive.

You know that I am teaching on the ACE course. Well, Well, Well. The course ended and there was such a rush to ensure that the content was completed, that students were ready to be assessed and that marks were handed in on time. The course felt cold and lifeless.

You know thinking about it sends shivers down my spine. Aagh! The teachers had become student numbers and statistics that could be presented to the Education department to see if their money has been used well. That's all.

I felt as if the soul had gone out of my teaching and some of my beliefs about teaching were not demonstrated. You know, Mthunzi, you'll understand, I was not being true to myself; I was an impostor in the classroom. I had worked so hard in trying to live together with theory and practice and this was not evident in my teaching.

I think that I understand now what the 'something' is that was lost. I had failed to listen to myself and to the teachers. Lost all my bloody guts!!

Phew! I sat at my computer, shoulders hunched, frown

The space that I seek to understand is an Advanced Certificate in Education (Mathematics) offered by the University of Cape Town and is the programme on which I teach.

During the last two years I have found myself strangled in a thread of tension. The Department of Education embarked on a national strategy to train and equip mathematics, science and technology teachers. They developed a five-year programme to train a substantial number of educators in each of our provinces. The programme targeted Intermediate Phase (Grade 4 to 6) and Senior Phase (Grade 7-9) teachers to ensure an early and solid foundation for learners at higher levels. The intention was that teachers will emerge with an Advanced Certificate in Education (ACE). The National Education Department set out the following outcomes for the programme and for the institutions that would deliver the programme:

- A progressive through-put of well-trained mathematics, science and technology educators per province, who can –
- Demonstrate competence and confidence in classroom practice;
- Assess teaching and learning in line with curriculum

lines etched on my forehead and I emailed the final assessment of the students to the Faculty office. Relief? Na! I looked for it but could not find any sign of it, except the slight throbbing of a headache making its way. A huge sigh escaped and I promise you I felt weary. Just plain and simple moeg!. Did I enjoy the teaching experience? Not a damn. I even felt more exhausted at the thought of answering the question. I knew that I had to. I closed my eyes and tried to see a film reel of events or moments during my teaching so that I could answer my question. I struggled to cut out a moment and decided to stop. The headache was simply getting too much to bear. I held my head in my hands admitted to myself that I did not enjoy this teaching experience. It was unbelievable, immediately after the admission I could hear the surge of questions pouring; "yeah, but Why?" "What was so different this time?" "Was it the students?" "Were you just simply tired and doing too many things simultaneously?" There was absolutely no way that I could begin to think about these questions. I logged off and went home.

For a week I stewed in my questions. It hit me here in my stomach. Ooh Ann-Marie and you know that I can get miserable, hey. For that entire week I felt discomfort, disappointment in myself and anger. As the week folded into the next I seemed fixated and almost overwhelmed by the rage. I needed to understand the severity of the anger before a final reflecting meeting of the course. I rewound the film reel of the course and paused at certain times. The intermission helped me see that something was missing from the course. Words failed me. I struggled to articulate what this 'something' was. All I could do was a gesture that has

stipulations; and

- Demonstrate understanding of policy imperatives impacting on teacher development.
- Professionally qualified educators with an ACE.

The South African Government has made teacher education one their biggest priorities and has put forward tenders to the education institutions to 'start a national mobilisation for education and training' as stated by Professor Kader Asmal, MP, Minister of Education. The Minister in 1999 sent out an urgent "Call for Action". After close study of the condition of education and training he assessed the state of affairs and isolated nine areas for priority attention. The fifth priority was the development of the professional quality of the teaching force in South Africa:

Professional development for teachers, combined with effective professional support services, the efficient provision of learning support materials, a mobilisation campaign to make the school the center of community life, and the progressive elimination of inhuman physical conditions in schools, will make a major impact on teachers' morale and the quality of the service they render.

The Ministry of Education will give top priority to

often supported me when I faltered. This was rubbing my thumb and index finger together to symbolise that 'something' was missing from the course.

This gesture often makes me think of you Gabebe when we struggle to articulate ourselves. Hey Chris also does this to us when he says: "what is it that you're thinking?"

During one of my many ravings about the course, which I tended to end with; "So what do you think Babs?" You looked me straight in the eye and knowingly replied; "You know what's missing from this course Aps? The stuff that you and I know. The stuff that always works." *Mense* I understood. I now knew. Gabebe and I enjoy working with teachers. It is what we know. It is what we do well. It is what we know best.

After years of working together, teaching together, supporting teachers in their classrooms, presenting workshops and courses for teachers we have developed an uncanny ability to 'read and feel our audience'. I must say that we worked at it as well. I firmly believe that this helped us develop a sensitivity to teachers who have a fear of teaching mathematics and teaching in an environment that is poverty-stricken and often demoralising. I mean have we been places. We have stood in a classroom in Mitchells Plain, with so many teachers that it felt as if the walls were bursting. Broken windowpanes, with the electricity not working, teachers squeezed into the children's desks and the South Easter howling miserably. Mthunzi you know that I cannot handle the wind; I dunno it just makes me nervous and unsettled. Despite these conditions we

develop and implement a long range plan for teacher development, both pre-service and in-service, in support of outcomes based education and improved standards of learning. President Mbeki put this at the head of his list of government commitments in education. Special attention will need to be given to the compelling evidence that the country has a critical shortage of mathematics teachers (Department of Education 2001).

The ACE can be regarded as a Qualification-orientated form of in-service training. It has been my experience that far too often we, as teachers of teachers, decide for them what their needs are and then neatly design a package that suits us because we can use all the time.

The course has the strong characteristics of being designed by a technical-rationalist who sees the curriculum through the metaphor of a delivery system. The teachers are simply operatives in education's factory (Carr & Kemmis 1983). Knowledge is seen as a commodity. This commodity metaphor I believe is the way in which (the Schools Development Unit) describe education, teaching and the learning process. This knowledge packaging finds expression in the modular courses of the ACE.

have believed in not telling teachers how to do something, but that they can recognise possibilities for themselves. How many times have we focussed directly on our own teaching and held it up for critique and scrutiny? I tell you we have learned the valuable lesson of learning how to listen to the teaching incidents of our audience¹. That's right we have used these incidents with teachers so that they can see how they are positioned within their context and how this influences their actions within it. Have we not encouraged them to pay attention to their conversations; the conversations with colleagues, with their learners and the conversations they have with themselves? You know Babs, we have often made visible our habits formed during our practice, the impulsive actions and responses but also demonstrated the planned and conscious actions. We believe in providing safe places for teachers to talk about their teaching to tell stories so that these can be used to show a particular perspective so that they can begin to learn about how they do things which in turn offers them the opportunity to think about changing what they do.

Enough preaching Ags. But you know guys what I have said is true. So true.

Babs you were correct in your assessment of my discontent. While planning the content of the course I remembered that we had voiced our discomfort that the content was far too theoretical and did not sufficiently and explicitly support teachers' practice.

Remember that we argued that the course should be more than simply about getting an education. It should be about getting an experience. That we learnt from Chris. Our arguments were borne out of experience. I

I have found myself caught between this national agenda of the education department and my practice and my theories that have acted as support agents in the professional development of teachers. My teaching on the ACE programme has meant that my practice has *become* the national agenda to train the teachers in my Province, the Western Cape. Some of the threads of tension are that my practice does not reflect my theoretical beliefs.

Tension between theory and practice has always been a concern for me. I agree that the course should improve understanding of educational theory and that the teachers must be made aware of current educational theories. The ACE attempts to do only this, and in my opinion does not prepare teachers to think about who they are and also does not prepare them to re-think their role and to prepare them to cope with change in their practice.

I have tried really hard to make my teaching a safe space for the stories of the teachers to be articulated, heard and examined. The thread of tension on the ACE programme was that I could not create a formalized safe space for teachers to develop knowledge communities as defined by Olson and Craig (2001). The programme basically gives teachers more content knowledge of mathematics and more knowledge of teaching methodology. The outcomes

<p>had forgotten that I walked the route of getting an education and left dissatisfied and disillusioned.</p> <p>I think that I felt that I did not have the space because of the demand for uniformity to work with the teachers as I was used to doing. I was simply giving the teachers an education.</p> <p>The soul had gone out of my teaching and some of my beliefs about teaching were not demonstrated. I was not being true to myself. I was an impostor in the classroom.</p> <p>I understand now what the 'something' is. I have failed to listen to myself and to the teachers and somewhere during the course I left behind my beliefs.</p> <p>Fluit, fluit, my storie is uit.</p> <p>Thank you, dankie.</p>	<p>stated by the National Education Department have to be met. Olson and Craig (2001) say that knowledge communities take shape around common places of experiences as opposed to around bureaucratic and hierarchical relations that declare who knows, and what should be known.</p> <p>The ACE course with its content does not consider the realities of the teachers. The needs of the teachers are certainly not met because we the course deliverers do not know this. After each class I would spend time reflecting on the session and I became convinced that unless I make an attempt to listen to who the teachers are and to what they had to say, I would remain discontent.</p> <p>This research is my conscious effort to foreground the voices of some of my students and to take the time to listen to them. The purpose of the research is to find out from the teachers what it meant to be a mathematics teacher in their everyday, lived situations.</p>
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My thinking about my research has led me to develop related aims:

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- The purpose of this Sacred Story is to listen and pay attention to the stories of Grade 7 Mathematics teachers so that I can embark on a process of transforming myself, thereby creating the dissertation as a research that attempts to show Narrative self construction.
 - The stories will be used as an enabling support so that I can improve the course that I teach at the University of Cape Town. Graham (1998) suggests that we author a self by and through our interactions both with others and with texts.

In our attempt to understand where “others” are coming from, we project the experiences of those who have been significant to us. We need to learn to listen to the actual voice of our conversational partners as “concrete” others, offering mutual respect and acknowledging our interdependence. If we are unable to hear the voices of these composite others, to listen to colleagues as equal moral agents, discussions disintegrate into the playing out of our prejudices and preconceptions.

- By paying attention and listening to the stories of four of the teachers who were on my course I intend to explore the following questions to help me rethink the course and to explore my own living educational theories. Jack Whitehead from the University of Bath has supported many students in creating dissertations that use a living educational theory of professional practice.

The theory is constituted by the practitioners’ public descriptions and explanations of their own practice. The theory is located not solely within these accounts but in the relationship between the accounts and the practice. It is this relationship which constitutes the descriptions and explanations as a living form of theory (Wortham 2001).

The Second Tale continued

ⁱ My first introduction to enactivism was not through the formal theory of mind. It was rather as an emerging theory of learning and teaching especially in the context of mathematics.

Davis (1994) says efforts to locate mathematics in objects or subjects are replaced by an understanding that mathematics is neither inside nor outside, but about us.

Therefore teaching can be about neither telling nor orchestrating. I can still teach and orchestrate but it is the learner and not I who determines whether I have told or orchestrated. The teacher must then be attentive to the consequences of his or her interventions, attuned to the moment-to-moment activity of the classroom, and inquiring into the possibilities of the spaces that present themselves. He/she must be listening.

Teaching founded on listening makes tenable the teacher's position between collective knowledge and individual understandings.

ⁱⁱ As stated previously the purpose of the research is to bring me close to my world and phenomenology allows me to ask 'What is the experience like?'

The dissertation is my search for a meaningful way of understanding and representing experience. I found a paper by Geelan and Taylor (who draw on the work done by Max van Manen. In their paper they tell of how they "discovered" Max van Manen's hermeneutic-phenomenological approach to human science. This interpretive approach to understanding the nature of a social phenomenon involves the researcher in making explicit the meaning of a particular lived experience, and in generating a pedagogical thoughtfulness in his or her readers.

This approach draws on work done by Heidegger (1962) and Merleau-Ponty (1962) and combines in a dialectical fashion, phenomenological concern for describing our ways-of-being-in-the-world with a hermeneutic concern for interpreting the social-symbolic world.

ⁱⁱⁱ Enactivism, is based on knowing, being and doing, provides a context in which it is easy to see research about learning as a form of learning.

Many of the ideas of enactivism can be found in the works of Merleau-Ponty (1962), Wittgenstein (1958), and Bateson (1987), but the first presentation of these ideas as a general theory for cognition comes in the works of Maturana and Varela (Maturana, 1987; Maturana & Varela, 1992; Varela, Thompson & Rosch, 1991.)

There are certain salient features which are necessary to understand enactivism. The reader might find it tedious or might even question the necessity of going into the detail but I need to show what I have read in order to understand. It will give the reader entry into some of the language that will be used in the other tales.

In their book; 'The embodied mind', (Varela, Thompson & Rosch 1991) enactivism is introduced as the convergence of three distinct traditions: cognitive science, phenomenology, and Buddhist mindfulness meditation.

Enactivism draws heavily on autopoietic theory. Now autopoietic theory is quite an interesting and beautiful way to understand phenomena that include life, evolution, language, love, cognition and consciousness. It is grounded in the biological realities of living systems, and argues that a living being is a circular process of continuous self-production. Autopoiesis is the name for this process of self-production

Varela, Thompson & Rosch (1991) describe and name the key concepts of **autopoiesis** as structure determinism, structural coupling, and co-emergence. These ideas complement the experientialism of Lakoff and Johnson (1980) to produce a theory for cognition as "the enactment of a world and a mind on the basis of a history of the variety of actions that a being in the world performs" (Varela, Thompson & Rosch, 1991:9).

Maturana and Varela (1980) define Autopoiesis as:

An autopoietic system is organised (defined as a unity) as a network of processes of production (transformation and destruction) of components that produces the components that:

1. Through their interactions and transformations continuously regenerate and realise the network of produces them; and
2. Constitute it (the machine) as concrete unity in the space in which they [they components] exist by specifying the topological domain of its realisation as such a network.

In my attempt to understand what the autopoietic system means, I began to ask the question: how does one determine if an entity is autopoietic? I found an adaptation of the Varela, Maturana and Uribe's six-step procedure for judging whether a composite unity is autopoietic by Dr Randall Whitaker (2001). He defines two key points:

Autopoiesis is not the entirety of autopoietic theory.

The fact that cognition was analysed and explained in the context of autopoietic living systems does not mean that all constructs and concepts of autopoietic theory necessarily entail 'autopoiesis'

Self-reproduction is not the entirety of 'autopoiesis'.

The term 'autopoiesis' is commonly cited only in terms of meaning self-production. The particular manifestation of a given unity – its **structure** is not sufficient to define it as a unity. The key feature of a living system is maintenance of its organisation, i.e. preservation of the relational network, which defines it as a systemic unity.

Reid (1996) says that the term organisation is used to describe those features of an entity, which allow an observer to distinguish it from everything else. He says that we should note that this implies that an entity's organisation will vary from observer to observer.

Maturana and Varela (1980:77) define organisation as:

The relations that define a machine as a unity, and determine the dynamics of interactions and transformations which it may undergo as such a unity, constitute the organisation of that machine.

It is important to distinguish between an organisation and its structure. Reid (1996) offers the following explanation. A systems organisation includes the invariant features without which it would cease to be what it is. The structure of a system includes all its features at a given moment. Interactions with its environment and within the system itself result in continuous modification of a system's structure.

Reid (1996:2) summarises the autopoietic system in a way that is easy to understand:

An autopoietic system is an emergent phenomenon arising from the interaction of components which, by way of these interactions, give rise to new interactions and new components, while preserving the system's autopoietic character.

'Everything said is said by an observer.' (Maturana and Varela 1980:xix)

The biology of cognition/autopoietic theory was developed to explain how it is that the observer observes. Because of this, the theory offers a specific analysis of what the observer observes. This analysis is framed with regard to the constitution of the observer as a biological system.

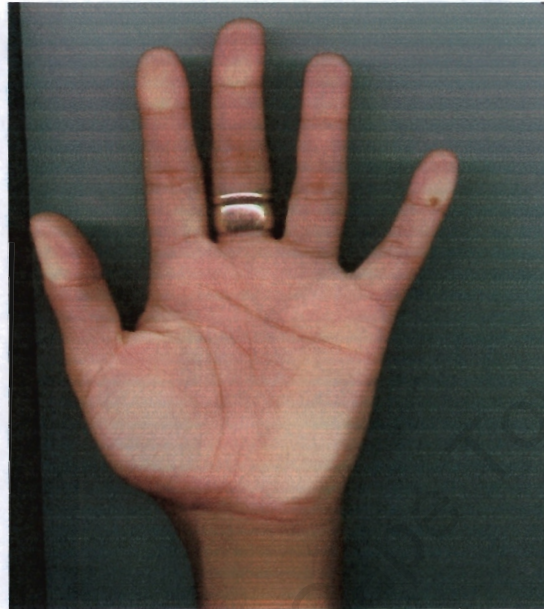
The observer is a human being. Karash (1997) a teacher of Systems thinking and Organisation Learning methodologies, attended a seminar by Professor Humberto Maturana and I found his collection of seminar notes very useful. On the topic of the Observer he wrote that we are continually immersed in:

- The praxis of living
- Happening of living and
- Experience.

Maturana (1988:5) in his paper Reality: The search for Objectivity or the Quest for a compelling Argument says that:

Observing is both the ultimate starting point and the most fundamental question in any attempt to understand reality and reason as phenomena of the human domain. Indeed, everything said is said by an observer to another observer that could be him – or herself and the observer is a human being. This condition is both our possibility and our problem, not a constraint.

My Sacred Story
The third tale: The
laying down of my world
.... and the Second Tale

My Sacred Story.**The Third Tale****The laying down of my world****3.1 Introduction**

By now the reader should have a better understanding of Agatha and of her dissatisfaction with her teaching on the ACE programme as told in the First Tale. The resultant realization at the end of the tale was an insight into the crucial absence of teachers as a subject in the teaching rather than as a background object. This take sets the frame for my planned project to focus on some ACE teachers and to try to listen to their voice.

The third tale tells of the methods I employed in the research study. Simultaneously it also tells of the opening up of my world, hence the title taken from Varela et al who talk about the role of the organism as 'bringing forth a world'. The tale is told in the first person and can be regarded as a 'first person event' (Varela and Shear, 1999)ⁱ

I live in this tale as an observer. To describe my position and who I am in this tale I have written the following poem. The poem describes not only what the inquiry is about but also describes the research methodology that is employed in the inquiry and my role as the inquirer.

Being in the World

Autopoiesis You,

 You Agatha

Observer, You,

 You Agatha

How do I exist in the world?

I seek no power.

I seek no truth.

I long not for the last word.

I seek no method.

 Difficulty?

 Creativity?

 Risk?

 YES

The unknown

 You Agatha

Autopoiesis You

Observer You

 You Agatha

Ambiguity

 Error

In the middle - ME

 Possibilities

Play

 Moving with play

Autopoiesis You

 You Agatha

Observer You

 You Agatha

Agatha Lebethe

June 2003

I also live in this tale as a hermeneutic inquirerⁱⁱ. The above poem describes what the hermeneutic inquirer seeks which is not a truth and an acknowledgement that I am not a detached observer in the inquiry process.

A salient feature of this tale is the way the data is presented. The presentation allows for multiple readings of this text and the intention is that the text should evoke, intrigue and speak to the reader.

3.2 Assumptions

I brought to this study and especially to this tale a collection of assumptions. I offer them to the reader so that I make explicit my perspectives and beliefs.

Assumptions I used to direct my research include:

- Teachers are shaped by the words and images they use to describe themselves and their work.
- There is a shared established professional language that exists among the teachers.
- Conversation can be an important political and personal resource.

The assumptions around conversation that I bring to this tale are better told as Agatha's seminal thoughts on conversation.

The listener hears whatever they want to hear

Agatha

In conversation one can find new things

Agatha

In true conversation will I find a sense of joy and friendliness.

Agatha

When I am part of a conversation I am very aware of how I participate during the conversation.

Agatha

I think conversation contain complex issues

Agatha

I enjoy conversations that allow space for creativity and enthusiasm.

Agatha

I do not enjoy conversation in which people talk for power and ego-stroking.

Agatha

It is in conversation that I notice the world that I live in.

Agatha

It is in conversations that I am most generous. Sometimes this requires that I have to remember to treat the other person with respect and to be aware of the blind spots that I have in conversation.

Agatha

I so wish that the people would realise how precious conversation is. It is not a luxury though, it is a necessity and sometimes brings along no choices.

Agatha

The assumptions are who I am. They are the beliefs about my environment that I have taken for granted. The purpose for highlighting these assumptions is so adequately expressed by Brookfield (1995):

Assumptions give meaning and purpose to who we are and what we do. Becoming aware of the implicit assumptions that frame how we think and act is one of the most puzzling intellectual challenges we face in our lives. It is also something we instinctively resist, for fear of what we might discover.

(Brookfield 1995: 1)

This tale is of vital importance because it is for me the ebb of the process of assumption hunting (Brookfield 1995). Without this tale I run the continual risk of making poor decisions on the ACE

course. I do not want to say “I have been doing this for years” and continue to justify what I do by reference to unchecked ‘common sense’.

Quite often I feel like more of an observer in this world than a participant. I watch things, people and situations. This does not mean that I live and function outside of experiences. I enter experiences by listening and being aware that a story is one of many stories. Being an observer, means that I sometimes find myself in the chaos of experience. I consciously chose to bring this aspect of myself to the conversation and to the collection of the data.

3.3 The Data Collection

I wanted to listen to the teacher stories about what it means to be a teacher in South Africa today. I decided to set up a videotaped conversation between myself and four of the teachers from the current ACE course. This recorded conversation would then form the data for my research.

I have chosen to refer to the interview as a conversation because basically the interview is a form of conversationⁱⁱⁱ where someone asks a question and another responds. It is an activity steeped in our cultural codes and modes of intuitive and spontaneous interpretations (Gudmundsdottir 1996).

3.3.1 a) Why Narrative conversation

All stories have roots^{iv} and so do mine.

I have spent a significant part of my life listening and telling stories to my community. My stories have served many purposes. Some have comforted me, some have confused me, some have even made me laugh and yet some have made me cry. I have told my stories in different voices of humour, for information and in anger. When I tell my story I tell it with my whole body and my audience can choose which action they wish to read. Sometimes I have used my stories to explain a cause or to give a reason for something and there have been moments when I have used stories to dramatise a moral. To moralise in a story is assign meaning to events and invest in them coherence, integrity, fullness and closure (Gudmundsdottir 1992).

To capture the attention of my audience I have often been aware of the rhythm and style of my story and the images and metaphors that can be used to create meaning. The stories that I have told to my community can be described as personal narratives.

I have spent more than nine years listening to the stories of my community. Many of these stories have shaped and steered my life.

In this community of mine I am not only the storyteller but very often I am part of the audience and I listen. As a member of this audience your role as listener is often not silent. It is expected that you participate in the story by offering acknowledgement to the storyteller by uttering the following appropriately; hmm, ja-ja, really, ok.

Repression and discrimination in South Africa has silenced and excluded the voices of the majority of the people. Illiteracy has been a major cause in the documentation of events and censorship and banning has removed many sources of investigation. So against this backdrop I believe that oral history can broaden the source of historical information to include the voices and perspectives of ordinary South Africans. I consider the stories of the teachers as part of the educational oral history^v.

Stories that are rooted in one's life becomes a way of inserting one's reality and perspectives into historical memory and into professional conversations.

I have been extremely aware of how the audience (fellow teachers) accompanies and comments on the story being told. Gesture and body seem to be useful during the story telling and the face and body quite often reflects strong emotions. So within this particular community of mine, emotion and experience directs and controls the structure of the story and the themes that will emerge. It determines the choice of words body movements and the vocal dramatics of the story. Based on my experiences as a storyteller, I bring to the data collection process my beliefs about the significance and the value of stories. These beliefs can also be regarded as assumptions that I have made about storytelling within my community. I believe that:

- If I am not able to listen to the voices within my community, conversations will disintegrate into the playing out of my prejudice and preconceptions. (Graham 1998)
- Story telling is one of the most powerful tools to shape events and make meaning.
- Narratives can be powerful because they can describe both the identity and the community in which individuals are located.
- My community uses storytelling, whether it is in the staff room, at union meetings, during in-service courses, to shape their understanding of what teaching means. Narratives can offer entry into the Discourse of teaching and it is through stories that we learn to think, feel and

talk like a teacher. Pagano (1991) describes the relationship between narrative stories and teaching in this way;

Teaching is, among other things, a discursive and interpretive practice. When we teach, we tell stories about the world. Some stories are scientific, some historical, some philosophical, some literary, and so on. Education theories are stories about how teaching and learning work, about who does what to whom and for what purposes, and most particularly, educational theories are stories about the kind of world we want to live in and what we should do to make that world.

(Pagano 1991:197)

- Stories express a kind of knowledge that describes human experience and can contribute positively or negatively to attaining goals and fulfilling purposes.
- A story is the linguistic form that preserves the complexity of human action with its interrelationship of temporal sequence, human motivation, chance happenings and changing interpersonal and environmental contexts. (Polkinghorne 1995)

3.3.2 Participants in the conversation

There were 36 teachers attending my course on the ACE programme. The teachers that participated in the conversation were part of this course. The intention was to have 5 teachers but only four arrived to take part in the conversation. The teachers constituted a small sample of purposely-collected Grade 7 Mathematics teachers that teach in the Khayelitsha/ Mitchells Plain school district. Further criteria were:

- They should be primary school mathematics teachers.
- They should have taught Grade 7.
- They must have attended OBE training offered by the Western Cape Education Department
- They must be registered students on the Advanced Certificate of Education (Mathematics)

I consciously went for a homogeneous group of teachers that teach in the same school district and speak Xhosa as mother tongue. I knew that the teachers would be chatting in their second or third language and so wanted them to feel comfortable in talking. I also wanted a certain basic group, identity, language, geographical area of teaching.

3.3.3 Motivation for selection criteria for teacher participants

This would allow for a certain code among the teachers. I chose teachers from the Khayelitsha /Mitchells Plain School districts because it is in these areas that I spent a large part of life as a field worker. This school district was also identified by the Western Cape Education Department as the area where teachers had to be retrained; hence they are students on the ACE programme. Some of these schools are established townships schools with a stable infrastructure but with minimal resources, while others are in peri-urban communities in 'informal settlements' in which there is little if any resources for operating a school. Based on my experience of working in these schools most of the teachers were graduates from black teacher training colleges. They had received poor quality education especially in Maths and Science and because of limited higher education opportunities, they felt forced to enroll in teacher education to acquire higher education opportunities. The teachers I have worked with in this district have told stories of having large classes. I have been witness to teachers having 60 learners at a time in their class. Stories have included plots around lack of resources, no libraries and very little available money for new textbooks. If learners have access to library books then the books are locked up to prevent the school building from being violated by members in the community. Stories have focused around children coming hungry to school and not being able to concentrate. Broken windows, concrete holes in the floors, no electricity, not much chalk and bare walls. This environment is all part of a days work in the Khayelitsha/Mitchells Plain district.

I therefore purposefully chose a group of black teachers because I felt that during the course I did not have sufficient entry into their voices, their concerns and thoughts.

3.3.4 The setting

The organisation of time and place for the conversation was of enormous significance for me and was not done unconsciously.

3.3.4 a) Place

By asking the teachers to participate in the conversation I was asking them to make explicit their actions, thoughts and feelings. I regard myself as a participant in the conversation so therefore I felt that the setting was going to be of vital importance.

I wanted the situation or setting to influence the conversation or register. How the setting could be an influencing factor cannot be determined or described beforehand but only after the conversation had taken place. Yet, I hoped that the setting would create a certain amount of harmony to sustain the conversation. I therefore had to acknowledge the following:

- The topic on which the conversation is based will influence the kind of language used particularly in the choice of vocabulary.
- The nature of the social relationship will affect the language.
- The medium of communication that I have selected which is face-to-face talk will affect the way utterances are made.

I decided to open up my home, which I have never done before to the students. I used the setting to open up myself to the students, so that they now had a glimpse of their 'lecturer' in her home environment. I made them breakfast, I laid the table and it was around this first meal of the day that we held our conversation in my rather tiny flat. Having the conversation around breakfast or around food was an important characteristic of the setting. It tells a lot about who I am and what I pay attention to. I brought to the setting my own huge cultural values and beliefs. This is evident in the emphasis I placed on communicating around food. I grew up in a community that placed a huge emphasis on food and talking. All debates, issues, tears and laughter got sorted out around food. There is always a huge amount of food and enough for everyone to take something home. This communal feast is not elaborate but is seen as the sharing of the little bit you have.

3.3.5 Time

Time was an important characteristic as well.

The first focus was on the time of the interview. I scheduled the interview to start at 9:00 in the morning. I wanted us to talk while having the first meal of the day. I did not want to dominate the day of the teachers and so early morning gave them the rest of the day to other activities.

The second focus of time was that the interview took place during the month of December. The school year was coming to an end and I hoped that teachers would reflect on the year while talking about the question of what it means to be a maths teacher.

I felt strongly that if I was asking them to share of themselves I needed to do that too. The vulnerability forced a shedding of control, which I felt, was necessary if I was to let the conversation be driven by largely by the teachers.

This was incredibly difficult for me to do. By inviting the teachers to my home I was giving them clues to my conception of self, my attitude towards them, my trustworthiness and I suppose my socio-economic status. I regarded my home as the documentary of myself, and so wanted the setting to be the presentation of myself in the conversation.

Time is an issue that I needed to consider because I was interested in what their experiences were in the year 2001 and this was the year that I was reconsidering the course.

The telling of personal stories always occurs in the present (although their content may, of course, refer to past, present, or future). Telling is much more than a simple reporting of events, however. Since the full implications of events is never completely manifest at their occurrence, their personal meaning is perpetually subject to change as the identity and situations of those who experience them change and develop.

The central implications of the time dimension for narrative are that the events can be made meaningful only in relation to other events. The sewing together of events (past, present, and future) for purposes of meaning-making and identity construction is ultimately a narrative pursuit. Thus, there is no human requirement for congruence between physical time (i.e., time as it truly is) and time as we experience it. For us, the phenomenological passing of time requires only those events by which time is personally marked, by which the important episodes in one's life are demarcated. These boundaries are never fixed. Instead, the defining of relevant events, roles, and relationships is always accomplished only in accord with current constructions of identity, and these are always changing.

3.3.6 Structure of the conversation.

There was a conscious attempt on my behalf to ensure that the conversation was rigorous, yet at the same time allow for possibilities and that it should be inviting on my part^{vi}.

Together with the assumptions, I brought to the conversation certain guide posts:

1. When informants are faced with a question in an interview situation, the memories often begin to swell into consciousness. They have to make a selection because there is no way they can tell all there is to tell with equal and unbiased emphasis. They have to explain their reality in a string of words that carry meaning to someone else that has not had the same experience. Consciousness argues Crites (1971) is “entirely formless”. Informants, therefore, struggle to find words. They make false starts and repeat themselves until they figure out what to say and how.
2. Informants speak their words to us. Their words have been shaped and polished to fit into a narrative. We listen to them and we hear in terms of their narratives. To understand is to supply a wide range of background assumptions. What these “additions” are depends on our background and training as researchers. The important factor is that they usually remain hidden and implicit, yet they influence the whole research process profoundly. Listening to an informant in an interview situation is a very special kind of listening. It is “active” and constructive. It assimilates the words under consideration into a new conceptual system, that of the one striving to understand. It establishes a series of complex interrelationships, resonance and dissonance with the word and enriches it with new elements. It is precisely such an understanding that the speaker counts on. Even silence can speak. One only has to know how to listen carefully.^{vii}

3.3.7 Start of the conversation

I initiated the conversation by offering the following scenario:

During our conversation I would like you to imagine that teachers overseas will get the opportunity to view this video and so be presented with South African Grade 7 teachers from the Khayelitsha/Mitchells Plain district talking about what it means to be a mathematics teachers during 2001.

The above scenario formed the focal question and was open-ended and deliberately general in scope. The teachers were invited to elaborate fully their own lines of response.

Deliberately during the beginning stage of the conversation I allowed the teachers to steer the course of the conversation. This meant that I was going places without a map and had to closely follow them.

I had to be comfortable with this process because I did not want to influence how the teachers understood or interpreted the topic or focal question.

I chose to participate in the conversation by my body language and my utterances. I also asked clarifying questions and at times probing questions to take the conversation further. Questions were also posed to the teachers when I wanted to re-enter a statement one of them had made. There were instances when I offered an anecdote, shared my feelings or gave information.

I made sure that I did not do this at the beginning of the conversation but rather towards the middle.

I am aware that by engaging myself in the conversation I am making the self vulnerable to a criticism of lack of objectivity. However I have made it clear in the previous tales of my need to include myself in the research text in a visible way. I believe that this helps the reader in discerning my interpretations.

When we raise question, gather data, describe a phenomenon, and construct textual interpretations, we do so as researchers who stand in the world in a pedagogic way... pedagogy requires a phenomenological sensitivity to lived experience ... a hermeneutic ability to make interpretive sense of the phenomena of the lifeworld... (and)... play with language in order to allow the research process of textual reflection to contribute to one's pedagogical thoughtfulness and tact (Van Manen 1990 in Geelan and Taylor, nd.)

3.3.8 Post conversation

The conversation ended. John Valentine an ex-colleague took the video. He had another engagement and quickly left after I paid him. I invited the teachers to stay and have a beer. I was nervous about the invitation because it would tell me whether or not they were comfortable in my home enough to stay and have a beer. They all did.

I walked the teachers to the bus stop, came home and washed up.

I then sat down quietly and wrote the following.

Sjoe! I have placed myself in an experience. I have laughed, I have questioned, I have been surprised. I am no longer the same person. I have listened. I feel drained and exposed. I have been shaped by an experience. So much was told. Yet what remains untold? I don't know. I'll never know. Truth? Accuracy of what was told? I don't know.

“We have to accept the fact that the full story can never be told. (Crites 1979, Fingarette 1971, Sarbin 1980). What we are faced with are different “standing versions in the absence of originals” (Polonoff 1987). This was inevitable and which meant acceptance on my behalf.

The Dance with Silence

Silence

Hold me

Blanket me

Talk to me

I'll listen

The listening is hard

Outside noise pulls me

Temptation draws

Silence

In the spaces,

The hollow dark spaces of silence

I listen

Hear

Feel

Savouring the intimacy

I dance with Silence

Slowly,

Rhythmically,

We move.

And in the dance,

Silence talks to me

Silence holds me

Blankets me

I listen.

Agatha Lebethé
June 2003

The Second Tale continued

By first –person events we mean the lived experience associated with cognitive and mental events. Sometimes terms such as ‘phenomenal consciousness’ and even ‘qualia’ are used, but it is natural to speak of ‘conscious experience’ or simply ‘experience’.

ⁱⁱHermeneutics is derived from the Greek word, hermeneutika and from the Greek god Hermes, the messenger of the gods, meaning message analysis or things for interpreting the interpretation of tradition, the messages we get from the past.

My first attempts to try and understand hermeneutics took the form of an assignment on the Masters programme. In the assignment I describe my first introduction to and thoughts of hermeneutics.

Having read the article (Davis 1996) my immediate response was gasp, put it down, walk outside and breathe deeply.

What comes to mind is that these new thoughts and a new word comes hurtling towards me like a ten-pin bowling ball. Consider for a moment the impact a bowling ball would have on an ordered placing of 10 bowling pins. If the bowling ball represents this thing called Hermeneutics and the pins, my modest understanding of research. The impact of the bowling ball will change the order of the pins, relocating the pins and create a different and unfamiliar setting.

Postmodernism has forced upon me a different lens through which I need to relook at research. If there is no Grand Narrative, no shining sun of universal truth and meaning, then present beliefs and practices of research need to shift. Hermeneutics I think allows for an inquiry to occur that considers, uncertainty, questions authority, acknowledges that reality is marked by chaos and arbitrariness.

My knowledge of research is limited but never have I encountered a form of inquiry that seeks to understand the life we live in, fraught with complexities, fragmentation, ambiguity and difficulties. Hermeneutics as I understand it, does not attempt to search for the absolute truth. It is about encountering paradoxes, such the electron that goes opposite directions simultaneously and holds the tension of the opposites. By not searching for an absolute truth, one does not have to arrive at sure answers. It demands of the inquirer to strip all layers of ego and to pose questions that enable new life to be born.

The more I try to understand Hermeneutics, the more I realise how liberating it is compared to Technical-Scientific research that attempts to establish some sort of

Universal Utopia. Technical-Scientific research finds out what is wrong so that it can rectify the situation and remain as objective as possible. Hermeneutics pushes conventional boundaries of research methods that I have always understood to be quite rigorous

The Hermeneutic inquirer would not set out to 'fix' anything. The inquirer is comfortable living between tensions and would rather set out to 'recover the original difficulties of life'. The Hermeneutic inquirer will not ask closed questions but ask, Maybe/What if type questions. Hermeneutics would acknowledge in the research that life is fragmented, holds ambiguities and would aim to give it a voice. It would appreciate the complexities that permeate the simplest, most straightforward experience. It completely throws and unsettles the Technical-Scientific ideas of neutrality, objectivity and generalizability.

If Hermeneutics is about restoring life then there is a strong focus on the inquirer and on the participants within the inquiry. The Hermeneutic inquirer cannot be a detached observer and so needs to recognise his/her complicated role in shaping the inquiry. The inquirer needs to be aware of being simultaneously affected and affecting. This necessitates, I think, 'an out of body experience'. As the inquirer I have to be able to 'watch' myself interacting with the environment. I have to 'look' and notice situations differently. One's bias, prejudice, has to be recognised and made visible immediately and the awareness must remain throughout the inquiry. You have to ask questions about yourself all the time. A self-interrogation of the inquirer is needed and will result in the inquirer being far more embodied in the research and to be more open to transformative demands.

There is but one simple statement in the article that does not just smash down the bowling pins but simultaneously widens my horizons and represents a moment in the course for me. The statement: "it returns inquiry to the need and possibility of true conversation". I have NEVER thought of research as a conversation, NEVER. Now this acknowledgement or statement can certainly be viewed as another loud mouthed research novice, it is but a demonstration and a revealing of my struggle in learning.

Hermeneutics has a place within education. It presents to teachers who are interested in understanding teaching and learning that you can live and learn within difficulties. Chris Breen (1990) echoes this when he says that you do not need to "correct chaos, learn to live with it." Maybe our tasks as teachers are to equip ourselves with sufficient knowledge, skills and activities to increase the energy for learning in the classroom by promoting confusion and conflict. "Maybe our well intended attempts to eliminate chaos for the learners through our control, in fact interferes with their learning because they prefer confusion to the chaos of another's inappropriate control" (Breen C.1990) Avoidance, conflict and the control of confusion.

Education should not have the final word, there should be an encouragement for the word to live on. The challenge is to take the risk and in a world of chaos – between illumination and concealment teach and learn.

The hermeneutic tradition is broad and it begins as “a humble gesture, acknowledging that life proceeds and surrounds interpretation” (Pinar & Reynolds, 1992: 241). As humans are considered to live in a socialised context, and insofar as meaning making is continually a communal activity “hermeneutics challenged the assertion that an interpretation can ever be absolutely correct or true. It must remain only and always an interpretation” (Patton, 2002, p. 114).

The purpose of hermeneutics is not to answer a question but rather a journey of learning. Hermeneutics serves my interest in not posing a question because it is interested in meaning, understanding and application, which is the purpose of my research.

I do not seek a truth and Hermeneutics understands that there is no truth, that no method can predetermine the location of truth, no authority that can say the way things really are.

Just as the Discipline of Noticing seeks to illuminate habits, the place of hermeneutics is to interrupt unquestioned patterns of acting. As the interviewer and simultaneously researcher my own practice, I choose to identify myself as a ‘hermeneutic inquirer’ because I am not a detached observer who presents an objective account.

Hermeneutic investigation makes particular transformative demands and makes no claims on neutrality and objectivity.

Hermeneutics deals with interpretation. The thesis is grounded in interpretation. This is evident in the data collection methods employed and in the analysis.

Wattchow (nd) says despite the acceptance amongst hermeneutic inquirers that there can be no set, linear procedural system, it is possible to suggest principles and pitfalls that might assist the investigator. He draws on Kneller (1984) who provides four useful principles worth considering when involved in a hermeneutic investigation (cited in Patton, 2002: 114-115).

1. Understanding a human act or product, and hence all learning, is like interpreting a text.
2. All interpretation occurs within traditions.
3. Interpretation involves opening myself to a text (or its analogue) and questioning it.
4. The inquirer must interpret a text in light of his or her situation.

I then stumbled on an approach that I could relate to in terms of the role of interpretation in the dissertation. Gadamer (1975) outlines four main hermeneutical approaches, namely, the conservative, the moderate or dialogical, the radical and the critical approach. The most relevant for me is the dialogical hermeneutics. This approach holds that we can never reach a completely objective interpretation of a text. The text does hold some meaning but one's own situation and biases necessitate a conversation with the text in order to construct any real meaning.

As stated previously the purpose of the research is to bring me close to my world and phenomenology allows me to ask 'What is the experience like?'

The challenge of hermeneutics is that it offers no procedural system (van Manen, 2001).

Rather, the researcher must enter a community striving for meaningful insights into the essential nature of human experiences. Exemplary hermeneutic texts serve as role models, yet each new text must find a way into and through the labyrinth of many meanings that spring from each experience. (Wattchow nd.)

ⁱⁱⁱ Maturana uses the term conversation to refer to the interlacing of the co-ordinations of co-ordination of consensual behavior and emotion that occur in living together in language. Basically this means that all human life occurs in conversations, and that human existence takes place in the continuous flow of language and emotioning (Ruiz 1999).

^v Tina Sideris (1986) motivates for oral history in South Africa

For a number of reasons the vital importance of oral history to popular organisations in South Africa is clear. First, investigating previously closed areas, such as popular values, informal arrangements and family structures that people develop, can give us important insights into the history of popular consciousness. Secondly, collecting oral testimony uncovers common beliefs and their roots, accept them, reject them or adapt them to their present situations. Thirdly and related to this is the point that emphasising the role that social experience plays in the making of history can help counter ruling ideology. Fourthly, understanding the past from the point of view of the oppressed people in South Africa is important because this can play a role in restoring a sense of pride and confidence in them.

^{vi} Maeland and ten Have (1998) described this kind of interview as largely self-directing where the informant choose their own relevancies, categories and level of details. The interviewer can try to control the style and direction of the informants' talk by including specific elements in the introductory by showing selective attention to what is being told (1998: 3). Beaugard states that in order for the interviewer to elicit the significance of the experience or event without influencing the response, open-ended questions must be used.

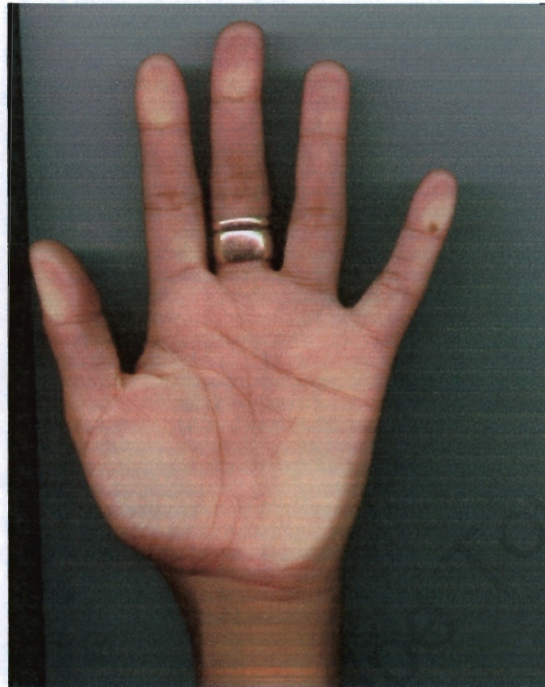
^{vii} The events our informants describe must represent a reality that is truth not fiction. Listening to a good narrative, it is easy to forget the important distinction between these two. With a good narrative, the narrator achieves a "narrative truth" (Spence 1984).

My Sacred Story
The fourth tale:
Everything said is said
by Someone
....and the Second Tale

My Sacred Story

The Fourth Tale

Everything said is said by Someone



Introduction

At the end of the morning I was left with a video recorded tape of our 3 hour conversation as well as three notes I had taken. This was my data. What do I do with this data? The act of representing the data in this tale needed careful consideration as outlined below.

4. Working with the Data

4.1 The First Stage

The creation of brief-but-vivid accounts

The Discipline of Noticing understands the collected data as fragments of experience (Mason 2002) and takes the form of brief-but-vivid descriptions of striking incidents or moments.

During the conversation I made notes of moments or incidents that captured my attention immediately. The moments are ones of surprise, confirmation of ideas and moments of newness and learning for me. I then watched the video, re-entered the conversation by

The Fourth Tale

trying to locate my moments. I then recorded the moments in the way suggested by Mason.

In this first stage the moments are written as brief-but-vivid accountsⁱ. Within the Discipline of Noticing data arises from the making of observations and the collection of it constitutes the first level of abstraction from the phenomenon studied. The data is understood not to be the phenomenon, but merely extracted samples, indicators, and precis of the phenomenon.

The purpose of collecting accounts is several fold. First they provide a foundation of identifiable and negotiable incidents. They can be used to re-collect (literally) similar incidents from the past; they can be used to identify what it is that seems 'similar' and hence to identify phenomena and issues, and to locate what I want to work on; they can be used to deepen and strengthen sensitivity to particular kinds of incidents or situations; they can be used to work on seeking several alternative readings of any situation; and they can be shared with colleagues in order to locate alternative responses and to validate one's own noticing.

The method of collecting the data can be described as marking or intentional marking (Mason 2002:33) in which one not only notices but one is also able to initiate memory of what one has noticed. I have purposefully chosen to mark my moments because it signals that there was something salient about the incident provides me with specific data to work with.ⁱⁱ

(Re-presenting) the data.

In order to select and then represent the data I have had to act as a therapist unto myself. Re-presenting the data has been a process of Self-Therapy. While thinking about how to represent the accounts and the words of the teachers I had to pose the following questions to myself:

- What does the conversation mean to you?
- What image or object comes to mind when you think of conversations?

Throughout the time of struggling to find the form that would best represent the data I paid attention to my body by asking the following questions:

- Why was I feeling anxious?
- Where was this anxiety coming from?
- How did I feel when I finally knew that I found the form of representation that was suited to who I am and what I believe in.

I understand the representations as the integrating of my experience with my narrative self.

This tale, more so than the others is about putting my identity at risk. 'How?', is the question that can be asked. My answer: the tale required me to bare and open myself to the data collecting process and to the representation of the data. The tale has needed me to show the creative side of who I am and I have chosen to bare it all.

This Tale is about my relationship with my world and so in this tale you will find a body of lived experience representations and a lived space with my body.

WHY?

Because

this tale that I have created sees me and I see the tale that I have created.

Merleau-Ponty's account of body-subject demand that we pay attention to the connected of body-subject world and of the immersion-in-world is the reality of human existence.

I have used the painting by one of my absolute favourite artists, Salvadore Dali as a metaphorical image for this process. His painting entitled The Anthropomorphic Cabinet

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was painted during 1936. This image allows me think of the data as moments come that spill forth from ME. They come from the drawer of intuition, of feelings; from the drawer of tacit knowings and from the drawer of sensory knowing and awareness. I consider myself a creative being and using Dali's Anthropomorphic Cabinet pays homage to the nonverbal nature of the data collection process. Intentionality is threaded through the images I have chosen to use to portray the experiences. The images may vary considerably but they attempt to plumb the depth of the experience. They are an honest attempt to tell the whole truth about an experience and in so then to create coherence.

Before you the reader meet the data I ask to be present in the reading of the data as a 'cultivating mind' through 'a heightening of the inner ear' which is the ear that a reader can use to listen to the text's silent voice so that you the reader and I the writer become engaged in disciplined hermeneutics.

(Gadamer in Sotioru 1993)

A hermeneutic theorist assumes that both the self and society are necessary participants in the activity of interpretation, yet they can only emerge within this activity. So reader and text are never constructs that can be understood as single, independent forces. By making this move, theorists in a hermeneutic pedagogy can locate authority both in the reader and the text. (Sotioru 1993)

University of Cambridge

The Fourth Tale

The four teachers present in the analysis are identified as follows:

Teacher 1 is female

Teacher 2 is female

Teacher 3 is male

Teacher 4 is male

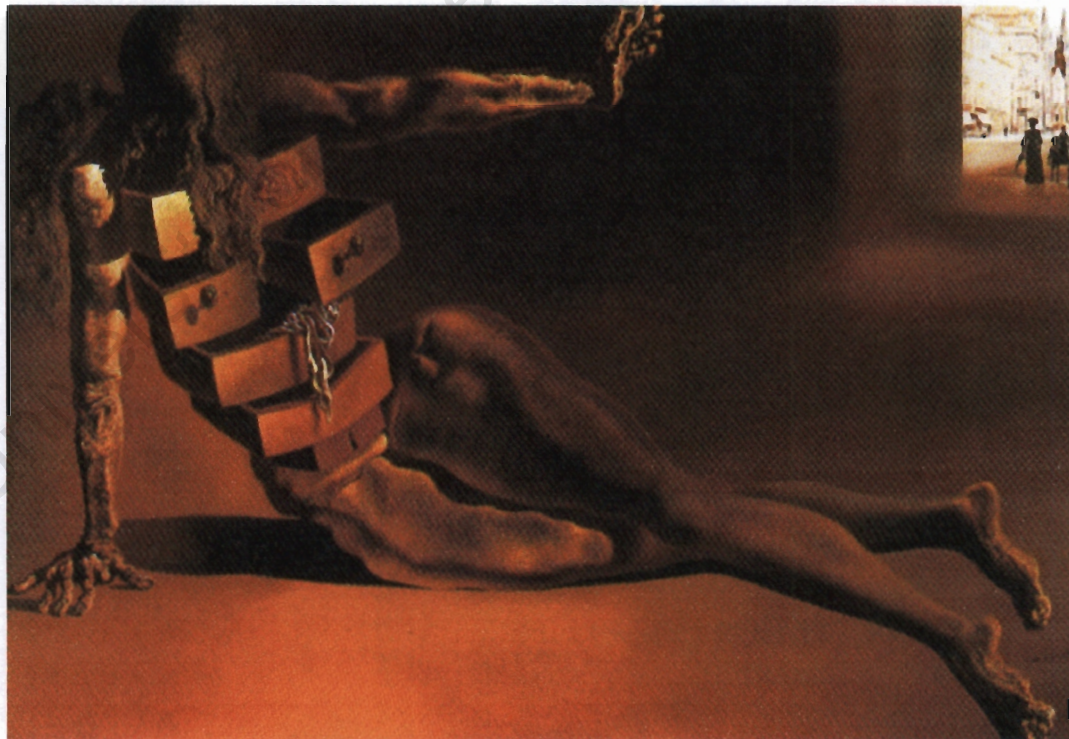
A: Teacher 3 said that if you teach in Phillipi, you are respected as a teacher and seen as someone that is intelligent. If you teach in Gugulethu parents there say that they have better jobs than teachers do. I was aware of a vague sense of familiarity in that moment but not sure from where it came.

B: The teachers were talking about completing further studies and what it meant to them to continue pursuing professional development. Teacher 3 remarked that "We as teachers treat each other according to the place you study at".

C: We were talking about homework and having to make decisions about appropriateness and time constraints.

Teacher 2 said that when giving homework one needs to consider that the mother will tell the child that it is now 9 o'

clock and she only bought electricity for R10.00 and that must last the week, so the lights must be switched off.



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D: While talking about the role of parents, Teacher 2 said that one of the problems they were faced with in Gugulethu was that parents living there are literate and the parents in Philippi squatter area were not.

E: While discussing issues around gender and being a Maths teacher, one male teacher remarked that at his school, the women teachers do not want to teach maths. His reason was that teaching maths is a challenge and they are afraid.

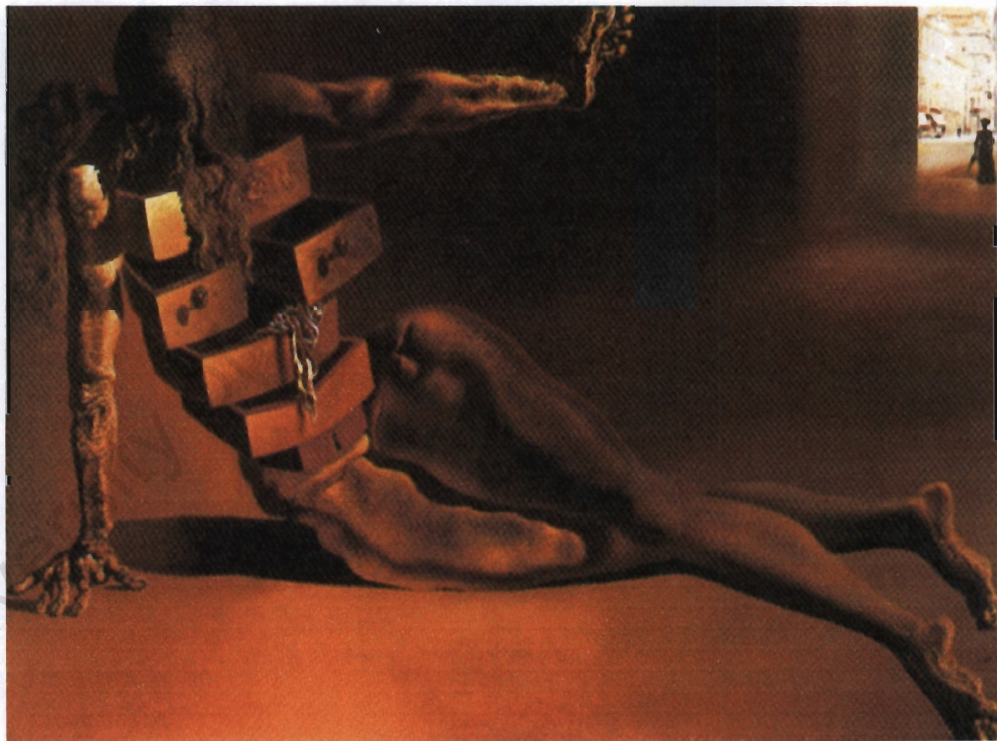
F: I asked the teachers what it meant to be a maths teacher. A teacher replied "They should feel you, as if touching you is like touching their mother" As she said this she embraced herself and I could feel the tenderness of her words.

G: I asked one of the teachers if he bought a game for the children with his own money. His eyes met mine and he gave me a long quiet look and then said "yes". I was aware at that moment I was looking at him differently.

H: One of the teachers said that when you teach maths you are taken seriously by the children.

This statement was met by acknowledgements from the rest of the teachers.

I: While discussing teaching in the township, one of the teachers told us that one of her pupils left the school in the township and went to a school in the suburbs (Claremont). The child performed well in mathematics and the teacher there asked if the previous teacher in the township was white. I could feel a smile twitching the corners of my lips.



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J: I asked the teachers what it meant to be a mathematics teacher in the year 2001. As I asked the question I felt myself sitting on the edge of the seat and as I finished the question I moved back and sat fully into the chair and I waited for a reply. Silence. I noticed one teacher raise her shoulders and lower them again. Still silence. Eventually one teacher (male) said “That’s a difficult question.”

K: A teacher said that to us that mathematics was more than just counting numbers, it needed to be relevant.

At that moment I could almost hear myself saying “I wonder where this is coming from?” and “what do you mean?”. I could feel myself holding back



and not asking the questions because this was not the purpose of the conversation.

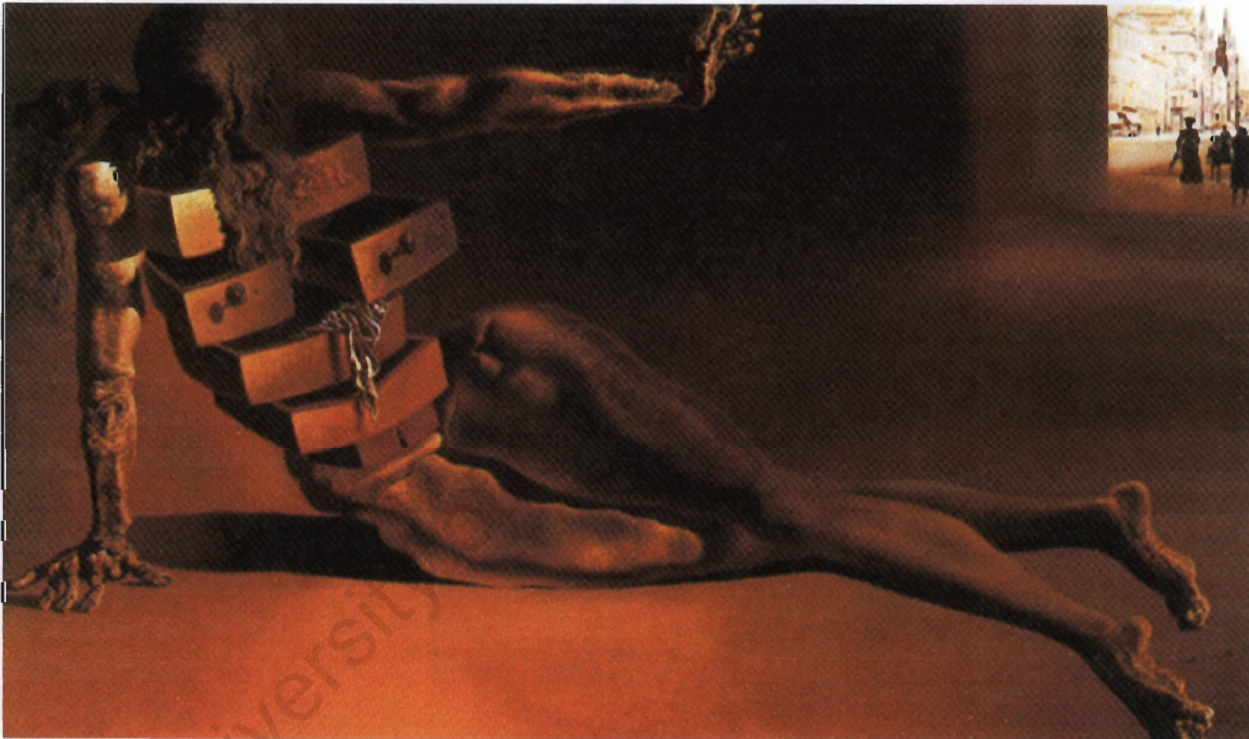
L: The teachers were still answering the question I posed about what it means to be a mathematics teacher. I found myself engrossed in how one of the teachers used her hands while telling me that the children’s perception of a maths teacher is a person who is hard. As she said this, her fingers made a fist and she moved her hands as if she was beating on to a surface. I shifted my focus as she said that the perception needed to be changed to friendliness and availability.

M: While chatting about what it meant to be a maths teacher one of the teachers said: “It’s quite a challenge, it’s quite a challenge. “

The Fourth Tale

As the teacher said these words I felt as if they were echoing in my ears, ringing and causing quite a disturbance.

N: One of the teachers related a teaching moment in her classroom and she began her story by saying, “I had a fraction. I was teaching a fraction”. I caught myself smiling to myself and feeling amused at her words and language and grammar structure. At that moment I felt a distance between us, yet I understood what she was saying.



O: Teacher 4 was telling us that at his school, children perceive the maths teacher as more brilliant than the other teachers.

I found myself being surprised when the teacher said that the parents respect him at his school and parents want their children to be taught by him.

I asked the teachers if they thought there was a difference in perception between the grade 6 and 7 teacher as compared to the grade 4 and 3 teacher. My question was met by laughter by all the teachers. I did not expect this.

P: The conversation continued around the perceptions of maths teachers in schools. One teacher said that at the beginning of each year, when the learning areas were allocated to teachers, every

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learning area except maths was grabbed. This was her subject they said. As she was relating the story I kept wondering why maths was her subject specifically, why it belonged to her.

Q: Another teacher told us that at his school, he heard that he was going to have teach grade 1 when he was a grade 7 maths teacher. For the first time I could not hold back a question and had to ask why he was angry. His answer surprised me. He said that he was afraid of the change. Yet as he was saying this there was amusement in his tone and some of the other teachers laughed.



R: I asked the teachers what they thought were the challenges facing Grade 7 math teachers. There was silence. Then someone said that one of the challenges was that one did not know what happens in high school. At that moment I could feel myself anticipating that his reply would be about the mathematical content. However he said that as a teacher you are afraid when your children go to high school and they don't know enough Mathematics. The grade 8 teacher will want to know who the grade 7 teacher was. Then one's name is degraded in the learner's eyes.

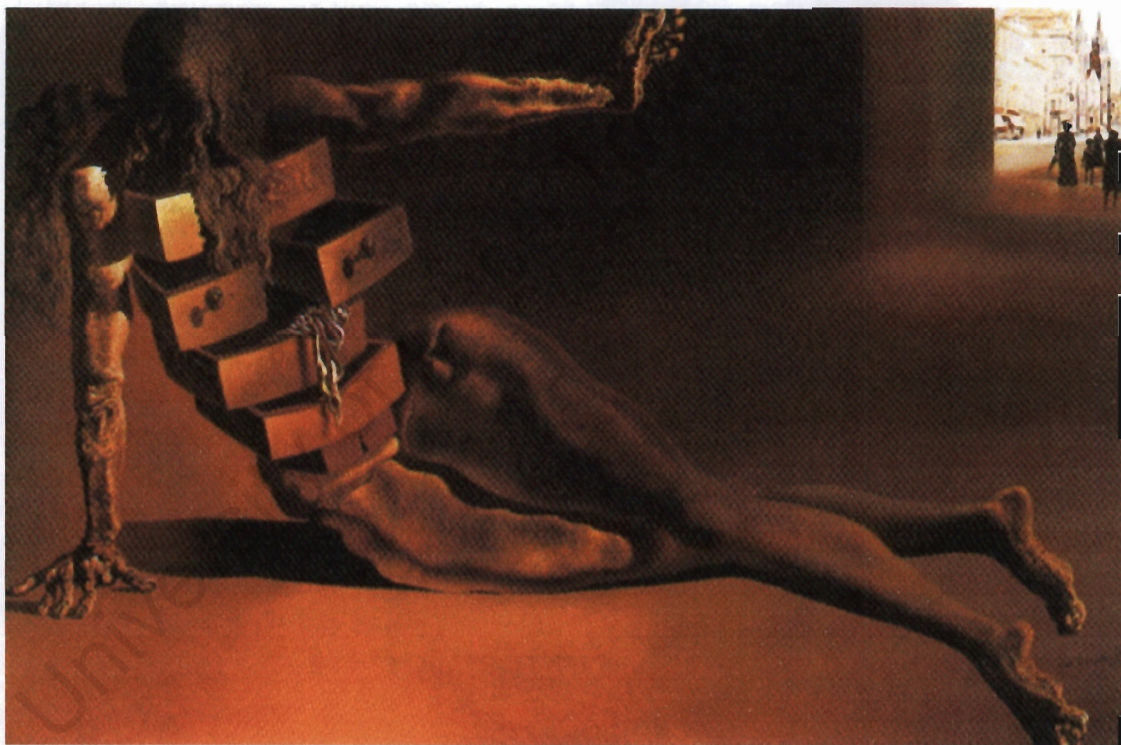
The Fourth Tale

S: “If the child does not know his time table, there is nothing he can do” said one of the teachers. At that particular moment I felt the weight of these words heavy on my shoulders. The weight of all the times in my experience of doing in-service work that I had heard those words.

T: I found myself captivated by one of the teachers as he said to me “Fortunately Agatha, Fortunately Agatha” and sat back in his seat. He went on to say that at his school all the maths teachers are men. One of the female teachers immediately said “ja look at that, ja look at that” I laughed out loud, I could feel that there was a shift in the energy in our group. I knew they were tired but the conversation on gender issues seemed to revive them.

U: I asked the teachers why their female colleagues do not want to teach maths and everyone started

speaking at the same time. I only heard the voice of a female teacher saying, “the women teachers are lazy to use their minds”. I had blocked out



all the other voices.

V: I asked the teachers if teaching in the township meant that one taught not only the curriculum but that one had to give the child access to his culture as well.

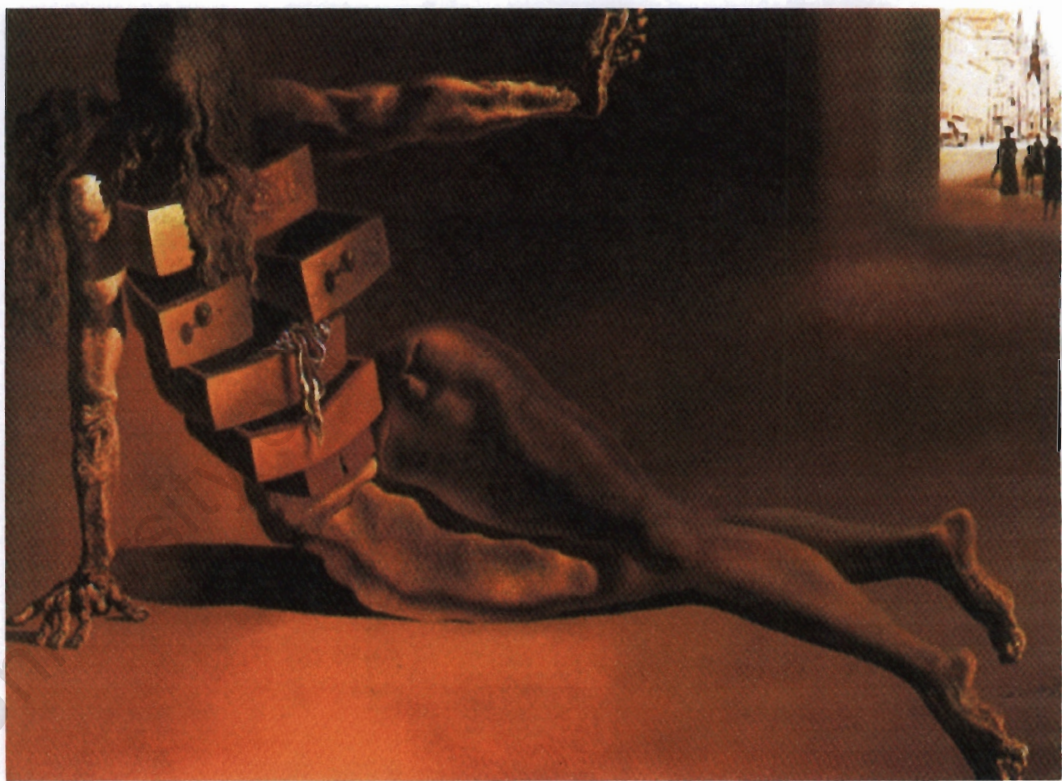
My question was met by agreeing nods. I felt that I had re-described correctly what they were saying. One teacher then offered his opinion on the subject. While talking there was only one phrase he used that stuck in my mind: “We must bring the **culture of learning and teaching** back into the school”.

The Fourth Tale

W: I posed the last question to the teachers. I asked them what it is that they have done or that they are doing that makes children still achieve despite the harsh condition they live in. I had hardly stopped asking the question when a teacher said very strongly “motivation.”

X: I asked the teachers to identify in themselves what made them successful and one of the teachers very animatedly said to me “you don’t know what it is Agatha, you don’t know” I could feel the determination swelling up from the pit of my stomach as I wanted to repeat the question yet again. After chatting to the teachers and hearing their stories I was determined that they articulate an answer.

Y: The teachers were talking about the last question I had asked. I felt myself drawn to the way one of the teachers was expressing himself. He said to me that what one needed to teach in the township was courage. There was something in the way that he



said it that I could almost feel this courage.

Z: We were still talking about what it is that made them successful as teachers and one of the teachers told me a story that I will always remember. She said that one of her past pupils is now in Grade 11 and she asked her teacher for her Accountancy examination paper so that she could show her Grade 7 teacher how well she had done. The teacher was telling that this child had done well despite having an abusive father with a drinking problem.

Ω : I asked teachers for any last words they had to offer. One of the teachers sat back in his chair, pulled his back straight and said: "I am not lying. 2001. People I am tired. I want to retain my strength for 2002. I sat there looking at this teacher and to myself quietly thanking him for his honesty.

4.2 The Second Stage.

Once I had collected these moments, I re-entered the conversation again and transcribed the voices of the teachers. I was selective and did not transcribe the entire conversation. Rather I created the following brief for myself.

While watching the video listen carefully to what the teachers are saying. Be aware of what it is you are paying attention to. What grabs you? Immediately write down what it is that you have listened to.

The brief focuses on listening. This form of collecting the data was influenced by reading of Brent Davis's chapter on Listening in the book, *Teaching Mathematics: Towards a Sound Alternative* (Davis 1996). In the Listening section, Davis expands the definition of listening:

It is by listening by attending to the person's action and situation, and not just to his or her voice that one comes to know the other (pg. 36). By 'attending to a person's actions and situation' Davis does not mean to look, but to listen, to hear what a person is doing, to what a person is also hearing.

At this stage I was not concerned with why this attention was given but rather to be able to identify the moment that I catch myself paying attention. Once I was able to catch the moment I transcribed what the teachers had said. I believe that it is important to note that my focus was on listening. I often found myself placing my hands over my eyes and not watching the video but instead concentrating on the listening. This technique allowed me to pay attention to different kinds of moments I had selected on watching the videotape. These quotations were definitely triggered by my first experience of gathering moments during the conversation, which implies to me that I am not aware of everything in same way all the time.

Representing the Data

I have chosen to present a simple sketch of a coffee cup on each page where the data rests. This image symbolises how I think of these conversations, the tingling of cups and the smell of coffee and this immediately relaxes me and is a form of comfort and “gesseligheid”¹. The image of the coffee cup is a form of describing the data and the nature of the atmosphere whilst collecting data. It also allows me as the researcher to present a complex experience and the interactions of the conversation in a way that is not limiting for me.

The following extracts come from the videotape and follow the thread of the teacher’s conversation. I have not included my interjections because I want to honour the voices of the teachers and foreground the centrality of their presence and utterances.

Teacher 4: To be mathematics teacher in the township is a challenge, it is a challenging task.

Teacher 1: Sometimes these children have a fear of maths. They say “no maths is difficult” but if you can show that no maths is not like that and they must enjoy it you know. Do some activities that they can see that maybe we are playing.

Teacher 3: Being a teacher of Mathematics you have to go out there and find information, you know, to stimulate your kids to love mathematics, to love maths.

understand so which way must I use so that pupils can enjoy.

¹ “gesseligheid” is an Afrikaans word and when translated into English means companionship

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Teacher 4: You have to be enthusiastic enough to enjoy what you are doing so that you can give it to children.

Teacher 1: Being a Mathematics teacher we don't have to be stereotype. Use the same method all the time, you have to see o.k. they don't

Teacher 4: Mathematics I believe is not that you count on numbers, there must be relevance to what you are doing. You know, inside the classroom, outside the classroom, in the society itself.

Teacher 3: You know kids.....The kids they tend to think that Maths only applies in school they forget that everyday is mathematics.

Teacher 2: You should make them be aware that maths is a thing that they use in their everyday life. It is not just a subject that they must know to pass or It is something they use daily.

The Fourth Tale



Teacher 4: The learners should know what is happening out there.

Teacher 3: introduce them to what they use daily.

Teacher 4: You need materials to sometimes teach mathematics so that Maths can become relevant to what you are doing. So this year 2001 there has been a lot of change in mathematics, the attitude, the context itself.

Teacher 4: We have to make maths available so that they see we need to make it interesting enough for other children to join it. And we as the Primary teachers have to stress that so that in High School those children do not go away from that.

Teacher 1: I am earning more than you

Teacher 1: Those parents in the squatter camps listen to you but those in Gugulethu they won't listen to you because they know you. You stay there with them. I don't know. They are degrading you.

Teacher 3: In Phillipi they respect us, they are respecting us a lot.....those people who are intelligent.

The Fourth Tale



Teacher 3: and them in Gugulethu there's the difference. Even if I am not a teacher I am also intelligent. I have a better job then you.

Teacher 3: You are afraid if your kids don't have that knowledge as then the teacher in high school will say who is this person who taught you maths and then your name will be degraded. So you try as hard as you can to give them all the information you have.

Teacher 3: Especially the pressure is on primary school teachers.

Teacher 1: *Yes primary school teachers*

Teacher 3: *The high school teachers tend to look down on us.*

Teacher 2: *hmm*



Teacher 2: *They are better than us. Whilst at the end of the day we are the people doing better than them because we were surprised at our school last month when the parents and children say we must open up Grade 8 at our school. We asked why. They say there's a problem with the high school. What they are taught there is different. They don't get the attention you give them and sport wise it just disappear when you get to high school. They begged us to open Grade 8.*

Teacher 2: *They don't want to use their minds.*

Teacher 3: *You know at my school when you are a maths teacher kids tend to think that you are more brilliant than others.*

Teacher: *The teachers tend to respect me a lot and if a parent's child is not in my class, I am not teaching that child maths, they tend to have a lot of attitude because I want my child to be taught by that teach*

The Fourth Tale



Teacher 3: *You are the best anyway that's what they are saying.*

Teacher 3 : *The periods I got, I am only teaching maths, but the other teachers are teaching other subjects, more subjects than I do because I'm a Maths teacher I have to stick in maths. That's the perception.*

Teacher 2: *No mathematics is for Tsepsi.*

Teacher 2: *"I don't feel fit in teaching mathematics in Grade 4". And then I said to her you know I am so worried because I don't think there's nobody that's fit. If you are a teacher then you are fit for everything have done and what they have achieved.*

Teacher 3: *Fortunately Agatha. Fortunately Agatha in my school all the teachers.....all the teachers who are teaching maths are males.*

Teacher 1: *Look at that. Look at that.*

Teacher 2: *Look at that.*

Teacher 3: *The females don't want to teach it.*

Teacher 4: *They don't want to take it.....because it's a challenge.*

Teacher 3: *There's only one who's prepared to take maths.*

Teacher 2: *They are afraid.*



Teacher 2: *They don't want to use their minds.*

Teacher 4: *infrastructure is affecting us in the classroom.*

Teacher 4: *There are lot of parents who are illiterate you know so they don't get support. You don't give homework projects. They don't come back with these things because they see that there's no support.*

Teacher 3: *The problem with the kids in that area....they are not exposed to many things like TVs, radios, newspapers and all that stuff. Because to me I find there's a difference between the child in Phillipi and the child in Gugulethu.*

Teacher 3: *The child in Gugulethu was more...you know....*

Teacher 4: *exposed.*

Teacher 3: *exposed to things than compared to the child in Phillipi*

Teacher 3: *The challenge is to gather information and take that child to the same level as the child in Gugulethu.*

Teacher 2: *If you ask for magazines you can't find them.*

The Fourth Tale



Teacher 3: *Most parents in Gugulethu are literate and most parents in Phillipi are illiterate. So that's a problem we have.*

Teacher 1: *Even that old method of his all right. Just include it in what the child have. Don't just say that the method is wrong. So really the involvement of parents is needed.*

Teacher 1: *really if you are a maths teacher you have to upgrade yourself each and every time you know. Don't just sit and say o.k. now I'm a maths teacher and I have to sit here. Go out and find some more information each and every time. Go to the workshop.*

Teacher 2: *We as teachers treat each other according to the place you study and the place you live.*

Teacher 4: *When you're out of the university there's a status there. If you come from a college they grade you down.*

Teacher 3: *They are angry at my school.*

Teacher 2: *They are angry. They want to be here.*

Teacher 1: *I'm gaining more from UCT, really I'm gaining more.*

Teacher 3: *The status. I even carry my card now. You know the card is in front in my wallet. When I take out my wallet everyone must see I'm at UCT.*



Teacher 4: *You cannot stay a teacher for the rest of your life. Maybe I can talk to you Agatha. I want to be an advisor you know.*

Teacher 4: *We teachers are financially stressed. We need money.*

Teacher 1: *Ja, it's too late for me to go somewhere.*

Teacher3: *To be honest our president never been to our schools. He studied overseas. He don't know the situation in our schools and what they're doing is that there is something give it to them and they musts do it. How to implement it they don't care. So I don't see myself working more than 10 years. This is my ninth year and I am sure that next year is my final year as a teacher.*

Teacher 3: *If the government of the day can change I think the education will be better, I will stay for life.*

Teacher 3: *You find that you spend more time on the paperwork than teaching the kids. They are stressful. They are off sick.*

Teacher 2: *They introduce the changes in a short period expecting the changes to be done in a long time.*

Teacher 2: *Introducing OBE was not a problem of a teacher understanding OBE but it was a problem of implementing OBE. They gave you the information of*



OBE in one week's time. We went for training one week. It wasn't even training. They take the Subject Advisors, this one will come in for LLC 30 minutes or 1 hours. Brr, brr, brr she goes over everything. When questioning I am not clear about this. We are going to come back for more information. She goes, another one comes in.

Teacher 2: *We are implementing OBE according to our own knowledge.*

Teacher 1: *I feel proud to be a maths teacher.*

Teacher 3: *I feel great.*

Teacher 2: *Challenging*

Teacher 3: *I am intelligent than others.*

Teacher 4: *I feel satisfied. The changes, the developments that are happening at least they satisfy you because I mean when you look back at the way it was approached, the way it was taught, these developments are changing. So I feel satisfied. You do have the confidence I mean to talk about things.*

Conclusion

I am fully aware that by transcribing the quotes and constructing moments is a value judgment that I am making. It is the significance of the judgements and the examination of my assumptions that is my concern in the tales that follow.

The Second Tale continued

ⁱ Mason (2002) suggests that when recording the brief-but-vivid accounts it is best to write them as giving an account of rather than accounting for. This brief-but-vivid account enables re-entry into the moment. Brevity and vividness help to make descriptions of the incidents recognizable to others.

To *account-for* something is to offer interpretation, explanation, value-judgment, justification, or criticism. To give an *account-of* is to describe or define something in terms that others who were present (or who might have present) can recognize.

Masons (2002) says that aiming for accounts-of rather than accounting-for keeps the focus on the particular, on details, and so helps create generalities and labels.

He provides a detailed description of a brief-but-vivid account:

An account which is brief-but-vivid is one which readers readily find relates to their experience. Brevity is obtained by omitting details, which divert attention away from the main issue. The aim is to locate a phenomenon, so the less particular the description, the easier this is, without becoming so general as to be of no value. Vividness is obtained by sticking as much as possible to descriptions of behaviour which others, had they been present, would have readily agreed to having seen, heard or felt. Thus description is as factual as possible. It may describe emotion felt, but where possible these are described in observable terms. Value-laden and judgmental terms are reduced to a minimum. The purpose of a brief-but-vivid account is not to check whether it really did happen, but rather whether it captures or indicates a phenomenon that others can recognize, or come to recognize in the future. (Mason, 2001: 57)

ⁱⁱ According to Mason (2002) marking is a heightened form of noticing and Intentional marking involves a higher level of energy, of commitment because it requires more than just casual attention.

Labeling of the Accounts

An aspect of the Discipline of Noticing is that each account is labeled. The purpose of labeling is that it has potential for metonymic triggering.

I have selected the labels by sensitising myself to certain words or phrases in the accounts that capture my attention.

According to Mason (2002) labels can be single words that describe specific situations or they can be several words which summarise a structure of distinction.ⁱⁱ

The purpose of collecting accounts is provide myself with a foundation of identifiable and negotiable incidents which can be used to collect similar incidents from the past and to identify what it is that seems similar. The aim is to use the accounts to deepen and strengthen sensitivity to particular kinds of incidents or situations and to share them with colleagues in order to locate alternative responses and to validate my own noticing.

The method of collecting the moments can be described as marking or intentional marking (Mason 2002:33) which one not only notices but one is able to initiate memory of what one has noticed. I have purposefully chosen to mark my moments because it signals that there was something salient about the incident and provides me with specific data to work with. According to Mason Marking is a heightened form of noticing and Intentional marking involves a higher level of energy, of commitment because it requires more than just casual attention.

The moments have been offered as an account-of (Mason 2002:41) of a situation or an incident. Mason describes an account-of a situation as a description that is done as objectively as possible by minimising emotive terms, evaluation, judgments and explanation. The account recorded in this manner attempts to draw attention to some phenomena.

Mason (2002) contrasts an account-for with an account-of. He suggests that an account-of is describing or defining something in terms that others can recognize. Therefore it has

no particular value unless others can recognize something similar in their experience, so that various accounts-of can become particular instances of a general phenomenon.

Mason (2002) recommends a method to analyse the accounts so that the energy used in accumulating the accounts is not lost.

Accounting for comes in three forms. Why-ining (whining), whys-acreing (wise-acreing, meaning talking about things when you know very little about them), and why-sening (wisening or 'making wise'). According to Mason only the last has real value.

Whining refers to the tendency to explain away or justify acts. It serves not other purpose than self-calming and self justification.

Wise-acreing refers to the tendency to theorise about an incident, to classify it

My intention is use wisening in probing my accounts.

Wisening (making wise) refers to the probing details of a collection of accounts, seeking what underlies apparent similarity, being explicit about positive, negative and interesting features of specific acts. (de Bono 1972) in (Mason 2001:42)

The Discipline of Noticing treats accounts as entries or pointers to experiences, which constitute the actual data. Probing and analysing accounts is really probing and analysing experience. (Mason 2001:99)

When analysingⁱⁱ the accounts I will not analyse each account individually but as a collection.

MY Sacred Story
The fifth tale: The fusion
of horizons
....and the Second Tale

My Sacred Story**The Fifth Tale.****The Fusion of Horizons****5.1 Introduction**

In order to interrogate and understand my experience in and after the conversation I choose to express my findings knowing and analysis through a variety of forms; including short stories and newspaper articles. William Baud (2001) makes a case for presenting research in alternative forms.

Expressing one's findings in as many modalities as possible - especially those rich in particular concrete, personal, and bodily examples or illustrations, and expressed in the unique voices of different experiences – increases the likelihood that the audience of one's research report will be able to connect with, appreciate, and resonate the portrayed experiences.

(Baud 2001:8)

In this tale, I return to the moments and quotes that were offered in the previous tale. The moments are infused throughout the text and represent my visible presence as a researcher and teacher-educator in the analysis. The accounts also demonstrate how during the conversation I would step outside the conversation and watch myself participating in the conversation.

In moving towards an analysis of the data, I am asked to make a conscious shift from the brief-but-vivid accounts-of to the more subjective, emotion-laden accounts-for. This means journeying into the unknown spaces.

Giving accounts-for and the presence of the moments is journeying into the unknown spaces and interrogating my experience in the conversation. Through accounting –for each collection of accounts, I am continually changing, unfolding, and learning as I interact with the accounts.

The accounts-for form part of this narrative because I want to show that I am a participant in the analysis and that I do interact with my world and how I respond to it. So this tale, the analysis becomes a space within which I discover aspects of myself unknown to me.

In this tale I turn to enactivism to assist me in creating a space or condition that takes into account, growth, and change and responds to challenge.

From here on, I will refer to the narrative as a space of possibility where through interaction my space is enlarged. My space of possibility is dynamic because it evolves through the interaction with/in the world. The purpose of this space is to include my living experience with/in the world of my research.

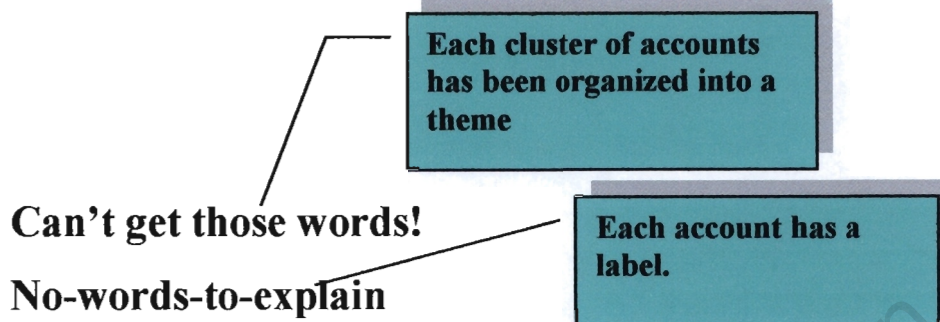
5.2.1 Threading themes

Threading themes is an inescapable activity in the Discipline of Noticing. The themes within my collection of accounts will serve as an issue, or tension which emerges in my mind as I read through the accounts. According to Mason, themes arise when particular aspects are stressed, and similarities detected, so that clusters are themselves clustered, and again meaning arises mutually from a theme informing an interpretation of clusters. These clusters will gain in significance from illustrating or illuminating themes.

In this section of the analysis I continue to access my knowing and understanding through the use of narratives, artwork, poetry and symbolism.

Researcher's challenge

The following cluster of accounts describe and explain my desperation.



I asked the teachers to identify in themselves

what made them successful and one of the teachers very animatedly said to me "you don't know what it is Agatha, you don't know" I could feel the determination swelling up from the pit of stomach as I wanted to repeat the question yet again. After chatting to the teachers and hearing their stories I was determined that they articulate an answer.

Edginess

I asked the teachers what it meant to be a mathematics teacher in the year 2001. As I asked the question I felt myself sitting on the edge of the seat and as I finished the question I moved back and sat fully into the chair and I waited for a reply. Silence. I noticed one teacher raise her shoulders and lowered them again. Still silence. Eventually one teacher (male) said "That's a difficult question."

As the researcher I wanted the teacher to engage in the interview and my desperation is illustrated in the fact that I sat on the edge of the seat, waiting for an answer. Throughout the conversation I tried really hard not to steer or influence the conversation. I need to acknowledge that I came to the conversation with certain assumptions about how the teachers would respond to opening question of the conversation.

- I assumed that the teachers would talk about their pedagogy in relation to the curriculum reforms as they have experienced it.

-
- I thought that the teachers would reveal the identity of a mathematics teacher in relation to the content and the mathematics classroom.
 - In addition I thought that the teachers would describe their pedagogical practices and educational roles to meet the challenges of curriculum reform.

However my assumptions were proven false.

I was surprised at the political and economical construction of the professional identities of the teachers.

5.3 Analysis using themes

Teacher 4: To be mathematics teacher in the township is a challenge, it is a challenging task.

During the conversation the word challenges had many meanings. There were times when challenges indicated a struggle or when one was at a loss of words. The word challenge also described the sweat, tears and the fulfillment of being a math teacher.

I have taken the challenges as described and defined by the teachers and created the following themes below:

- i. Beliefs about teaching and learning of mathematics
- ii. Educational identity
- iii. Professional development superiority
- iv. Status
- v. Gender issues
- vi. Infrastructure
- vii. Career pathing
- viii. Implementation of C2005
- ix. Feeling like a mathematics teacher

5.3.1. Beliefs about the teaching and learning of mathematics

During various moments of the conversation the teachers expressed their beliefs about the teaching and learning of mathematics. The job of teaching mathematics cannot be done without developed beliefs. These beliefs are their theories that have been formed during their lives as teachers. From the conversation I gathered that these beliefs and understandings are based on evidence from their everyday practice as teachers.

During the conversation the teachers voiced their opinion that the teaching of mathematics is concerned with the growth and development of their learners.

One teacher said that in her experience, learners recognised the mathematics teacher as a harsh person. As she told us this she clenched her fists to emphasise her point. She felt strongly that this perception needed to be changed to one where she took a more caring, motherly approach.

Teacher 2: *From the first day that you tell them you are a Mathematics teacher, you should be available for them. They should feel you. Uhm, Uhm. As if touching you is like the mother.*

Learners were described as being fearful of maths and once again the teachers felt that this attitude needed to change and it was their responsibility as teachers to do this. The responsibility included finding information and equipping themselves with content knowledge so that learners could enjoy this learning area.

Teacher 3: *Being a teacher of Mathematics you have to go out there and find information, you know, to stimulate your kids to love mathematics, to love math.*

So therefore the Mathematics teacher needs to be caring and mindful that learners might be afraid of you. The mathematics teacher should be approachable and learners should not fear asking for help or clarity.

The teachers acknowledged that their learners find math difficult. A suggestion was made to change the classroom culture to a playful one while doing math and perhaps introduce math games to the teaching.

Teacher 1: *Sometimes these children have a fear of math. They say “no math is difficult” but if you can show that no math is not like that and they must enjoy it you know. Do some activities that they can see that maybe we are playing.*

One of the teachers said that the mathematics teacher needed to enjoy teaching so that this enjoyment of mathematics could be passed on to the learners.

Teacher 4: *You have to be enthusiastic enough to enjoy what you are doing so that you can give it to children.*

The typical mathematics teacher was described as someone whose methodology did not change and was stagnant.

Teacher 1 talked about how one's teaching needs to be informed by learners' understanding of the content. She makes it clear that teaching should be flexible enough so that it can accommodate and respond to learners. The quote below also describes how teachers can help make mathematical learning possible. Once again the teachers said that learners should enjoy mathematics.

Teacher 1: *Being a Mathematics teacher we don't have to be stereotype. Use the same method all the time, you have to see o.k. they don't understand so which way must I use so that pupils can enjoy.*

The teachers provided stories that emphasised the need for the applicability and functionality of mathematics and the belief that mathematics needed to be relevant for learners to exist in the world. They articulated the view that math was no longer a set of memorized rules or procedures.

Teacher 4: *Mathematics I believe is not that you count on numbers, there must be relevance to what you are doing. You know, inside the classroom, outside the classroom, in the society itself.*

Mathematics, they expressed should be part of the everyday experiences of the child and that learners should know that mathematics is part of their world. During the conversation it was made clear that mathematics was needed to make sense of life and the world.

Teacher 3: *You know kids... ..The kids they tend to think that Math only applies in school they forget that everyday is mathematics.*

Teacher 2: *You should make them be aware that math is a thing that they use in their everyday life. It is not just a subject that they must know to pass or It is something they use daily.*

Teacher 4: *The learners should know what is happening out there.*

Teacher 3: *introduce them to what they use daily.*

In the above quotes the teachers also describe their understanding of how children regard the learning area called Mathematics. Mathematics was referred to as an object or verb “thing” and there is no need to isolate math from the world of its application. They also tell of the changing attitude and perception of the subject before and after C2005.

Teacher 4 said that in order to make mathematics relevant curriculum resources were needed.

Teacher 4: *You need materials to sometimes teach mathematics so that Math can become relevant to what you are doing. So this year 2001 there has been a lot of change in mathematics, the attitude, the context itself.*

The teachers also spoke about the need for learners to continue doing mathematics in High school and that it was the responsibility of the primary school teacher to ensure that learners could cope with math in high school. They stressed the point that the quality of the mathematical learning experience in the primary school could influence whether or not learners did math in high school. It was clear that the teachers felt that it was the role and responsibility of the primary school teacher to maintain the quality of learning of

math to give the learners a chance in life. They expressed that this was needed from the Foundation Phase through to the Senior Phase.

Teacher 4: *We have to make math available so that they see we need to make it interesting enough for other children to join it. And we as the Primary teachers have to stress that so that in High School those children do not go away from that.*

The teacher is described as the person who creates opportunities for the development of mathematics.

While talking informally about the teaching and learning of mathematics the teachers unconsciously spoke about the aims of teaching math intended for learners. I have identified the following aims:

- Mathematics is a powerful tool
- Pupil's confidence in mathematics needs to be developed.
- Learners should enjoy mathematics
- Learners should understand the relevance of mathematics and its applicability to the world.

The teachers also suggested that mathematics could be used as an economic empowering tool to uplift children who lived in squatter areas because it gives access to power and wealth and better jobs than teaching.

5.3.1. Probing Accounts

Way back then

An old phrase

I asked the teachers if teaching in the township meant that one taught not only the curriculum but that one had to give the child access to his culture as well.

My question was met by agreeing nods. I felt that I had re-described correctly what they were saying.

One teachers then offered his opinion on the subject.

While talking there was only one phrase he used that stuck in my mind: "We must bring the culture of learning and teaching back into the school".

Heard-this-before

One of the teachers said that mathematics was more than just counting numbers, it needed to be relevant.

At that moment I could almost hear myself saying "I wonder where this is coming from?" and "what do you mean?". I could feel myself holding back and not asking the questions because this was not the purpose of the conversation.

Heard-that-before

"If the child does not know his time table, there is nothing he can do" said one of the teachers. At that particular moment I felt the weight of these words heavy on my shoulders. The weight of all the times in my experience of doing in-service work that I had heard those words.

These accounts trigger memories of my time as a field worker supporting teachers in the mathematics classroom. These moments take me back to conversations I have had with teachers. Through the years the stories and chats have had the same theme.

The account heard-that-before evokes the strongest memories. Entering the moment once it was recorded was not a pleasant experience. All I could think was "I am so sick and tired of teachers complaining that learners do not know their tables."

Each time I enter this moment I feel weary, weary that emotions are clouded by helplessness. How many more years will I still listen to this?

These accounts also tell of my skepticism and this was triggered by the first and second account. I am skeptical because I have listened to teachers talk the language of the moment. They use the current rhetoric so well that one cannot help but believe that what they say is reflected in their practice.

These accounts also show the challenges that face mathematics in-service providers. The challenges include working with and understanding teachers' beliefs about the purpose and nature of mathematics, the teaching and learning of 'time-tables and the teaching and learning culture in schools.

5.3.2. Educational Identity

This theme seemed to dominate the conversation and appears to be a cause for concern for the teachers. This was evident in the body language, the emotion and tone of their voices. The teachers described their identity in terms of their learners, the parents, and colleagues in their school and in neighboring schools.

The Professional identity of the teachers in terms of status within the community seems to shifting in the township. The teachers spoke at length about role expectation and the dilemmas they faced everyday.

The economic, political and social transformation has presented the teachers with a crisis in their identity formation. The teachers have had to shift from their 'comfort zone' as the intelligent and the educated people in the community.¹

Teacher 1 said that parents are now aware that their earning power exceeds that of the teaching community and that these parents have the confidence to let the teachers know this.

Teacher 1: I am earning more than you

Parents that are better educated than teachers and want to remain living in the townships present a new threat to the professional status of the teachers.

Teacher 3: and them in Gugulethu there's the difference. Even if I am not a teacher I am also intelligent. I have a better job than you.

Areas like Phillipi and Gugulethu are compared to each other in terms of the earning power and literacy of the parent population. Your reputation, your social standing within the community is depended on the area that you teach in. Where you teach (area) will define and shape your status and identity as a teacher and member of that particular community. If you teach in the more affluent area of Gugulethu then you are not respected and listened to.

Teacher 1: *Those parents in the squatter camps listen to you but those in Gugulethu they won't listen to you because they know you. You stay there with them. I don't know. They are degrading you.*

The less educated the parents are, the less you are challenged and the more you are respected. If you teach in Phillipi, which is a squatter camp, then you are respected as a teacher and seen as someone that is intelligent.

Teacher 3: *In Phillipi they respect us, they are respecting us a lot.....those people who are intelligent.*

There seems to be a tension between the educated parents within the community and the teachers, well at least that is how the teachers perceive the parents. So who you are in terms of being educated and being a professional is being challenged. Being a teacher is no longer a job or profession to be held in high esteem. The teachers seem to be struggling to hold on to their self-respect and the respect they feel that they deserve in their community and within the teaching profession. I believe what we have here is an emergence of an identity in crisis or maybe multiple identities of the black mathematics teacher surfacing.

Yusuf Sayed (2001) says that the new defining source of inequity is not only between those who are educated and those who are not, but also between those who obtain particular kinds of education. He says that this means that the notion of quality implies a grading of an individual's educational experience, with the middle class obtaining education in privileged and well-resourced institutions. This can clearly be identified in the following statement.

Teacher 2 *We as teachers treat each other according to the place you study and the place you live.*

There was an obvious sense of pride that they were doing further studies and that they were at the University of Cape Town (UCT) participating in the ACE program. The pride

did not only stem from simply studying but more specifically that they were studying at the UCT. The institution that you choose to study at is important because it will determine how other teachers see you.

Studying at a university was considered far more important than studying at a teachers training college especially in terms of the status that it brings with it.

Teacher 4: *When you're out of the university there's a status there. If you come from a college they grade you down.*

Studying at the University of Cape Town bears a certain status that the teachers obviously enjoyed but it also brought strong reactions from the rest of their colleagues at school.

Teacher 3: *They are angry at my school.*

Teacher 2: *They are angry. They want to be here.*

I got the impression during the conversation that UCT was considered a better institution compared to others. More than once UCT was referred to as the place on the mountain. Based on my experience the University of Cape Town is seen as the White University and the University of the Western Cape (UWC) is for blacks. The fact that the teachers are black, studied previously at Black colleges, teach at Black schools and are students at a White university is regarded almost as the ultimate achievement.

Teacher 1: *I'm gaining more from UCT, really I'm gaining more.*

Pride was obviously etched on the teacher's face as he said that he carried his student card right at the front in his wallet.

Teacher 3: *The status. I even carry my card now. You know the card is in front in my wallet. When I take out my wallet everyone must see I'm at UCT.*

The teachers also spoke about how High school teachers view the primary school teacher. The maintenance of one's name as a Grade 7 teacher in the community is depended on how well the learner performed in the final exam and during the first year in grade 8.

The teachers seemed apprehensive and almost scared when their learners entered the mathematics class in High school because the grade 8 teacher would judge the academic performance of the learner in terms of the grade 7 teacher. So the performance of the Grade 8 learner is seen as a result of the performance of the grade 7 teacher.

Teacher 3: *You are afraid if your kids don't have that knowledge as then the teacher in high school will say who is this person who taught you math and then your name will be degraded. So you try as hard as you can to give them all the information you have.*

Teacher 3: *Especially the pressure is on primary school teachers.*

Teacher 1: *Yes primary school teachers*

It was felt that the high school teachers looked down upon primary school teachers.

Teacher 3: *The high school teachers tend to look down on us.*

Teacher 2: *hmm*

Teacher 2: *They are better than us. Whilst at the end of the day we are the people doing better than them because we were surprised at our school last month when the parents and children say we must open up Grade 8 at our school. We asked why. They say there's a problem with the high school. What they are taught there is different. They don't get the attention you give them and sport wise it just disappear when you get to high school. They begged us to open Grade 8.*

5.3.2.A. Probing Accounts

Achievement

Strength-in-words

The teachers were talking about the last question I had asked. I felt myself drawn to the way one of the teachers was expressing himself. He said to me that what one needed to teach in the township was courage. There was something in the way that he said it that I could almost feel the courage needed to teach in the township.

Stories forever

We talking still talking about what it is that made them successful as teachers and one of the teachers told me a story that I will always remember. She said that one of her past pupils is now in Grade 11 and she asked her teacher for her Accountancy examination paper so that she could show her Grade 7 teacher how well she had done. The teacher was telling that this child had done well despite and abusive father with a drinking problem.

This collection of accounts reminds me that I do pay attention to the positive stories that teachers tell. Despite the hardships and difficulties of teaching in the township, there are stories of endurance and stories that stir hope.

Paying attention to these accounts indicates the admiration that I hold for these teachers. I admire my students.

The account's strength in words gives me an indication of how I listen. I have worked really hard at listening to teachers and watching teachers during a course or just even a workshop. I make a conscious effort during the first 30 minutes of meeting or working with teachers to see who are the dominant voices, who are the teachers that participate quietly, who are the teachers that are angry and immediately lash out at the education department, who are the teachers that are tired, demotivated and disillusioned and who are the teachers that are afraid of doing any maths.

The teacher in the first account spoke with so much feeling that I could feel his words and the courage that he had. Feeling his words reminded me of my time working in the township. Did it take courage for me to work there too? I don't know. I do not drive and this meant traveling by taxi to and in the township. I had to walk through alleyways, potholes and shacks to get to the schools. With my backpack on my back I learned the local 'taal' or language so that I was not conspicuous in the 'zola bud' or the 'skoro-skoro' as we called the taxis. I have had a different experience compared to my colleagues who travel through the township in their cars. I am streetwise and I find the township less threatening I think. I am not sure if what I had was courage at all.

5.3.3. Professional development superiority

The conversation also included chats about the relationship between colleagues at their school. The focus of this conversation seemed to be about how they viewed their female colleagues. I thought at times they seemed to demonstrate attitudes of superiority to their female colleagues. I believe that the superiority stems from the fact that **they** were chosen to attend the ACE at UCT and that **they** are the Mathematics teachers in the School.

Teacher 2: They don't want to use their minds.

The way learners perceive the professional status of teachers or how learners classify teachers was articulated. It is important to the teachers to be a mathematics teacher because then you are taken seriously by the learners. More respect seems to be bestowed upon the mathematics teacher by the learners. The math teacher is considered to be more brilliant than the other teachers by the learners. The teachers seemed to want the respect and to be taken seriously by their colleagues and the learners.

Teacher 3: You know at my school when you are a math teacher kids tend to think that you are more brilliant than others.

The teachers were also quite concerned about their social standing within their community and the social interaction between teachers; learners and parents seem to have considerable impact and influence on the identity of the mathematics teacher.

Teacher: The teachers tend to respect me a lot and if a parent's child is not in my class, I am not teaching that child math, they tend to have a lot of attitude because I want my child to be taught by that teach.

The teachers made it clear that their colleagues had a certain perception about who they are.

5.3.3.A Probing Accounts

Reputation

Teaching maths –a-status

One of the teachers said that when you teach math you are taken seriously by the children. This statement was met by acknowledgements from the rest of the teachers.

Saving Grace

I asked the teachers what they thought were the challenges facing Grade 7 math teachers. There was silence. Then someone said that one of the challenges was that one did not know what happens in high school. At that moment I could feel myself anticipating that his reply would be about thought the mathematical content. However he said that as a teacher you are afraid when your children go to high school and they don't know enough Mathematics. The grade 8 teacher will want to know who the grade 7 teacher was.

These accounts tell of the identity of the teachers – who they are, on a professional and personal level. The accounts tell how the Mathematics teacher believes they are viewed by learners, by high school teachers in their community and the parents of their learners.

The accounts trigger familiarity especially the third account. For a time in my life I taught in the Limpopo Province. During the apartheid era the area was known as Venda, an independent homeland. There were many aspects of life there that were completely alien to what I knew. Whilst living there I was permanently put on a pedestal by both parents and pupils. I was called the Mistress! A teacher was a prominent person in the community. Being Black-English speaking and from Cape Town was for the community I lived with, an enigma and rounded the image they had of me even more. This was different to my experience of teaching in Cape Town or even London. Here I was revered. I was someone that was educated and this was regarded as an achievement. Professionally I was awarded a respect that I did not experience anywhere else.

These accounts serve more than just a trigger of memory. They have made me realise that as a teacher on the ACE course I have not considered that the location of the school affects the status of the teachers and their self-esteem and that these factors contribute to feelings of insecurity and perhaps this fear of learning maths is what they bring to the course.

I was completely taken aback during the conversation and reflecting on the accounts that a reputation or the maintenance of a certain identity is very important to teachers. I was surprised at how their identity in the township differed depending on the literacy rate of the parents.

I feel that the teachers are in a continual fight for survival. The fight is about holding on to a profession that used to bring status within communities. One of the few places where they can still feel important is if the school is located within an area where parents are generally not literate. Importance is also determined and experienced at the institution that you are enrolled at.

Then status could be maintained if one was a Grade 7 Mathematics teacher. I know that being a Senior Phase teacher or a Grade 7 teacher presents a certain standing within the school structure. You are seen as more knowledgeable and almost more useful than the teachers in the lower grades. Promotion is easier if one has taught in the Senior phase. I was surprised at the status that is given specifically to mathematics teachers.

I believe that the teachers enjoy being Grade 7 mathematics teachers for the status that it offers and not for the enjoyment or love of the Learning Area.

I believe that the teachers have not made arbitrary decisions or choices that form their professional identity. They have deliberately chosen to be Grade 7 Mathematics teacher within their community. Yet on the one hand they have to recognise that they are middle-class citizens working in a working class area and this brings with it tensions.

On the other hand they also have to contend with a growing middle class in some areas in the townships.

They are no longer the only ones who have a relatively high education and can live in better houses and drive cars. They are now on par socially and economically with their community and this affects their status in a negative way.

Then, one's name is degraded.

Area-determines-prominence

Teacher __ said that if you teach in Phillipi, you are respected as a teacher and seen as someone that is intelligent. If you teach in Guguletu parents there say that they have better jobs than teachers do. I was aware of a vague sense of familiarity in that moment but not sure from where it came.

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5.3.4 Status

They described how through interactions and relationships their identity develops. (confidence and self-respect.)

Teacher 3: *You are the best anyway that's what they are saying.*

Teacher 3: *: The periods I got, I am only teaching math, but the other teachers are teaching other subjects, more subjects than I do because I'm a Math teacher I have to stick in math. That's the perception.*

Teacher 2: *No mathematics is for Tsepsi.*

Teacher 2: *"I don't feel fit in teaching mathematics in Grade 4". And then I said to her you know I am so worried because I don't think there's nobody that's fit. If you are a teacher then you are fit for everything have done and what they have achieved.*

So being a teacher is a matter of being seen as a teacher by the teachers themselves and by others. It is a matter of acquiring and then redefining an identity that is socially legitimated. Coldron and Smith (1999) say that this process begins with the conformant of qualified status on teachers and it continues in the way colleagues, children and parents respond to them. They also say that a teachers' professional identity is determined biographically, through his or her, own choices and is socially given.

5.3.4.A. Probing Accounts

Perception of maths teachers

Institutional snobbishness

The teachers were talking about studying and what it meant to them to continue pursuing professional development. Teacher C remarked that "We as teachers treat each other according to the place you study at".

Black teachers-not-suitably-qualified

While discussing teaching in the township, one of the teachers told us that one of her pupils left the school in the township and went to a school in the suburbs (Claremont). The child performed well and the teacher there asked if the previous teacher in the township was white. I could feel a smile twitching the corners of my lips.

Lost-in-the-conversation

Another teacher told us that at his school, he heard that he was going to have teach grade 1 when he was a grade 7 math teacher. For the first time I could not hold back the question and had to ask why he was angry. His answer surprised me. He said that he was afraid of the change. Yet as he was saying this there was amusement in his tone and some of the other teachers laughed.

This collection of accounts demonstrates how surprised I was at the emphasis the teachers placed on who you were in relation to the students, colleagues and the community.

The account Black teachers-not-suitably-qualified triggers amusement. This particular account reminds me of the first time I walked into the lecture theatre and the teachers simply stared at me. One could see the shock especially on the faces of the Black teachers. I am used to these stares and learnt that they mean:

- Is our lecturer actually black?
- Does the university have black lecturers?
- Is she not too young to be our lecturer?
- What does she know?
- Let's test her to see whether she is capable of doing her job

Although I take their comments very seriously and was surprised at the snobbishness I perceived the teachers to have, I was very amused as it reminded me of my own experiences.

5.3.1.5. Gender issues

Gender was an issue that consistently emerged during the conversation. It was quite clear that male and female teachers had different perceptions of the role gender played in who the mathematics teacher was. The conversation around gender issues gives an indication of the interpersonal relations in their respective schools. The teachers do not seem disempowered in their schools at all. Actually I think that they disempowered their colleagues. I am not sure if it is their personality, or because they are studying at UCT or simply because they are THE math teacher in their schools.

Teacher 3 said that at this school the female teachers do not want to teach math because teaching math is a challenge. The other male teacher (teacher 4) also remarked that all the math teachers at his school were men.

Teacher 3: Fortunately Agatha. Fortunately Agatha in my school all the teachers....all the teachers who are teaching math are males.

Teacher 1: Look at that. Look at that.

Teacher 2: Look at that.

Teacher 3: The females don't want to teach it.

Teacher 4: They don't want to take it.....because it's a challenge.

Teacher 3: There's only one who's prepared to take math.

Even though the energy levels of the teachers seemed to be waning, when the conversation bent towards gender issues there was a bit of a revival. I asked the teachers why their female colleagues do not want to teach math and this got everyone talking simultaneously. The female teachers that were part of the conversation were extremely confident and portrayed no symptoms of being afraid of teaching math. They refer to their colleagues who are described as being scared and fearful of math.

Teacher 2: They are afraid.

I thought at times they seemed to demonstrate attitudes of superiority to their female colleagues.

Teacher 2: They don't want to use their minds.

They are obviously not afraid to take up the challenge of teaching math and that of being a Senior Phase mathematics teacher too.

If one looks at the school structure and the allocation of teaching tasks then it is clear how the boundaries of sexual divisions of labor are created and reinforced. Grades 1 to 3 (the Foundation Phase) are predominantly taught by women in South Africa. Male teachers are normally found at the exit of the Primary school especially in grade 7 and often they are given Learning Areas to teach like Mathematics and Science. The teaching of Mathematics is guided by the sex-typing of tasks.

Schools construct and reinforce boundaries between what is acceptable as masculinity and femininity. Reading how the teachers have described the female colleagues made my skin crawl and made me wish for the following.

OfCourse When They Ask for PoemsAbout the 'Realities' ofBlack Women

What they really want
at times
is a specimen
whose heart is in the dust

A mother-of-sufferer
rampled, oppressed
they want a little black blood
undressed
and validation
for the abused stereotype
already in their heads

Or elsethey want

a perfect song

I say I can write
no poem big enough
to hold the essence
 of a black woman
 or a white woman
 or a green woman

And there are black women
and black women
like a contrasting sky
of rainbow spectrum

Touch a black woman
you mistake for a rock
and feel her melting
down to fudge

Cradle a soft black woman
and burn fingers as you trace
revolution
beneath her wooly hair...

Maybe this poem is to say,
that I like to see
we black women
full-of-we-selves walking

Crushing out
with each dancing step
the twistedself-negating history
we've inherited
 Crushing out
 With each dancing step.

Grace Nichols

From Lazy thoughts of a lazy woman, and other poems in, The teacher: Your guide to education volume 7, Number 8, August 2002.

The confidence of the female teachers during the conversation encourages one to think that they refuse to let others do their thinking for them, that one must encourage one's intellectual capacity. It means that I must not accept aspects of society merely because they are accepted. It means that I must question the world around me. I must seek knowledge. I must believe in myself as a strong woman. I must believe in the validity of my person.

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5.3.5.A. Probing Accounts

Gender and teaching mathematics

Women-and-maths

While discussing issues around gender and being a Math teacher, one male teacher remarked that at their school the women teachers do not want to teach math. His reason was that teaching math is a challenge and they are afraid.

Words-create-energy

I found myself captivated by one of the teachers as he said to me “Fortunately Agatha, Fortunately Agatha” and sat back in his seat. He went on to say that at his school all the math teachers are men. One of the female teachers immediately said “ja look at that, ja look at that”. I laughed out loud, I could feel that there was a shift in the energy in our group. I knew they were tired but the conversation on gender issues seemed to revive them.

While reading through the above two accounts I kept asking myself Why is it that I paid attention to these actions. I was surprised that issues of gender came about. I was also surprised at the blatant honesty of the male teachers to reveal their prejudice. I returned to the video and looked at the extract again and was surprised at the comfort, ability and ease with which the male teachers spoke.

I was surprised that gender was an issue that surfaced in our conversation, but I was not surprised that the male teachers would feel this way. I have experienced this attitude at far too many schools.

Women teachers have generally accepted me into their classrooms to work with them. Male teachers are reluctant. I have also found that the male teachers are more confident

Whenever I return to these accounts I am reminded that I never considered gender when designing a course or even when teaching on the course.

The fact that I paid attention to gender issues shows off my prejudice. In both accounts I focused on the males.

What is my perception of the black male teacher? He is confident and sometimes arrogant. Most of the time he does not work hard, but I won't quite call him lazy. Most often he is a grade seven teacher than a grade four teacher.

5.3.6. Infrastructure

Teacher 4: infrastructure is affecting us in the classroom.

For the first time since apartheid education teachers, are accountable to parents. Parents know this and many of them serve as representatives on the governing bodies of schools. The teachers were very aware that residential areas defined the economic and literate ability of the parents.

Teacher 4: There are lot of parents who are illiterate you know so they don't get support. You don't give homework projects. They don't come back with these things because they see that there's no support.

Teacher 3: The problem with the kids in that area....they are not exposed to many things like TVs, radios, newspapers and all that stuff. Because to me I find there's a difference between the child in Phillipi and the child in Gugulethu.

In the same way that the teachers describe the parents in relation to the economic ability, they also describe their learners. They go a bit further I think and talk about their learners in terms of:

- Where learners live.
- The literacy of their parents
- The economic ability of the parents
- Material resources available in the house.

They went on to describe the children in the two identified area.

Teacher 3: The child in Gugulethu was more ...you know

Teacher 4: exposed.

Teacher 3: exposed to things than compared to the child in Phillipi

I asked them what the challenge then was considering the influence of the infrastructure.

Teacher 3: The challenge is to gather information and take that child to the same level as the child in Gugulethu.

Teacher 2 stated that when giving homework, decisions had to be made about appropriateness and time constraints.

They also spoke about the limited resources that existed within the homes of their learners who lived in squatter areas, and that this affected the planning of lessons and the resources that the learners had access to.

Teacher 2: If you ask for magazines you can't find them.

The teachers said that lack of electricity and running water were all contributing factors to the teaching and learning of mathematics. Learners could not do homework at night because often parents would say that lights must be switched off to save electricity.

Literacy of the parents also was voiced as a constraint and complexity of the teaching job.

Teacher 3: Most parents in Gugulethu are literate and most parents in Phillipi are illiterate. So that's a problem we have.

The conversation moved around the topic of parents helping their children with work. The teachers' experience was that the parents did not understand the mathematics their children now did and so therefore could not help them with homework.

Teacher 1 said that the involvement of parents was needed even if the algorithms they used were considered old and she described a way of developing a relationship with the parents.

Teacher 1: Even that old method of his all right. Just include it in what the child have. Don't just say that the method is wrong. So really the involvement of parents is needed.

The conversation confirms the fact that schools exist within particular community contexts. Whatever the community context, it shapes the identity of the school and also the identity of the teachers.ⁱⁱ

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5.3.6.A. Probing Accounts

Community

Homework-or-not

We were talking about homework and having to make decisions about appropriateness and time constraints. Teacher ___ said that when giving homework one needs to consider that the mother will tell the child that it is now 9 o' clock and she only bought electricity for R10.00 and that must last the week, so the lights must be switched off.

Literacy-of-parents

While talking about the role of parents, Teacher ___ said that one of the problems they were faced with in Guguletu was that parents living there are literate and the parents in Philippi squatter area were not.

These accounts remind me of the everyday struggle that teachers go through as they work in the township. These accounts force me to ask myself if I consider the home situation of the teachers when I give homework? No I do not. There is assessment and it simply has to be done. That is my position.

I am not sure why, but this collection of accounts make me think of the ACE course and how we do not consider the whole person when we design and conceptualise our course. The University, the Education Department, the National Curriculum and ourselves as teacher educators simply decide for the teachers what they should know.

We set tasks for them from our base, without thinking about their particular realities.

The accounts force me to acknowledge the power base from which I teach and how I have used this power in a way that does not appreciate who teachers are in education in South Africa.

My assumed identity of a black teacher in the Khayelitsha/Mitchells Plain school district is an identity that I have created from my work in schools with teachers. It might be a complete misconception but it has become my truth. To describe this assumed identity, I have written a story about a morning in the life of a teacher.

Another Day

The month of June has arrived and has brought the rain. Friday morning, 5am and Thandeka Ngcatshe stirs in her bed, turning her back to the alarm clock. She knows that there is no time to waste and so she better get up. There is just so much to do. She stops the alarm and sits at the edge of the bed. She had better not wake up the two children that share the bed with her. She rubs her eyes and a smile creeps in. She takes a deep breath and exhales; at least it is Friday. She gets up, goes to the bathroom and shivers. This winter sure feels colder than last year. That reminds her, she had better check to see how much paraffin there is for the heater. She had also better check how much money was in her purse. Payday is about a week away and there is almost no money left. Once she pays the children's taxi costs to school, she does not know what on earth she is going to do. She shakes her head and shrugs her shoulders. Exasperation fills the bathroom. Towards the end of every month she asks the same question; "Where am I going to get the money from?" She forces these unwanted thoughts and hurries in the bathroom. It is time for a cup of coffee. She looks at her wristwatch; it is 5:20 am. The children must wake up at 6:00am. As she looks for the coffee container she checks to see how much Corn flakes there is still left. Not much, she had better make some pap while she drinks her coffee. Now that her sister's three children are living with her, times felt hard. Her sister died five years ago and she took in the children. They are her own. That now made five children in the two-bedroom house ranging from age 9 to 19.

She peeps out of the kitchen window. It is still dark outside and the rain is beating down hard. Her thoughts immediately go to the children in her class. They are probably going to sit in wet clothes all day. Thank goodness school closes early on a Friday. Yesterday she was busy doing revision in Math to prepare the Grade 7 class for the June exam and most of them could not concentrate. She could hear quite a few sneezes already. This weekend will see her setting the Math examination papers because it must be in on

Monday. She could have done some of the work in the last two weeks but there were two in-service courses that she had to attend and don't forget the net ball competitions that were drawing to an end. Then two teachers had died in Guguletu and the entire staff had to attend the memorial services. There was just not enough time to do everything. The children were woken with moans and groans. Thank goodness they went to schools near their home. The teachers were talking about the fact that more and more teachers were sending their own children to schools out of the township. Thandeka felt that her situation was different. She lived in Mandalay, which was built as a coloured township. When she first moved in she was the only Xhosa speaking person in the circle, but now there were five families. She was forced to count every cent and make every Rand stretch to the end of the month. Therefore she sent the children to schools that were in walking distance from the house. Mthunzi the eldest was in his second year at Cape Technikon and his taxi fare broke her pocket not to mention the fees. Secretly she felt that the schools were much better and the most important thing was that the children were speaking English. With English and a Matric perhaps their lives would be better than hers. Yes better than hers. As she dished the pap in their bowls she remembered that the only way she could get further education was to become a nurse or a teacher. Her sister was a nurse and so she decided that she hated night duty and decided to become a teacher. You got the school holiday and at least you had a bursary. There was no way her parents could have paid for her studies. This makes her realise that she must not forget to send her mother a bit more money at the end of the month. Once again the pensioners in the Eastern Cape did not receive their money.

Her mother and some of her neighbours were considering going to the newspapers with their complaint. However she could not think about that now. She was really worried about whether she would be able to complete her revision of the math today. The learners just did not understand fractions at all. She had tried some of the activities that she had learned in the in-service course but most of them she could not do because she did not have all that fancy equipment and there was not time to make equipment or money to do so. It is time to get dressed, the children can make their own lunch, thank goodness. She dresses quickly and tells the children like she does every morning that they are not to forget to lock the door and make sure that the stove and iron are switched off. She puts on

her rain coat and takes the umbrella and walks to the street corner and waits for her colleague to pick her up. The rain is falling gently and she can see the car approaching. She gets into the car which is bursting with lots of laughter. What on earth is there to laugh about this time of the morning she thinks to herself? Greetings are passed around enthusiastically. One of the teachers laughingly says that she does not expect many learners to hand in their projects today. Thandeka asks if she does not need the marks as part of the continuous assessment. Yes the teacher replies she does but if most of them did not do it then she will have to keep them after school and let them complete it in class. Precious, who was driving the car, says that she believes that doing projects is impossible with their kind of learners. Firstly they can not afford to photocopy pictures and there is no library for the research to be done. Loud sighs are heard and for a moment there is silence in the car. The silence is invaded by Precious, the driver of the car as she hoots while entering the school grounds and says to her colleagues: "Well at least it is Friday"

Thandeka symbolises the identity of some of the teachers in my classroom and in the conversation.

5.3.7. Career pathing.

Teacher 1: *really if you are a math teacher you have to upgrade yourself each and every time you know. Don't just sit and say o.k. now I'm a math teacher and I have to sit here. Go out and find some more information each and every time. Go to the workshop.*

The conversation touched briefly on the careers of teachers and vocational commitment. In the comment below the teacher talks of advancing his career and sees himself as a subject advisor. He is quite confident in asking for my help to further his career.

Teacher 4: *You cannot stay a teacher for the rest of your life. Maybe I can talk to you Agatha. I want to be an advisor you know.*

Teacher 4: *We teachers are financially stressed. We need money.*

Teacher 1: *Ja, it's too late for me to go somewhere.*

Teacher 3 felt that the role of government was a contributing factor to wanting to leave the teaching profession. He describes the prescriptive nature of the government and the way policy was handed down to the teachers

Teacher3: *To be honest our president never been to our schools. He studied overseas. He don't know the situation in our schools and what they're doing is that there is something give it to them and they musts do it. How to implement it they don't care. So I don't see myself working more than 10 years. This is my ninth year and I am sure that next year is my final year as a teacher.*

The comment above is significant of the disillusionment in the government. Neville Alexander (2002: 68) takes the same position; "frustration of dashed hopes and the impatience that is gradually building up are already manifesting themselves in the ineluctable logic of class struggle."ⁱⁱⁱ

The conversation has helped me see that what we have emerging in the township is an intra-class struggle and that the gap between 'us' (the teachers) and "them" (the uneducated community) is disintegrating and causing real gaps.

In the quote below the teacher is very clear about what it is that would make him change his mind about leaving the teaching profession.

Teacher 3: *If the government of the day can change I think the education will be better, I will stay for life.*

5.3.8. The implementation of Curriculum 2005 (C2005)

It was only towards the end of the conversation that OBE became a focus. The teachers all told anecdotes and told about the complex demands of a reform and the equally complex contexts of teaching.

C2005 brought new assessment standards and methods of assessment. This resulted in much more paperwork than previously.

Teachers echoed their frustration around the amount of paperwork they had to do now.

Teacher 3: *You find that you spend more time on the paperwork than teaching the kids. They are stressful. They are off sick.*

Teacher 2: *They introduce the changes in a short period expecting the changes to be done in a long time.*

Teacher 2: *Introducing OBE was not a problem of a teacher understanding OBE but it was a problem of implementing OBE. They gave you the information of OBE in one week's time. We went for training one week. It wasn't even training. They take the Subject Advisors, this one will come in for LLC 30 minutes or 1 hours. Brr, brr, brr she goes over everything. When questioning I am not clear about this. We are going to come back for more information. She goes, another one comes in.*

Teacher 2: *We are implementing OBE according to our own knowledge.*

It was obvious from the above quotes that the teachers felt confident in handling the technical demands of reform that include knowledge and skills.

C2005 arose out of coalition process designed to ensure the integration of education and training through the National Qualifications Framework (NQF). As an assessment, qualifications, competency and skills-based framework, it encouraged the development of a curriculum model aligned to the NQF in theory and practice. This model C2005 drew on a variety of ideas current in the international arena and reshaped them to fit local conditions. Included amongst these was that of outcomes-based education.

The new curriculum was announced by the Minister of Education in 1995 and implementation was scheduled for all grades (1-12) by the year 2000. The implementation time table was revised to 2005 and so the new the curriculum became known as Curriculum 2005.

5.3.9. Feeling like a Math Teacher

Towards the end of the conversation I asked the teachers what it felt like to be a mathematics teacher and this was their answer:

Teacher 1: *I feel proud to be a math teacher.*

Teacher 3: *I feel great.*

Teacher 2: *Challenging*

Teacher 3: *I am intelligent than others.*

The above statement was met with lots of laughter from all of us.

Teacher 4: *I feel satisfied. The changes, the developments that are happening at least they satisfy you because I mean when you look back at the way it was approached, the way it was taught, these developments are changing. So I feel satisfied. You do have the confidence I mean to talk about things.*

5.3.9.A. Probing Accounts Feeling like a mathematics teacher

Keep the strength

I asked teachers for any last words they had to offer. One of the teachers sat back in his chair, pulled his back straight and said: "I am not lying. 2001. People I am tired. I want to retain my strength for 2002. I sat there looking at this teacher and to myself quietly thanked him for his honesty.

Disturbing words

While chatting about what it meant to be a math teacher one of the teachers said:

"It's quite a challenge, it's quite a challenge. " As the teacher said these words I felt as if they were echoing in my ears, ringing causing quite a disturbance.

Teaching-is-mothering

I asked the teachers what it meant to be a math teacher. A teacher replied "They should feel you, as if touching you is like touching their mother" As she said this she embraced herself and I could feel the tenderness of her words.

Shifting focus

The teachers were still answering the question I posed about what it means to be a mathematics teacher. I found myself engrossed in how one of the teachers used her hands while telling me that the children's perception of a math teacher is a person who is hard.

When entering this collection of accounts there is such an overwhelming mixture of emotions that surface. I get consumed into the diversity of the answers teachers provided to the question: What does it mean to be a maths teachers? I feel swamped by their answers that on the one hand it is a challenge, yet you have to be like a mother and more friendly. Each time I enter this moment I am so aware that within this challenge the maths teacher has to play multiple roles. It is the enormity of this task that I think makes me feel swamped and overwhelmed.

These accounts also show that I have not considered the skills, the tenacity, the guts it takes to teach in the township, face new curriculum designs and assessment methods.

As she said this, her fingers made a fist and she moved her hands as if she was beating on to a surface. I shifted my focus as she said that we needed to change this perception and be friendly and available.

5.4 What it means to be a math teacher.

These are but my own summaries of what it means to be a math teacher as identified by the teachers.

- Being a math teacher is about being tired and trying to save one's strength.
- To be a math teacher is challenging.
- To be a math teacher is to have courage.
- To be a math teacher is not only about teaching mathematics but also about giving the child access to his culture as well.
- To develop a sense of achievement as a mathematics teacher one needs to be motivated.

We have to accept that identities in South Africa today are subject to rapid change; we have to open windows on to one another, allow as much mutual influence to happen as possible; we have to get away from treating any identity as though it is like some irremovable skin without which we would be disfigured (Alexander 2002: 107).

Alexander says that we have to begin to see new identities emerging as inescapable masks which can be changed as we acquire new knowledge or interests.

I am just aware now that identity crisis in South Africa is not so much in terms of race but in terms of class.

What we have emerging is a contradiction. Policy changes want to bridge the gap between those who have and those who do not, between the classes according to race. But what we have emerging is a gap between ethnic groups widening according to class distinctions.

Carmody (2002) says that the deepening of (raced) inequality gives rise to other patterns of uneven development as neo-apartheid 'gated communities' proliferated. What we have emerging is the creation of a new indigenous entrepreneurial and managerial class and the absorption of indigenous people into paid employment by the state.

One of the most important aspects that have emerged from the conversation is that the teachers are moving between different identities that are continually in flux. So who is the black math teacher I now ask myself? The conversation has taught me that they are:

- Subordinate and inferior as Primary teachers to the high school teacher.
- Students at a university that elevates their status in their communities.
- They are now competitive in terms of economic and knowledge power with some parents of their learners.
- Respected and placed on a pedestal by parents they consider illiterate and not as economically able as they are.
- They are respected by learners because they are the mathematics teachers
- They are seen as more intelligent by other teachers in their school because they teach Grade 7 mathematics.

The Government of South Africa is beginning to rethink the role of the Mathematics teacher. I do not think that policy makers have considered that the implementers of their policy are experiencing an identity crisis. So teacher educators, parents, policy makers and government do not know who the black mathematics teacher is, during this time of curriculum changes.

Mncwabe (nd) warned that we must continually ask what the demands of a black teacher are in a transitional South African society. I would love to ask another question. What are the demands of a black Mathematics teacher in a Transitional South Africa and who is experiencing curriculum changes simultaneously?

Mncwabe (nd) asks the following question which I find particularly useful: What is demanded of the black teacher who confronts the disintegration of cultural norms, the arbitrariness of value claims, and the doubts restricting free will? (Mncwabe nd: 125).

Thinking through and trying to understand the conversation has made me so painfully aware that the teacher's words have given me the opportunity to walk a path I have not walked before.

I am also very aware of what is absent in the conversations. I believe that there is a lot that has been left unsaid. The absences mean that I will never know.

University of Cape Town

5.4.1.A. Probing Accounts

My assumptions/surprise

Words-change-perceptions

I asked one of the teachers if he bought a game for the children with his own money. His eyes met mine and he gave me a long quiet look and then said "yes". I was aware that I was looking at him differently.

Unexpected reply

Teacher __ was telling us that at this school, children perceive the math teacher as more brilliant than the other teacher. I found myself being surprised when the teacher said that he is respected by the parents at his school and parents want their children to be taught by him.

I asked the teachers if they thought there was a difference in perception between the grade 6 and 7 teacher as compared to the grade 4 and 3 teacher. My question was met by laughter by all the teachers. I did not expect this.

Words-bring-distance

One of the teachers related a teaching moment in her classroom and she began her story by saying "I had a fraction. I was teaching a fraction". I caught myself smiling to myself and feeling amused at her words and language and grammar structure. At that moment I felt the distance, yet I understood what she was saying.

Through the conversation I realise that I need to confront my perception and assumption of the black male teacher. I was very surprised when one of the male teachers said that he bought a game for his learners with his own money. My perception of the black male teachers has been formed by colleagues that I have worked with and by the many schools that I have worked in. If I hear the words 'black male teacher' I must admit that the image that comes to mind is the disciplinarian and the teacher who does less work.

Certain-teachers-teach-maths

The conversation continued around the perceptions of math teachers in schools. One teacher said that at the beginning of each year while the learning areas were allocated the teachers grabbed every learning area except math. This was her subject they said. As she was relating the story I kept wondering why math was her subject specifically, why it belonged to her.

University of Cape Town

5.6 Conclusion

The birth of the Observer.

My space has shifted.

It has changed.

I have changed.

I have begun the process of unfurling my space, seeking clarity, repairing and restoring balance.

I continue to state that my space and I are one. Therefore I do not develop and change in isolation but through co-emergence which means, that which is created or co-evolved in the inter-actional space between an individual, the environment and others.

My action throughout this research is determined by my dynamic structure and by the conversation with the teachers.

I am Me.

The ME has changed because of my interactions with the teachers and with me. I don't where I am, there is no location.

I understand the conversation as 'structural-coupling'^{iv}. I needed to change and so continue to survive.

Through the conversation or interaction with the teachers, a trigger of change has permeated my space. I am beginning to make distinctions^v in this chapter and also show my existence in the paradox of sureness and unsureness.

I read through the accounts again and again. I ask myself how the accounts affected me.

Shock shivers through my body. I have been so naïve. I believed that I knew something about the context and conditions under which teachers taught. I thought that I knew what teachers were concerned with. I thought that I knew the mathematics teacher and their world quite well. Therefore I thought I knew the student on the course pretty well. I am overwhelmed by little I know. I have to confront the fact that I do not know most of the concerns the teachers now have, I do not know what it means to be a mathematics teacher in the year 2001.

The conversation has dented my ego severely; I need to urgently face up to my arrogance. Here I taught a course not knowing the frameworks that shape the actions of the teachers. Embarrassment makes me aware that I taught the course as if I knew what teachers needed.

Confronting my assumptions leaves me vulnerable and exposed and I ask you the reader to remember this.

Double vision almost blinds me. The cause is the living in the paradox of sureness and unsureness. This double vision involves ME the reflective practitioner acting in the situation as both teacher and student. I am the 'teacher' in a situation when I jump into it and impose my will upon it; I am the 'student' of the situation when I listen and learn from the situation. I choose to respond positively to the paradox. I accept the duality of my situation because it means that I need to let go of control and re-evaluate notions of power. By constructing identities of the teachers and not holding it up for critique gave me power and control and I knowledge which I believed came from experience.

My knowledge has become embodied and embedded as the new learning is enacted. The process of change has not been linear and has occurred through unexpected insights through my immersion in the data, reflecting on past experiences and the acknowledgement of assumptions and my own personal and social stories.

As a teacher I have been very aware of fluid nature of my identity as a teacher. In creating myself as a teacher there have been lots of different ME that emerged. I have always recognized that my notion of self is complex and multidimensional. However it seems that I have forgotten this when teaching on the course. I realize that the teachers on the course have used this fluid identity of themselves to explain, to justify and make sense of themselves in relation to other people and to the contexts in which they live. It is only through the conversation that I have learnt this? I thank them for their gift.

The Second tale continues.....

ⁱ Alexander (2002) says that identities are socially constructed; we are not born with an identity even though we may be predisposed by the circumstances of birth to assume a specific identity.

We never have only one identity. All of us have multiple identities; that is, we identify in different degrees with many different groups. This is best illustrated in the form of an example. In their communities, the teachers might feel right at home with the language spoken – Xhosa. However there is a hierarchy of identity now in the townships. The power now lies in the middle class or ‘bubbies’. So the markers of identity would be education, the way your home is furnished, the clothes you wear, the schools that you send your child to and how well you speak English. Alexander says that often the markers of identity are seized upon by ethnic entrepreneurs in order to use the energy and the power of the mobilised people for the purpose of gaining political and/or economic advantage.

Economic developments had begun downgrading the social status of teachers. Mncwabe (nd) says that since 1976 teachers were part of a numerous and growing class of relatively well paid civil servants who themselves were on par socially with other groups of middle class people thrown up by the modernising economy.

Teachers were no longer the only ones who had a relatively ‘high’ education and who could live in decent, well-appointed houses and drive in shining cars. They were also no longer the only ones who had some understanding of how the system worked. Alexander (2002) says that the post apartheid state is a capitalist state. That is to say, it is reflective of a social formation in which the determining influence on all the major social issues, specifically economic policy and the distribution of resources among the citizens and, consequently, the life chances of individuals, emanates from that category of people who are the means of production.

ⁱⁱ Davidoff and Lazarus (1997) say that the way the community relates to each other is crucial if the school is really to meet the needs of the community and if the community is to support the school in accomplishing this.

ⁱⁱⁱ Alexander (2002) goes on further to say that

South Africa is going the way of all industrialising societies; overt class struggles are beginning to shape the political terrain which had previously been dominated by the apparent primacy of the struggle of the black people against the ill-gotten power and wealth of the white minority with their ideology and practices of white supremacy (pg. 68).

I believe that South Africa is moving away from a race centered politics to one that now focuses on the centrality of class politics

^{iv} Maturana (1978) defines structural coupling as the interaction among systems. Whitaker (2001) says that structural coupling is the term for structure-determined engagement of a given unity with its environment or another given unity. Maturana (1978) states that the perturbations occur or each other and so in a way establishes interlocked, mutually selecting, mutually triggering domain of state trajectories. I certainly hope that during the conversation perturbations occurred for the teachers too.

^v Von Glaserveld (1997) describes the process of becoming aware of distinctions as observing. To observe oneself as the maker of distinctions, therefore, is no more and no less than to become conscious of oneself. What is observed is not things, properties, or relations of a world that exists as such but rather the results of distinctions made by the observer himself or herself.

My Sacred Story
The sixth tale: Knowing-
is-being-is-doing
....and the Second Tale

My Sacred Story

The Sixth Tale

Knowing-is-being-is-doing



6.1 Where am I going?

The sixth tale begins in silence.

Then.....

Blank page

__ Empty thoughts

A dull ache

__ Terrified

Where do I begin?

__ Words plug

__ knot my throat

__ Taut

__ Frustrated

__ Tense

__ Under pressure

__ Strained

Where do I begin?

Let me not go safely

Resist the pull of order

__ Of systematic whole

__ Walking someone else's path

__ Just give me a map

No

Let me return to the silence

And listen to what brought me here.

Silenceⁱ allows me the opportunity to return to the four tales and to reflect on the Sacred Story that has unfolded within the tales. In the silence I have paid close attention to the text. While doing this I was riddled with insecurity that I would be misunderstood and my intentions in creating the Sacred Story will be lost. Davis, Luce-Kapler & Sumara (2002) say that spending time in careful attention casts a light with another and spills the sideshadow across the page and in that moment the singular line of the narrative is broken into threads of possibilityⁱⁱ. Sideshadowing allowed me to understand a situation in time and to make sense of it. Davis, Luce-

Kapler & Sumara (2002) says that sideshadowing allows one to stay with the text for a while and to consider the possibilities that unfold from what I have said to what I have not. The implication for me is that the Sacred Story allows me to return to it again and again.

In the silence of reading the text I have used a methodology of listening to the text to hear what it says to me. The same methodology was used in the third tale to enable the collection and the recording of the quotes the teachers said. I remain mindful of the fact that as an observer I do not listen in a vacuum and that I apply criteria of acceptability to whatever I hear, accepting or rejecting according whether or not it satisfies the criteria in my listening. I am sure that this is taking place to the person reading this tale.

6.2 A return to the purpose of the Sacred Story

The purpose of this sixth tale is not to have the final word but rather to hear what is said in the sacred story. Continuously throughout the Sacred Story I have said what my story is about and what its purpose is:

- “This story tells the tale of ME”
- “It tells the tale of Agatha and the roads traveled as a Mathematics-inservice field worker and the experiences gathered”
- “It tells of my discomfort, my turmoil, confusion and the complexity in trying to make sense of my teaching and more specifically the programme that I teach on.”
- “This Sacred Story acknowledges the different biographical and situational contexts that have contributed to shaping me as a mathematics-inservice fieldworker.”
- “This Sacred Story consists of my tales and these tales tell who I am and the experience that I have undergone as a teacher researcher”
- “Therefore this Sacred Story is a space of possibility.

-

- I come to this tale as an observer. Maturana defined observing as both the ultimate starting point and the most fundamental question in any attempt to understand reality and reason as phenomena of the human domain. The journey of this thesis is precisely to understand an aspect of my living, of my teacher education life.

I am satisfied that I have maintained the aims and purposes of the Sacred Story. My Sacred Story has remained a non-coercive space where as a teacher-educator, field worker, teacher researcher, I have been able to play, dance and create and experience. I believe this space is alive that breathes.

I am most satisfied that the 'ME' has remained true to the research and that the tales ME has been working hard to be comfortable with, live in a space of possibility. By describing the Sacred Story as a space of possibility I am locating the tales in enactivism.ⁱⁱⁱ

6.3 Structure and form

My Sacred story like fractal geometry presents alternative forms of images that are multilayered, and recursively generated objects whose bumpiness of detail remains constant, whether shrunk or enlarged. Fractal forms are much like the tales, press one and a web of similar forms emerge. Press on another aspect of that web and the same thing will happen again and again. (Davis, Luce-Kapler & Sumara 2002).

I need to acknowledge that in writing this tale a perturbation has occurred. The behaviour and style of "A guide to the perplexed" perturbed Tale 1 which caused a trigger and this movement has continued in all the tales causing an internal change in my location and presence within the tales. The tales interact with each other and this is demonstrated by the structure of the tales and linguistic style that I have used^{iv}. It is also evident in allowing the second tale to live in all the other tales.

I had not realised before that my Sacred Story would become a description of a reality that I have lived.

In all of the tales told I have employed experience to validate explanations about my experience. According to Maturana as an observer I have validated the explanation^v (my sacred story) by what I do (by writing this theses).

I regard the Sacred Story as a reality that is not out there but is an explanation that is happening in the present. By stating this I am literally creating the world by living in it. In the sacred story there is evidence of how I have explained my world out of a domain of explanations. This is evident in my use of the 'I' in the sacred story. The 'I' voices itself as the teacher educator, the teacher researcher and the poet.^{vi}

As I return to reading the text I am struck by the form that the Sacred Story has taken. Rereading of the text has remained an important form of method in the Sacred Story and I have used this method to take the time to experience where the tales were going.^{vii} I have treated each tale as a playful space in which the text and I are almost one. In *A guide for the perplexed* the writing style is described and the Sacred Story is referred to as a space of possibility. The guide serves to help the reader navigate through the tales. The guide is followed by the first tale, which is told in two voices and draws on aspects of the Xhosa Ntsomi. The aims of the research are also stated in the first tale.

The third and fourth tale tell of the data collection methods employed in the research study and attention is given to the representation of the data. The inclusion of poetry is an important feature of this tale because they describe the research methodology and my role as the inquirer in the research.

In the fifth tale the analysis is presented. Once again poetry is used to reinforce the analysis, however this time I have used the poems of others. This tale is the most challenging to read, as it could appear rather messy because I have chosen to interweave the two different forms of analysis.

— Yeah but genre am I using?

— Meandering between the discipline of Noticing

— The poetic

— Enactivism, self reflective

— Description, narrative

— **Self-study and the autobiographical**

The form and style of the Sacred Story is a demonstration that I am comfortable in a non-linear narrative. By using multiple voices especially in the first and fifth tale means that I have attempted to embody complexity and live in a space that might appear messy to the reader.

— **Irregular**

— **Inconsistent**

— **Ungraceful**

— **Faltering**

— **Rough.**

Is it possible to escape the straight, predictable, normal, standard form of a dissertation?

Hmm, I don't know. However the Sacred story, pulses, it beats, and it is troubling.

Fractal geometry is geometry of branching possibilities, of strange evolutions, of unexpected turns and so is the Sacred Story. So like fractal geometry, in which the 'final' object is never really the final object, this sacred story is merely the place in which I the observor steps into the endlessly elaborative process (Davis, Luce-Kapler & Sumara 2002).

Despite the complexity and the messiness in form I have attempted to unearth a path that hopefully shows the mesh of experience and challenge the standard form of presenting a dissertation.

— **Does the Sacred story appear incomplete?**

— **Unpolished?**

— **Wild?**

After many drafts, tears and blank pages, the best way to story experience and to interpret this space of inquiry has been through the use of poetry, past writing, writing images and representation of the data.^{viii}

6.4 The research, the researcher and the data

One of the crucial aspects of the Sacred Story is the relationship between me as a researcher and the data. Within this relationship I have myself as a researcher learning within a context which I partially created. During the conversation (data collection process) I was aware that as I was interacting with the teachers change was occurring within us. So during the conversation we established a relationship, a structural coupling^{ix}.

Theory (second tale) and data have co-emerged in the medium of me the researcher. I regard theory as absolutely necessary to account for the data results but in a dialogue between the theory and the data, each one affecting the other.

In order to achieve multiple perspectives (Reid 1986) I visited the data multiple times and this has allowed me to bring to the situation new theories and interpretations.^x

There will always be more tales because as an observer I exist in language^{xi}. Yet Maturana (1978) says that all that remains is the observer. However he says the observer is not alone because “his existence necessarily entails at least another being as a necessary condition for the establishment of the consensual domain in which he exists as an observer” (Maturana 1978: 60). As an observer my Sacred Story is unique, it makes me stand alone because of my own experiences.

As the observer/researcher I remained open^{xii} to the research process by fusing with the research process and the theories used.

6.5 Opening spaces of possibility

It is my intention that in my work as a teacher educator I will continue to distinguish my reality and in Maturana’s (in Murray 1993:3) words, ‘explanations create a community and generate, or bring forth, the world’^{xiii}.

'Bringing forth' my world I believe comes with responsibilities. It means that I have to recognise the validity of other domains of explanations. Most importantly it requires me to understand student realities. This sacred story marks the beginning of me trying to understand the realities of the students that I teach on the Advanced Certificate of Education (ACE).

'Bringing forth' my world means that I should be aware that as a teacher educator I operate out of a particular domain. Once again this sacred story demonstrates the various domains that I operate out of. Some of the domains are strongly visible in the second tale and in the linguistic style I have told the story in. If the awareness is there of the domains from which I operate, then I believe that I will be far more mindful of the decisions and the consequences of the decisions that I take.

I opened the space by consciously setting up a situation where teachers came and started a conversation with me. As we spoke, I became aware of their worlds and how I was gaining a chance to listen in a way that was not familiar. Listening to the voices of the teachers opened up and made visible my prejudice. I also found myself twisted between the power that teaching and designing a course at UCT gives me and yet at the same time powerless to work in a way that reflects my beliefs. Listening to the teachers' voices and working in this dissertation has given me the opportunity to ask the following question: Do I have a choice about my structural coupling or the direction of my life? This question, this knowledge arose in conversation and reflection. "Knowing is in the doing," Maturana (1988) and to know meant to resign from the Schools Development Unit and open my own company, Mathematics Education Primary Programme (MEPP). At the beginning of this dissertation I could not imagine the path this experience would take. MEPP now provides me with the space to work with teachers in a way that considers their realities, the complexities of teaching, working in the townships and the multiple identities they assume and live.

Implications for my further research

I have learnt from this inquiry that I can relate to Heidegger's hermeneutic phenomenology. It provides an approach for researching how we live within worlds of interpreted meaning. Hermeneutic phenomenology involves both the careful writing and interpretation of texts that allow the researcher and the reader to interact with the essence of the phenomena being studied.

For van Manen (2001):

... to do research is always to question the way we experience the world, to want to know the world in which we live as human beings. And since to know the world is profoundly to be in the world in a certain way, the act of researching – questioning – theorising is the intentional act of attaching oneself to the world, to become more fully a part of it, or better, to become the world.

(van Manen 2001: 5).

I want to continue learning more about the practices of a hermeneutic researcher as in the tradition of both Husserl and Heidegger which reveals the essential qualities of experiences that will “put us subjectivity in touch with the knowledge of what it is to be-in-the-world instead of separating and alienating us from it by objectification” (Brown, 1992: 48).

I have been influenced by the work of Wattachow (nd) who states that that ultimately, as researchers we attempt to be as truthful as possible when we commit a conversation to text. We intentionally should aim to serve better educational practice, and better thinking about educational practice. The work of each text occurs as it is carefully written, listened too, read, and as it shifts the empathetic reader *inside* the territory of his or her own lived experience.

He says that the text calls upon subtle undertones of language, to the way language speaks when it allows the things themselves to speak.

I believe that research that enters into being-in-conversation-with-the-world is likely to have the following qualities:

- It reinvigorates a focus on the nature of human experience.
- It rethinks how we might inquire into human experience and how we might best represent it.

- It recognises that researchers can write a text that is deeply reflective of experience, but that this re-telling can never be complete. It must remain an ongoing humble gesture.
- The research text can lead to worthwhile insights that will make us more careful, thoughtful and knowing in our practice as educators (and as researchers) – but equally it may lead us to silence and surprise as we discover that which cannot be spoken, anticipated or controlled.
- The methodology becomes a path to being-in-conversation-with-world.

6.6 Implications for Teacher Educators

South African Mathematics Education is continuing undergoing changes. The introduction of a new Learning Area called Mathematics Literacy at The Further Education and Training (FET - Grades 10-12) level has brought about the need to continue doing the Advanced Certificate in Education (ACE) (Math Literacy) to train more teachers. Teacher educators should not continue simply just 'producing masses of trained math literacy teachers' without taking the time to inquire into their own practice.

I believe that there is a space for teacher educators especially after 10 years of democracy and intense curriculum changes to make the process of inquiry systematic and public. We need to uncover our own beliefs, assumptions and our biases. We need to make explicit our own theorizing and that of the theories we draw on in our everyday practice and in formal research. I would like to see us examining how these theories have influenced the nature and structure of the ACEs that we deliver.

Maturana's (1987) theory of structural coupling can provide the biological basis for the ethics of teaching. Murray (1992) uses the understanding of structural coupling to say that we have an obligation to create a morally responsible classroom that will become part of those who in it if we create our world moment by moment by living in it. This means that what we do, say and contribute to in teacher education contributes to the creation of the next stage of this world (and to the actual being of the people in it).

Conclusion

I would like to see in-service courses and other professional development activities for teachers that do not place such heavy emphasis on being pre-packaged, pre-determined and linear.

I want to have more conversations with teachers and other adults that try to be authentic. Hegel (1977: 112) uses the phrase “recognise themselves as mutually recognizing one another.” This mutual recognition is manifest in the inter-subjective substratum the authentic dialogue discloses:

Coming to an understanding in conversation presupposes that the partners are ready for it and that they try to allow for the validity of what is alien and contrary to them. If this happens on a reciprocal basis and each of the partners, while holding to his own ground simultaneously weights the counter-arguments, they can ultimately achieve a common language and a common judgment in an imperceptible and non arbitrary transfer of viewpoints.

(Hegel 1977:388).

Are we who are in the business of teacher development ready for curriculum and teacher support that co-determined by the interaction of its community, its members? (Campbell & Dawson 1995; Davis 1994 & 1996; Dawson 1999, Kieren 1995; Varela 1987).

Well, I am. This teacher who teaches teachers is off to erase the linear line and work with teachers in a way that embodies a curriculum and invites experience. (Grumet 1988).

I'm FREE.

The Quest

I thought I knew

That I knew for certain

The whole

The truth

I looked

I searched

for this whole

This time with openness

I see my habits

My prejudices

I get to know my way around

Around the them

Around the world

Around me

My pre-suppositions like the

Horizons

Situated

Open

Ready to be erased

Challenges play on the horizon

But I am awake

Kept awake.

So what do I seek?

Embodied respect

awareness

Agatha

September 2004

University of Cape Town

The Second Tale continues.....and ends here.

ⁱ According to Fidyk the inner discipline of meditative stopping assists in making the dimensional shift from the time in which we typically live (past and future oriented) to a state of now-ness (present moment awareness) where one's mentations are not governed (but in-formed) by past or future events, where if time is conceived as flow or movement then "place is pause" (Tuan, 1977: 198).

Smith (1999) offers the following statement that reflects the intention of using silence as a methodology:

the stillness of one who is awake does not arise out of passivity, quietism, or simple resignation but rather from deep attunement to the coherence and integrity of everything that is already and everywhere at work in the world as it is.

(Smith 1999: 20)

ⁱⁱ Davis, Luce-Kapler & Sumara (2002) draws on Morson (1994) to explain what sideshadowing is:

sideshadowing admits, in addition to actualities and impossibilities, a middle realm of real possibilities that could have happened even if they did not By focussing on the middle realm of possibilities, by exploring its relation to actual events, and by attending to the fact that things could have been different, sideshadowing deepens our sense of the openness of time. It has profound implications for our understanding of history and of our won lives while affecting the ways in which we judge our present situation. It also encourages skepticism about our ability to know the future and the wisdom of projecting straight lines from current trends or values.

(Davis, Luce-Kapler & Sumara 2002: 6).

ⁱⁱⁱ Haskell, Linds, & Ippolito, (2002) say that enactive research/re-searchers are not pre-given but enacting.

^{iv} Maturana (1978) in *Biology of Language: The Epistemology of Reality*, says that if the communication system is designed by the observer, this homomorphism is obtained by construction; if a preexisting system is described as a communication system by the observer he or she assumes this homomorphism in his or her description. In fact, every interaction can be trivially described as a communication. (Maturana 1978:54).

^v To demonstrate the power of explanations Maturana (1993:2) says:

'We live in a changing present, the past is conceived through the coherences of the present. We can't live the experience but we can change the explanation. Change the explanation and your life changes.'

-
- ^{vi} Haskell (2002: 3) like me believes that enactive inquiry is like writing poetry. paying attention to the words arising on the page – images emerging through the text and the reading of that text.” A poet finds a space where they embody world/foster interpretation. This pedagogical act opens potential for learning, for experiencing, and for re-researching. An embodied inquiry allows the re-experiencing or the re-embodiment of me as a researcher, the poet, and the (co)inquirer.
- ^{vii} The author’s (respondent’s) reading of her own story is not the lynchpin of hermeneutic work (as it may be for some forms of “teacher narrative” now gaining ascendancy in educational inquiry). Rather, “we are moving in a dimension of meaning that is intelligible in itself and as such offers no reason for going back to the subjectivity of the author” (Gadamer 1989, 292 in Jardine 1998:45)
- ^{viii} As the sacred story started taking shape, the writing style was intuitive but eventually through exploring enactivism as a form of inquiry I began to draw heavily on Haskell who in turn draws on Abram who describes the storying of experience:
“Stories, like rhymed poems or songs, readily incorporate themselves into our felt experience; the shifts of action echo and resonate our own encounters – in hearing or telling the story we vicariously live it, and the travails of its characters embed themselves into our own flesh” (Abram 1996: 120).
- ^{ix} Reid (1996) says that by interacting with people we modify the milieu for each of its inhabitants and the autopoietic entities in the milieu adapt in ways determined by their structures but triggered by our presence. At the same time that we engage in the research process, we adopt in response to the triggers offered by the milieu. He explains that the changes which can be triggered in us, that is what we can learn about the research context are determined by our theories, beliefs and biases. What we learn is determined by what we know.
- ^x Reid (1996) says that multiple revisitations of data which brings a researcher to a situation with new theories and aims which represent the current structure of an ever changing being. (Reid 1996: 7).
- ^{xi} We human beings exist in language.
As such we exist in a world that consists in the flow of our recursive consensual coordinations of actions with other human beings in the praxis of living. The lives that we as human beings live, therefore, are necessarily always our responsibility because it arises in our languaging: the world that we live is always constituted in our human actions. In these circumstances, responsibility only means that we can be aware that our human life takes place in languaging, and that because awareness takes place in language, we can be aware that our awareness about what we do as human beings has consequences in what we

do as human beings. Life happens to us, we find ourselves in it, yet it is not the same for our lives to be aware or not to be aware of what we do, to language or not to language what we language, or to think or not to think what we think as human beings. Now we are aware of this. (Maturana 1998: 79).

^{xii} My brother keeps on asking me what my sacred story is about and I continuously stumble in my explanation. I so wish that the next time he says: "So what'z up with you and the Story?" I will read him the following explanation by Janesick 1998

"the role of the qualitative researcher, much like the artist/dancer's role, demands total involvement and commitment in a way that requires a total immersion of the senses in the experiences ... The researcher is connected to the participants in a most profound way, and that is how trust is established, which in turn allows for greater access to sources and which ensures an involvement on the part of participants that enables them to tell their respective stories.... All researchers use a sixth sense, an intuitive sense [embodied awareness], to follow through on hunches that emerge from observing and interviewing in a particular social context. Researchers ought to have the opportunity in their training and in practice to sharpen their intuitive skills, which often opens up avenues of data previously unknown or hidden" (Janesick 1998:61-62).

^{xiii} Murray (1993) draws on Kenny and Gardner to understand the 'bringing forth' paradigm. According to them 'bringing forth' is quite unlike transcendentalism, which seeks a direct perception of reality which presumably exists 'out there' to be experienced, and in which the principles of reality are to be found by studying the processes of thought.

Sacred Story
A closing Ntsomi

University of Cape Town

Sacred Story: A Closing Ntsomi

A Ntsomi goes like this.....

Shhhh, you, Gabeba (Babs), Mthunzi, Heather and Anne Marie, shhhh, be still!
I can hear the voices. They still speak to me. They still come to me. I hear them.

You think I have lost my mind?

I have listened to the voices of the teachers and I have listened to the voice of my soul.

Friends, since I last spoke to you, I have journeyed long and hard.

My strides were long and hard,
yet I walked determinedly,
deep deep, deep, into the world to save myself.

Where was I going to?

Don't know.

The path was not laid out.

Anxiety, confusion and often frustration.

I was often weary, I felt so old.

Step by Step, inhale, then exhale, then silence.

That's how I did it.

It really disturbed me that I was not being true to myself by practicing my belief through my teaching.

The last time we met I had so spent so much time sharing with you my experience and distraught feelings with the course. I could not leave the situation as is. I am slow to react and I know that irritates you. Hey Ann-Marie?

Yeah, I know it's true.

Ooh do I have a surprise for you. I am aware that you think you know the end to this story, Mthunzi, but you don't. I love it. I just absolutely love it.

Anyway where was I?

Oh yes I was about to tell you how I changed the situation.

Well it was very simple.

I sat down with the teachers in my house and we chatted about what it meant to be a maths teacher.

You know I sat there in this conversation and the entire time I kept on saying to myself, Agatha, listen to their voices, listen to what they are saying. I wanted to be aware of who these people were

sitting around my table. I wanted to learn something about them that I did not get the opportunity to do on the course.

And so I listened.

And as I listened, their words seeped into me.

I could feel their voices affecting me, changing me, making me new.

It was then that I realised that my discontent lies with ME. This is all about me. It was time for changes.

Big changes Heather, big changes.

Firstly I changed the course. I am not satisfied but the students who are repeating the course were much more positive about it this time. I was often told by the students that the course forced them to think and debate about curriculum reform in a way they had not done before. I often got the sense that despite the fatigue, the teachers were ready to engage with the challenge that the course presented and also enjoyed the course.

I tried really hard to encourage teachers to share their stories and to create a space where teachers could reflect but also act in awareness.

I then turned to myself.

I looked at myself in the mirror and asked my reflection in the mirror: 'What are you going to do with the new Agatha?' The reflection looked me straight in the eye and without expression quietly answered: 'you have to resign.'

That's right Gabeba, my reflection said: You have to resign from the Schools Development Unit.'

You're looking pretty shocked, Ann-Marie.

I did not have to think about it very long, about five seconds I think.

Yeah Heather, five seconds. Only five seconds

I have never made a decision this quick ever. Not ever in my entire life.

And you know what Babs, once I had made the decision I experienced the weirdest sensation ever.

I have had asthma my whole life and so I am used to experiencing a tight chest.

Without the aid of medication, my chest opened the minute I made that decision.

I felt light, I could breathe.

I did not need my Berotec inhaler.

Inhale, exhale, Inhale, Exhale.

I paid attention to my mind-body, to find out how things are just how things are.

It was in this moment that I knew I had made the right decision.

I sat down and wrote the resignation letter. The letter that was an attempt to reclaim my life, to find the passion that I had lost and to return the soul into my teaching. Photographic images of a decade of teacher training and inservice work appeared like a strip of negatives in front of me.

Image, Image, Image, Image, my Life, my Life.

I was free. Free.

That resignation letter freed me to work with teachers like in the old days.

I have come full circle.

Hey have you all really realised this. I mean **really realised** this. I am now back where I started.

I have returned to the point where I can work with teachers in a way that I **know** works.

This is my moment.

I find this absolutely amazing.

Phew, what can I say?

Just give me a moment to be quiet.

I stand at the point of return and I stand here a changed Agatha.

The circle of learning that I have walked has taken 10 years.

It has taken me a decade to return to freedom.

Phew!!

You know the most important aspect of this circular walk is the awareness of what I have learned.

What I have learnt as a person, as a teacher educator, as a fieldworker.

What would be the point of this long walk to freedom if I had not paid attention to the lessons that should be learned

Yeah Heather stop looking at me as if I should get to the point.

You want to know what I have learnt.

For me it's very simple. I think you'll find it too simple, Mthunzi.

There are three lessons that I have learned. Number one is to always listen to the voices of teachers' né. Then number two is to be open to possibilities. And number three is that I should always act in awareness. That's the core of what this learning has been about.

You know what I find bizarre?

I actually accept that I think differently about working with teachers than most of my colleagues and

that my effort to reframe teaching does not fit into the 'normal' form of inquiry.

You know what it's o.k. It is actually o.k. Teaching can sometimes be such a messy affair and I have learnt to work with and in the mess. I have learnt to embrace the chaos. So in that deurmekaarheid, I love what I do. Loving means paying attention to detail. That's what I will always do in working with teachers and this is what has brought me full circle, the paying of attention.

The journey has saved my life, the only life I have,
that's all one can do.

And so friends Phela phela ngantsomi (this my story ends)
and fluit, fluit, my storie is uit.

University of Cape Town

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