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**University of Johannesburg**

**Faculty of Education**

**Mentoring Practices in a Teaching School**

By

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January 2019

## RESEARCHER'S DECLARATION

I, **Hayley Van der Haar** hereby declare that this dissertation, Mentoring Practices in a Teaching School is my own work and has not previously been submitted in any form for a diploma or degree before in any tertiary institution. I further declare that where the work of others has been used, sources have been identified and acknowledged by means of complete references.

Signature: \_\_\_\_\_

Date: \_\_\_\_\_



## DEDICATION

I dedicate this dissertation to my mentor, Ellen Van der Haar.



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I would like to thank the following for their valuable contribution to the success of this study:

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## **ABSTRACT**

The focus of this study was to contribute to the growing body of knowledge being developed on the mentoring practices at a university-affiliated teaching school in Johannesburg through an in-depth investigation into the mentoring practices of one mentor teacher. The study was guided by a main research question that centered on how the concerned teacher conceives of her mentoring encounters (including practices and processes) with student teachers in a teaching school. I focused on her own conceptualisation of her role, the nature of the mentoring relationship/s between her and the student teachers and the factors which influence her practices.

Using a qualitative case study design, I gathered data including methods such as video recordings of mentoring encounters, document analysis and an interview.

The key findings of this study was that mentoring to student teachers in a teaching school is multidimensional and evolving, with the mentor teacher fulfilling both a generalised and subject specific role. Additionally I found that the mentoring relationship with student teachers is characterised by dialogue, encouragement, mutual cooperation and developing trust which are the basis on which a community of practice is being built. The study also revealed that in the transition from knowledgeable teacher to teacher educator, the mentor teacher continues to encounter challenges in helping student teachers to integrate university coursework with classroom practice.

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## LIST OF ABBREVIATIONS AND ACRONYMS

<b>TS</b>	Teaching school
<b>TH</b>	Teaching Hospital
<b>UJ</b>	University of Johannesburg
<b>GDE</b>	Gauteng Department of Education
<b>MoA</b>	Memorandum of Agreement
<b>DHeT</b>	Department of Higher Education and Training
<b>FoE</b>	Faculty of Education
<b>FP</b>	Foundation Phase
<b>DBE</b>	Department of Basic Education
<b>MKT</b>	Mathematical Knowledge for Teaching
<b>PCK</b>	Pedagogical Content Knowledge
<b>PPS</b>	Professional Practice Schools
<b>CAPS</b>	Curriculum and Assessment Policy Statements

# CHAPTER 1: Background and Overview

## 1.1 Introduction

The current literature on mentoring is vast and includes as many definitions and explanations as it does criticism. These criticisms take account of amongst others, the interaction which exists in the mentoring relationships, building of trust amongst members, the experience and preparedness of mentors to enact their roles effectively. Additional challenges are found in the ability of mentors to assist student teachers in their practice of teaching whilst at the same time bringing the student teachers closer towards crossing the theory practice divide (Zachary, 2000; Parsloe, 2010; Shea, 1994). Within the context of pre-service teacher education, the mentoring role of school teachers is well documented as is the body of knowledge of teachers who serve as mentors in university-affiliated schools. Some prominent examples of how mentor teachers operate in such schools include the University of Minnesota, Bank Street College of Education and the University of Helsinki.

The aim of this study is to investigate what characterises the mentoring practices and procedures of a teacher for student teachers at a relatively new school set up for such a purpose in South Africa, where the school is known as a “teaching school”. Working within an interpretive research paradigm, this study was designed as a qualitative case study to investigate the mentoring practices of one teacher at such a school. In particular I look into the factors that influence the mentor’s practices and processes and how she categorises her mentoring role/s with student teachers.

## 1.2 Background of the study

When the integrated strategic planning framework for teacher education and development in SA was promulgated in 2011 it provided for schools attached to universities. This legislation saw the coining of the term ‘teaching school’ (TS) to describe such schools, which would function as a means of enabling practice-orientated teacher education (Gravett, 2012:8). The University X’s Teaching School was established in 2010 in partnership with the Faculty of Education at University X

and the Gauteng Department of Education (GDE) through a Memorandum of Agreement (MoA), and was the first of its kind in South Africa. In light of the uniqueness of this model of teacher education and the establishment of the school, the Department of Higher Education and Training (DHeT) commissioned University X's Faculty of Education (FoE) to investigate and conduct research on the formation of TSs in South Africa. Several goals/objectives guided this partnership, and were highlighted in the resulting report titled *Establishing Teaching Schools in South Africa* (2015). The aims and goals of the TS included (Gravett, Petersen & Petker, 2014: pg. 108):

- i. Serving the education needs of young children close to the University X's Area A campus;
- ii. developing a practice learning site for the education of teachers of young children;
- iii. enabling longitudinal child development studies and research on children's performance in the school curriculum;
- iv. and serving as a resource centre/development hub for schools close to the Area A campus.
- v. Researching the development of a teacher education model incorporating the school as a practice learning site
- vi. The design of the Foundation Phase (FP) teacher education programme that coincided with the establishment of the TS

As a 'teaching laboratory' the TS promotes opportunities for student-teachers to learn *in* and *from* practice, observe best practice, engage actively in micro teaching and enroll in subject methodology courses. (DBE & DHET, 2011). The school operates as a blend of the Dewey Laboratory School and the 'practice/teacher training' school idea derived from the Finnish model (Neimi, 2011, 2013; Sahlberg, 2011a; Sahlberg, 2011b; Lavonen, et al, 2010; Neimi & Lavonen, 2012). The TS was envisioned as a model practice site for student teachers where they could observe classroom life in action and where there would be a close connection with their university coursework. The university coursework foregrounded longitudinal child study so that students could focus on how young children grow, learn and develop over time. Students could also observe what children struggle with and how they learn the school curriculum. In turn, students' practical experience was set up so as to facilitate their learning of this central

organising framework with student's school observation and coursework focus being closely linked to this aim. Other courses also incorporated elements of child study and development.

In addition students would also offer their services as classroom assistants under the supervision of supervising teachers and teach selected lessons from their second year onward. This way of working by combining both the university coursework with the practice and observations in the school classroom, was seen as an ideal way in which to create openings for "organised and methodical interrogation, analysis and theorisation of practice" (Henning, Petersen & Petker, 2015). It was also a way of addressing the pressure of what Feiman-Nemser and Buchmann (1985:53) called the "two world pitfalls" of helping students connect university coursework with their learning in the setting of the school classroom.

### **1. 3 Statement of the problem**

To date, there have been some developmental opportunities for the TS teachers in order to assist them in their mentoring roles with University X's student-teachers. The mentoring system however relies primarily on the school teachers' many years of teaching experience and their willingness to share their knowledge with the student teachers. As the current academic practicum coordinator for the TS, based on my interactions with, and feedback from, the student teachers and the school teachers, I became concerned with the quality and content of mentoring sessions. In particular I was worried about sessions consisting of mainly mentor teachers' giving feedback to student teachers about their lesson planning and delivery. In order to ascertain the alignment of mentoring practices of mentor teachers in the teaching school with the intentions implied in the Integrated Strategic Framework for Teacher Education and Development in South Africa, (Departments of Basic Education and Higher Education and Training 2011) a number of studies were initiated into the mentoring practices at the TS, undertaken by various members of the research team. As one of the researchers, I focused on one aspect of this work, looking at mentoring from the perspective of one experienced teacher.

#### **1.4 Research aims and question**

In light of the aforementioned background and statement of the problem, the main research question guiding this study is:

What characterises the mentoring practices of a teacher in a teaching school? The following sub questions are set:

- How does a mentor teacher understand her mentoring role with student-teachers?
- What is the nature of the mentoring relationship/s between the school teacher and student-teachers?
- What influences the mentoring practices of a mentor teacher?

#### **1.5 Objectives of the study**

The main aim of the research is to investigate how a teacher conceptualises of her mentoring encounters (including practices and processes) with student teachers in a teaching school. In order to realise this aim the objectives of this research were set as:

1. Describe how the school teacher views her role as mentor teacher to student teachers.
2. Describe the nature of the mentoring relationship between the school teacher and student-teachers.
3. Identify the factors that influence the mentoring practices of a mentor teacher.

#### **1.6 Rationale and argument for study**

In this study I argue from the literature in the field of mentoring in teacher education presenting a background and historical account of mentoring as a concept. I focus specifically on the value of mentoring within the practical component of teacher education (or clinical experience) as part of the professional development. I make the point that mentoring is multi-faceted and context as well as discipline-specific. Moving from this base I draw on examples of mentoring during clinical experience in other professional fields such as medicine, theology and law. Here I highlight lessons that can be learned for teacher education. I also use the example of international university

affiliated schools and focus part of my discussion on the role mentor teachers fulfil within these teacher education programmes. Drawing on examples from the Netherlands, Britain and Finland, I argue that mentors have a very specific role of helping students integrate theory and practice. In this respect I contend that mentors need to be lifelong learners, submit to focused mentor training and provide model examples of excellent classroom practice for students to learn from. In this discussion I examine closely the characteristics, roles and responsibilities for generalised mentoring practices in teacher education before amplifying what this could mean for the discipline of mathematics as an example. I then argue for two mentoring models of which the Five Factor Model by Hudson (2004; 2006) is deemed most suitable for addressing the specific mentoring needs in the teacher programme at which this study was conducted. In making this argument I refer to the existing body of research emerging from the integration of a teaching school and a teacher education programme.

## **1.7 Research Methodology**

### **1.7.1 Research design**

This research can be described as qualitative case study research (Merriam, 2002) and is situated within an interpretivist/constructivist paradigm (Merriam & Tisdell, 2016). The interpretivist paradigm acknowledges that individuals construct their own reality of the world based on their interactions with others in their social worlds (Patton, 2002) and this worldview influenced how I designed and executed this study.

### **1.7.2 Method of sampling**

The sampling in this research study was purposive (Merriam, 2002) because the participant selected for this study is a mentor teacher acting as mentor to student teachers at a TS. She was also purposely selected as she is an active and willing participant in the current mentoring programme in the TS. She also takes the lead in guiding other teachers based on her leadership position in the school. She was thus in a position to “shed optimal light on the issue” (Henning et al., 2004:71) I would be investigating.



### **1.7.3 Methods of data collection**

The data collection methods I had chosen for this research study were qualitative and the data provided was specifically focused on the research question and sub questions. It was also well-matched because the information gathered as a result of this research establishes descriptions of the participant's intentions, beliefs, values and reasons, meaning making and self-understanding (Henning, van Rensburg & Smit, 2004; Maykut & Morehouse 1994; Merriam, 2002). Data collection methods included video recordings, an individual semi-structured interview and an analysis of documents of documents of the practicum.

#### ***Video recordings***

The first of the three data collection methods used was a video package recording the mentor teacher's interaction with student teachers. The 3-stage video recordings sought to record specific events and instances in which the mentor could be seen actively engaging in discussion with student teachers on preparation for a specific teaching episode and also in providing feedback and discussion following the teaching episode. The taught lesson also formed part of the video recording package although no analysis was conducted on that particular aspect.

#### ***Documents***

The second instrument used for this study was document analysis. I focussed on documents for data analysis because I was looking to see whether or not the written thoughts of the mentor would provide some indication of her perceptions of her mentoring role. I also selected documents as a primary source of data that had not previously been published in other research on the TS.

#### ***Semi-structured Interview***

The third of the data collection methods was a semi-structured interview. Here I aimed at getting a better understanding of the teacher's own views of her role. Seidman (1993:3) argues that interviewing is a means of grasping a clearer appreciation and awareness of individuals' experiences and meaning people attach to these experiences. The interview questions were therefore intended to talk to the objectives

of my research while at the same time asking 'friendly' and 'non-threatening' questions (Yin, 2003:90).

#### **1.7.4 Proposed method of data analysis**

As this is a qualitative research study I utilised an inductive approach to data analysis and organised and coded the data, coded the generated categories and themes and finally interpreted the findings. Maykut and Morehouse (1994:126-127) refer to the inductive approach as gathering data which links directly to the research question, and an approach for which a premise or a hypothesis is not highly prioritised. Content analysis was used to reach the categories which emerged from the data in light of the research questions. This included the coding and categorising of the information in the data in order to discover possible patterns of words used by the participant, the regularity of such words and the connections between them.

#### **1.8 The role of the researcher**

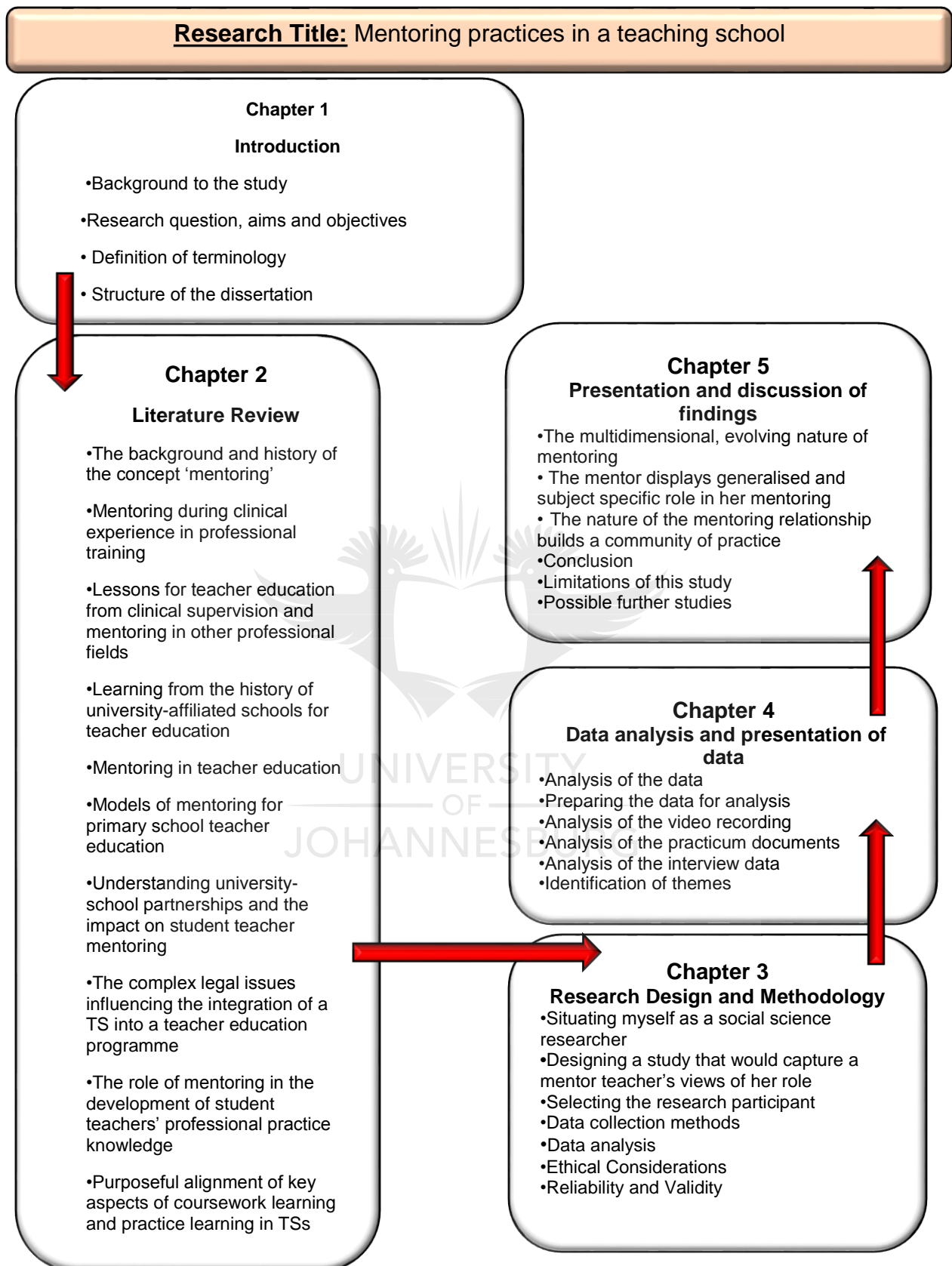
For this study my role as researcher included the collection and recording of all the video data, conducting, transcribing and analysing the data from the semi-structured interview and completing document analysis.

#### **1.9 Plan of the study**

##### **Chapter One**

Chapter one is made up of the motivation for the study in this field, the problem statement, aims of the study, hypothesis, definition of terms, research methodology and a detailed organisational plan of the research report. Figure 1.1 provides a graphical representation of the structure of this dissertation and includes the various components contained within each of the chapters.

Figure 1.1: Summary of the research structure



## **Chapter Two**

Chapter two is concerned with the literature review. I examine the existing literature on teaching schools both internationally and nationally with a particular focus on England, Finland, the Netherlands and South Africa. In addition I pursue a deeper understanding of the clinical experience model in the training of medical, law and seminal students and the possible lessons which could be learned for teacher education and the possible links to teaching schools. The existing literature on mentoring in pre-service teacher education is discussed with a focus on the Five Factor Model and Cognitive Apprenticeship Model. Lastly, I discuss the literature on the various roles and responsibilities of mentors in pre-service teacher education.

## **Chapter Three**

Chapter three provides details of the research design and methodology of the study. I provide a description and motivations for the methods, selection of participant and instruments used. I also present the ethical considerations and discuss the validity and reliability of this research study.

## **Chapter Four**

Chapter four is focussed on the presentation, analysis and the interpretation of the research data collected. The assumptions expressed in chapter one are also tested in chapter four. In this chapter I provide details of the processes that I followed to analyse the data which I had collected and include clarification thereof when completing the coding and categorising of the data. This was completed in order to identify and construct the three themes which in the end developed from the final findings.

## **Chapter Five**

Chapter five is made up of a discussion of the themes, their implications, the limitations and recommendations of the research study, and the likely possibilities for future research.

## 1.10 Definition of terms

**Mentoring** can be defined as a relationship established between someone who is experienced and will share lessons learned and provide valuable insights with someone who is less experienced and may benefit from such lessons and insights in life and professional matters.

A **teacher's knowledge** refers to the teacher's understanding of a circumstance or fact, which is grown through association or experience, books, media, encyclopaedias, academic institutions, and other sources.

A **teachers' pedagogical knowledge** refers to the focussed knowledge of teachers that is planned at generating effective teaching and learning situations for the learners that they teach.

**Mathematical knowledge for teaching (MKT):** MKT refers to the mathematical knowledge that is used in the classroom. Exceeding the knowledge of formal mathematics, it is the mathematical knowledge that one needs for carrying out one's work as a teacher of mathematics (Hill et al., 2008).

**Pedagogical content knowledge (PCK):** PCK refers to the teacher's knowledge of the nature of the material to be taught, of how the learners learn the material, of how best to teach the material, of the resources that are suitable for teaching the material, and of how the matter fits into the curricula.

**Common content knowledge:** Common content knowledge is the mathematical knowledge and skills that are used in settings other than teaching, with an example of such knowledge being that of the algorithm required for multiplying two numbers together (Ball, Thames & Phelps, 2008). Knowledge of this nature informs such teaching tasks as knowing whether a learner's answer is correct, knowing the definition of a concept or object, and knowing how to carry out a procedure (Hill & Ball, 2009; Sullivan, 2008).

## 1.11 Conclusion

In this chapter, the background to the problem that this study addresses was presented. The research problem of this study was discussed and chapter one closes with a brief overview of the research design and an outline of each of the chapters. The chapter which follows, will examine relevant literature on mentoring including that

of best practice, lessons to be learned from other professions as well as the advantages lessons for the use of a clinical experience model for mentoring in teacher education.



## CHAPTER 2: Literature Review

### 2.1 Introduction

The focus of this research is to investigate close up the mentoring practices of a mentor teacher at a Gauteng Public primary teaching school. This study investigates not only how the mentor teacher understands her mentoring role but will also inquire into the nature of her mentoring relationship with student teachers and what influences her. As already indicated in Chapter 1 the school at which this study was conducted is a special type of public primary school (known as a 'teaching school') as it has as one of its primary functions being a site for teacher education. The uniqueness of this model in South Africa means that both the model and teachers' roles within the school with respect to student teacher supervision are still evolving.

I will start by first examining the historical background of the concept of mentoring before briefly discussing mentoring concepts in the context of clinical practice and the lessons which could be learned for teacher education from other professional fields such as theology, law and medicine. I also looked to literature describing how clinical supervision is managed in other professional fields, particularly in teaching hospitals as part of medical education in South Africa. I will then move onto a discussion on the history of university-affiliated schools for teacher education – drawing on excellent examples of how such schools operate in other parts of the world. Then I argue for a move from generic to more specific mentoring in teacher education by discussing the relevance and applicability of Hudson's (2004) Five Factor model and Collins et al's (1989) cognitive apprenticeship model for pre-service teacher education. In the final section of this chapter I will then attempt to make clear university-school partnerships and the impact this has on student teacher mentoring whilst discussing the complex nature of integrating a TS into a teacher education programme and the role of mentoring in the development of student teachers' professional practice knowledge.

## 2.2 The background and history of the concept 'mentoring'

The vast majority of researchers date the concept of mentoring to Greek mythology when Ulysses left his son, Telemachus under the expert hand of his friend Mentor, who was considered wise and acted as a trusted guide and counsellor to the young man. This common Greek practice of partnering a younger individual with an older family member or family friend was intended as an opportunity for the younger person to learn from the good skills and values of the older person (Hamilton, 1981). The 12<sup>th</sup> century European guilds of the Middle Ages saw the development of apprenticeship contracts in which the master craftsman was the mentor and the apprentice the mentee. Early 18<sup>th</sup> century history also documents examples of mentoring in the tale of Babylonian King Hammurabi, who required artisans to teach their trade and craft to younger, less experienced students. This enduring image of mentoring – that of an apprentice learning from a master - is a metaphor I will return to at various times in this chapter, drawing specifically on the seminal article by Brown, Collins and Duguid (1989) who put forward a form of cognitive apprenticeship modelled on the traditional apprenticeship model.

In current literature there exists numerous definitions of mentoring with many of these drawing on traditional descriptions of mentoring as a formalized process whereby a more knowledgeable and experienced person “actuates a supportive role of overseeing and encouraging reflection and learning” with a less experienced and knowledgeable person, so as to “facilitate that person’s career and personal development” (Roberts, 2000, pg.162). Fagan and Walter (1983, pg. 51) refer to a mentor in traditional models as “an experienced adult that befriends and guides a less experienced adult”. The traditional mentoring models are also characterized by an older, more experienced professional that guides and counsels, supports, teaches, leads and serves as the model for another younger, inexperienced person (Buell, 2004; Roberts, 2000).

On the other hand Levinson et al. (1978) questions this and argues that mentoring should not be streamlined to simplified definitions of formal roles, but should rather be theorised “in terms of the character of the relationship and the functions it serves” (p. 98). I find particularly useful the description of mentoring *as an interactive relationship*



that covers a series of fixed, social interactions amongst mentor and mentee (Bearman, Blake-Beard, Hunt & Crosby, 2007; Fairbanks, Freedman & Kahn, 2000; Kram, 1985). Daloz (1986) too focuses on the relationship between mentor and mentee and argues that support and challenges have to be carefully balanced in order to promote learning as the goal of interaction. In such an interactive relationship a mentor acts as an ‘advisor, friend, teacher and counsellor’, (Zachary, 2000; Daloz, 1986; Hudson, 2004).

There are several examples of how mentors promote student learning in professional fields where mentoring features as a key component of students’ clinical field experiences. In setting the stage for the rest of this chapter in which I focus on how mentors contribute to the training of teacher education students, I first expound on what could be learned from the mentoring of students in professional fields such as theology and law with particular attention to the training of medical practitioners.

### **2.3 Mentoring during clinical experience in professional training**

In teacher education, like other professional fields, clinical experience<sup>1</sup> is identified as one of the “aspects of teacher preparation that are likely to have the highest potential for effects on outcomes of students” (National Research Council (NRC) report (2010, pg.180). The combination of course work and clinical experience is valued for helping student teachers connect theory and practice. It also enables the creation of a standard for practice within professional communities (Shulman 1998; Darling-Hammond, 2006) and affords students multiple opportunities to adjust and improve on their practice (Hoyle & John, 1995; Ericsson, Charness, Hoffman, & Feltovich, 2006). A leading educational scholar, Lee Shulman (1998), wrote about the value of clinical experience for the professional education of students and argues that teacher education can learn much from the way in which professional fields such as law, architecture, theology and medicine, train students for their respective fields. Shulman (1998:518) argues:

*Although a significant portion of the knowledge base of a profession is grown by scholars in the academy, it is not professional knowledge unless and until it*

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<sup>1</sup> In teacher education clinical experience is also referred to as teaching practice, work integrated learning and school experience – I will use these terms interchangeably in this discussion.

*is enacted in the crucible of the "field." Professions are ultimately about practice. The field of practice is the place where professions do their work, and claims for knowledge must pass the ultimate test of value in practice. While the theoretical is the foundation for the entitlement to practice, professional practice itself is the end to which all the knowledge is directed. This is why in all professional preparation we find some conception of a supervised clinical experience. Student teaching, medical residencies, architects' apprenticeships, student nursing, all are examples of carefully designed pedagogies to afford eased entry into practice accompanied by intensive supervision, to ensure the acquisition of needed skills and the demonstration of appropriate behaviour, manner, and values.*

A key aspect of clinical experience is the notion of 'supervision' by an expert in the field, often referred to as a mentor or supervisor. Depending on the profession one is employed in, the process of supervision and the role of the supervisor or mentor in this process differs (Lilley & Newton, 1990). In the next sections, I look at how clinical supervision and mentoring are conducted in other professional fields such as theology, law and medicine in order to draw lessons for teacher education.

#### **2.4 Lessons for teacher education from clinical supervision and mentoring in other professional fields**

Theology has a long history of supervising students in practice settings with the Church body playing an instrumental role in developing priests, ministers and pastors. Chiroma and Cloete (2015) argue that in theological education, such a clinical experience would be for more than the mere transfer of information. In their view, theological education thrives on the establishment of a modelling or mentoring relationship that takes place within a theological community. There are many examples of this. For instance in New England during the period 1600-1700's, Puritans apprenticed young aspirant priests to an experienced pastor to prepare them to fulfil their roles as spiritual leaders within their communities and aspirant lawyers or doctors were apprenticed to local practitioners within the Puritan communities. As part of this apprenticeship, novice preachers would move into the pastor's own home and live with the 'master' preacher in order to learn from him. Similarly, in the 19<sup>th</sup> century

Anglican Church, Charles Simeon is singled out for his efforts in mentoring Cambridge students who would later become the future priests of England. This tradition continues today with many denominational seminaries adopting similar processes for supervising novices to the profession (Daloz 1986, 2000; Crow 2008; Selzer 2008, Masango 2011). One of the essential lessons teacher education can learn from this field is that experienced ministers' intentionally builds a relationship with the trainee-minister. In a 2015 study Chiroma makes the implication that "seminaries must be the bedrock of mentoring students towards holistic formation" (pg. 214). This is also particularly relevant to teacher mentors moving towards building what Zachary (2000) referred to as good relationships built on trust and respect with mentees. Klasen and Clutterbuck (2002:33) were cited in Chiroma (2008) saying that "*mentors can be instrumental in supporting, enabling and even triggering major changes in mentees*" and Chiroma (2008:100) went to say that:

*"Mentoring is an important means for the church to retain its young ones, develop their character, competence and calling. When churches invest in mentoring many leaders will be identified and empowered to facilitate growth in the church".*

This rationale for building relationships and holistic development of the mentee, is what I reasoned to be a particularly valuable lesson to be learned for teacher education.

Another example is from a study of law. James (2011) discusses the benefits of a mentoring programme for law students from their academic student life into their professional practice. He includes benefits such as insights into the operation of the law in practice and access to a qualified in-practice role model as particularly useful. James (2011) describes how in 2006 the School of Law at University of Queensland (UQ), Australia partnered with the Law Graduates Association of UQ and launched the *UQ Law Mentor Program* in 2007. The aim of the mentoring programme was to provide law students with a professionally qualified professional that would act as mentor. As the mentors were already qualified and had experience in the legal profession, they would be in a position to act as role model and provide insight into the operations of practice and provide experienced guidance and advice on making study and career choices. An added benefit of mentoring in the legal profession lies in the possibilities for discussion between mentor and mentees relating to the discipline knowledge of law.

The rigorous process of mentor selection into the UQ mentoring programme is conducted as a measure to ensure that mentors engage in what Parsloe (1999) describes as the mentor guiding the student and facilitating their development as opposed to merely telling the student what to do. Law student mentors are able to provide valuable advice regarding the type of law their mentees might be interested in by focussing on particular areas of studies whilst at the same time assisting with directing mentees to possible internships and work in the legal profession.

The Federal Bar Association (FBA) in the USA currently runs a mentoring programme for law students in which qualified mentors act as a professional resource to law students. Mentors in this FBA programme actively engage mentees in networking opportunities, developing the cognitive skills needed report on the recurring and common issues in the legal profession and also in developing specific skills that would assist in the mentees choice of law specialisation. There is similar evidence of such arrangements within South Africa. For instance, the Free State branch of the South African Chapter of the International Association of Women Judges (SACIAW) partnered with practising attorneys, Legal Aid and the University of South Africa (UNISA) and launched a mentorship programme (2017) with the aim of developing law students with career guidance within the legal profession, study guidance and support after graduating. One of the important lessons which could be learned for teacher education is the emphasis on the selection of suitable mentors who are either subject specialists or phase specialists in the field of teacher education. Such mentors would best guide student teachers in their development of subject or phase specialisation in the profession.

However, generally one of the best-known and highly regarded models of clinical supervision of prospective professionals is in the field of health education. Here teaching hospitals (TH) have long featured as an integral part of the training of health care professionals such as doctors, nurses, physiotherapists and occupational therapists. Teaching Hospitals (TH) are commonly defined as academic medical centres in which future medical professionals are provided with clinical education and training through engagement in the real world to prepare them for their profession in the healthcare system. Traditionally, THs are usually closely linked to medical faculties/ schools of universities, and work very closely with university staff to promote the students' academic and practical training. Because medicine is a profession

immersed in practise, there exists an understanding that in order to become expert medical practitioners, training includes knowing both *how to use* and *build on* the knowledge of the medical profession.

THs in particular provide significant pointers for how to relate the training knowledge of the medical profession for teacher education. There has already been some work in this area in the teacher education literature. In the 2009 Issue Brief: *Teaching as a Clinical Practice Profession: Implications for Teacher Preparation and State Policy*, following an in-depth literature review (using ERIC and EBSCO databases) on medical and teacher training and education, Alter and Coggshall (2009) identified and proposed five key characteristics of the clinical practice profession medicine that are useful for the teaching. These characteristics are outlined in Table 1.

**Table 1:** Characteristics of clinical practice profession

Characteristics	Description
<b>Centrality of Clients</b>	<ul style="list-style-type: none"> <li>• Direct observation and treatment.</li> <li>• Skills, knowledge, action of practitioner determines success.</li> <li>• Client commitment and action determines success.</li> </ul>
<b>Knowledge demands</b>	<ul style="list-style-type: none"> <li>• Complex work.</li> <li>• Learning in and from experience.</li> <li>• Requires both generalized and specialized knowledge and skills.</li> <li>• Requires specialized technical, theoretical and practical understanding.</li> </ul>
<b>Use of evidence and judgement in practice</b>	<ul style="list-style-type: none"> <li>• Knowledge of the client</li> <li>• Up-to-date knowledge of latest research in the profession.</li> <li>• Complying with evidence based standards of practice.</li> </ul>

	<ul style="list-style-type: none"> <li>• Expert judgement in the absence of evidence-based standards of practice.</li> </ul>
<b>Community and standards of practice</b>	<ul style="list-style-type: none"> <li>• Forms part of professional communities monitoring standards and quality of practice.</li> <li>• Supporting distribution of knowledge within the professional community.</li> <li>• Accountability for standards of practice.</li> </ul>
<b>Education for clinical practice</b>	<ul style="list-style-type: none"> <li>• Sound academic grounding.</li> <li>• Training in practice.</li> <li>• Continued learning.</li> </ul>

The characteristics of clinical practice in the education of health professionals, are a useful heuristic for expanding on the role of clinical practice in teacher education. For instance, in THs students' actions are centred on individual patients who present with a particular set of circumstances. Students are only able to respond to an individual patient's needs based on thorough knowledge of their situation and condition - which is partly obtained from direct observation, input from the patient and a solid knowledge and research base from which to triangulate information. Similarly, in teacher education a student requires expert knowledge of a child, often from direct observation of the child and from interaction with her, as well as the ability to draw from a clear knowledge base on how children develop and what kinds of factors are likely to influence their learning.

Thus, like medical students who need specialized knowledge and skills in their field in order to inform their actions when for instance assessing an incoming patient, student teachers will need specialised pedagogical knowledge (PCK), knowledge of context and content knowledge (Shulman, 1986, 1987) in order to organise teaching to help young children learn. Teachers are required to use evidence collected from their engagement with learners in their professional judgement so as to motivate and actively involve learners in any future teaching and learning experience whilst at the same time expanding on the prior knowledge acquired by learners. In order to fulfil the above requirements, student teachers just like medical students, should be trained



how to reflect on and analyse their own teaching practices with the assistance of mentor teachers who themselves have the ability to enact what Korthagen and Vasalos (2009) and Schön (1983, 1995) referred to as continuous reflection on action and reflection for future action. As with the training of medical students there is an expectation that student teachers should achieve the necessary “*academic grounding*” and sufficient “*practice-based training in the discipline*” (Alter & Coggshall, 2009: pg. 6). There is also the expectation that the practice of teaching will be continuously strengthened provided the student teacher participates in ongoing professional learning opportunities.

There are also others in teacher education who make an argument for learning from the medical field. For instance the Carnegie Corporation of New York, Ford Foundation and Annenberg Foundation through their *Teachers for a New Era* (TNE) (2001) initiative, support the proposal that teaching should be conceived of as an “*academically taught, clinical practice profession, similar to clinical psychology and medicine*” (Alter & Coggshall, 2009). The TNE recommends collaboration between practice schools and teacher training programmes, which mimic the collaborative partnerships between university THs and medical schools. They argue that this would provide rich settings for teachers in training to experience excellent teaching in progress as well as opportunities to practice whilst being supervised and guided by master teachers and mentors.

The earliest examples of mentoring in the medical profession were documented in the early 1980's. Here Panther (2001b) explains that mentorship was seen as ‘*the role of the nurse, midwife or health visitor who facilitates learning and supervises and assesses students in the practice setting*’ whilst Pellat (2006) suggests that the earliest recorded standard of any medical mentor was that of Florence Nightingale. 19th century medicine was characterised by the practice of apprenticeship which continues as the cornerstone of the training and development of the surgical and surgical-barber professions (Bishop, 1960). In 1889, at Johns Hopkins University, Halsted revolutionized the training of U.S. surgeons by introducing the German structure of graded responsibility still featured in the US medical training system, and integrated aspects of the apprentice model (Platz & Hyman, 2013). In the apprenticeship model of mentoring in medical education, a collaborative relationship is established in which

an experienced professional offers guidance, support, and knowledge to medical students.

Education for medical students was thus largely achieved through experiential learning and the sharing of the wisdom of more advanced medical colleagues and senior staff (Sadideen & Kneebone, 2012). The last 20 years has seen an expansion on the part of mentoring in the medical field to include an expanded role (Sanfey & Gantt, 2012). It has seen modern medicine and education develop more structured foundations and increased growth for medical students under the guidance and instruction of experienced senior practitioners with an understanding that the “mentor facilitates personal and professional growth through the sharing of learned knowledge and insight” (Platz & Hyman, 2013: pg. 3). Medical students have applauded the benefits of this type of mentoring as one of the most important phases in their training (Sambunjak, et al, 2006).

According to Sadideen and Kneebone (2012 pg. 1) mentoring in the medical profession uses elements of Vygotsky’s work in *“the availability of expert assistance”* and speaks to the incorporation of experience and knowledge into the medical students’ own learning context and the representation of their learning. Platz and Hyman, (2013) cited the view of Sadideen and Kneebone (2012) in regard to medical mentorship as functioning according to Piaget’s theory of constructivism and state that *“experience and knowledge is assimilated and accommodated into a personalized framework or schemata for the mentee”* (pg.219). Medical students are therefore able to engage in real world experiences and situations by observing mentors as well as learning from the mentor's developed knowledge and expertise.

The importance of providing medical students with qualified and experienced mentors who are able to guide, support and supervise students whilst they engage in the clinical professional experience is also highlighted by the English National Board and Department of Health (ENB & DH 2001a) (Andrews & Roberts, 2003). The Nursing and Midwifery Council (NMC, 2006) highlighted not only the experience of mentors as critical during clinical professional experience, but also the mentors’ time spent with students in clinical areas as crucial for the effective evaluation of student competencies. Experienced mentors are also regarded as best suited to be guides in



developing and helping students to achieve their required learning objectives as set out in the tertiary or university medical coursework. Collins et al's (1989) notion of cognitive apprenticeship provides an excellent model of how the knowledge and experience of experts could be integrated into how mentees complete the various complex tasks that are set in the critical practice of medical students. In addition to this, teacher education and pre-service teacher mentors would also do well to tap into the medical professions ideas of clinical practice and use the expert qualified professional in the mentoring of student teachers in "*observing, enacting and practising*" (Stalmeijer et al. 2009, pg.536) the tacit knowledge of the qualified and experienced mentor teachers. An additional lesson that could be learned for teacher education lies in the fact that medical students are exposed to real life learning and teaching settings in which they are able to apply the knowledge they have acquired to real life challenges (Spencer, 2003). I turn next to a discussion of what can be learned from university-affiliated schools for teacher education in other contexts, where I focus specifically on the role of mentor teachers.

## **2.5 Learning from the history of university-affiliated schools for teacher education**

There are many examples of where a close collaboration between a university and a school operates in order to build knowledge for the field and to train new teachers in the mode of THs. Such schools are referred to interchangeably as teaching, laboratory and/or training schools in the literature. Petker (2018) has written about the origins of such schools in teacher education since the 17<sup>th</sup> century and the apprenticeship-mentor roles of students and experts within it, starting with the establishment of *normale schools* where there was a systematic plan for structuring teacher education (Lauraire, 1993:62). According to Petker (2018) the normal school model began to gain traction in Europe and as this model of teacher education became more established (Labaree, 2008:290) it led to the founding of the Jyväskylä Teacher Seminary in 1963. This seminary later became the Jyväskylä College of Education and then the University of Jyväskylä where the *normaalikoulu* (normal school) and the Faculty of Educational Sciences organised primary education, secondary education and teacher training with supervised teaching practice (Petker, 2018).

Building on the success of the European models, scholars advocated for the establishment of similar schools in the USA, which resulted in the establishment of the 'Dewey Laboratory School' at the University of Chicago (Mayhew & Edwards, 2007 in Petker, 2018) and the Cook County normal schools (Harms & De Pencier, 2006). In these schools, student teachers were provided with focused opportunities to apply theory to practice (Parker, 1902), under the supervision of masters. Latter day examples in the USA, would include institutions such as the Bank Street School for Children and the laboratory schools of the Universities of Minnesota (1925) and California, Los Angeles. Some of these have their roots in the Dewey (1938) laboratory school founded in 1894 which provides one of the earliest examples of how a partnership between a university and a school can serve as an educational laboratory for researching and validating new educational theories and principles (Tanner, 1997) while serving as a setting for the education of children. There are many more examples of higher education institutions using a model of teacher training with close affiliation to one or more schools. In an international study comparing teacher education in schools (Maandag, Deinum, Hofman & Buitink, 2007), the Netherlands and England were identified as directly involving schools into their respective training models for teacher education. These can be found in the Netherlands (Hammerness, van Tartwijk & Snoek, 2012) and Britain (Furlong, McNamara, Campbell, Howson & Lewis, 2008). I discuss the lessons to be learned from each of these in turn.

### **2.5.1 Netherlands**

Student teachers in the Netherlands can be placed in either a training school (Hammerness, van Tartwijk & Snoek, 2012) or an academic training school (Snoek & Moens, 2011). These types of schools are similar in that both are closely affiliated with higher education institutions and staff. Both these types of schools work collaboratively towards the training of student teachers by teacher educators at education institutions, and mentor teachers at the training schools. The core difference between the two types of training schools is that the academic training schools have a more research orientated focus and encourage teachers working in these academic training schools to become active participants in school research (Snoek & Moens, 2011). It is rationalised that such involvement by the teachers would result in notable benefits in the learning and professional development and progress of the school teachers. I

reasoned that teacher education in SA would benefit greatly from adopting the research focus of the academic training schools to further strengthen teachers as life-long learners themselves whilst still serving as mentors to student teachers.

### **2.5.2 Britain**

Teacher education institutions in England are legally obliged to collaborate with schools (Maandag, Deinum, Hofman & Buitink, 2007), with an understanding that the schools become active participants in the design and the implementation of the initial stages of teacher education including the selection of aspiring candidates for the course as well the evaluation and assessment of student teachers (McNamara, Murray & Jones, 2014). There exists a very strong partnership between teacher education institutions and schools and in particular the practical element between the two institutions. Experienced teachers at the schools assist with the design and implementation of the curriculum of higher education institutes. This particular initiative of the British school based teacher education has sparked debate on the subject with criticism being levelled at the quality of teacher training, lack of teacher qualifications for training specific subjects and the selection of underperforming schools as places for teaching (McNamara, Murray & Jones, 2014). In a study by Williams & Soares (2000), schools, student teachers and teacher education institutions all say that *“collaboration between teacher education institution and school is the most desirable situation”* (cited by Maandag et al. 2007; pg.158). I reasoned that in order for SA to ensure such successful partnerships between the teacher education institutions and schools, teachers in schools would require rigorous training that would see them develop into student teacher trainers who are also excellent classroom practitioners.

### **2.5.3 The Finnish teacher training school model**

One particular European model which has received worldwide attention over the last twenty years is the one used in Finnish teacher education. According to Loukomies, Petersen and Lavonen (2018) and Lavonen, Henning, Petersen, Loukomies, and Myllyviita (2019), the current Finnish model for teacher education originated in the 1970s, when a major revision of the school system and teacher education system took place (Sahlberg, 2010, 2011, 2012). This model makes extensive use of teacher

training schools (TTS) (Niemi, 2009, 2011, 2012, Salhberg, 2011, 2012) with each university in Finland that educates teachers having an affiliated TTS, which operates in very close conjunction with the teacher education programme. Students also complete part of their teaching practice in municipal schools (Jyrhämä, 2006).

TTS are an essential part of teacher education in Finland, as student teachers complete their main teaching practice in these schools where they create usable knowledge from theory for teaching. During the placement period, they gain teaching experience in an authentic setting and practice to argue their decisions in the context of relevant theories (Loughran, 2006). Learning to become a teacher during teaching practice thus has as central focus, the development of research-informed practice which is integrated throughout the student teacher's qualification period and it is mainly supervised by teachers in the teacher training schools (Kansanen, 2014).

Niemi (2011) argues that much of what student teachers learn in Finnish teacher education is a result of their exposure to good practice and opportunities to investigate practice, in a protected environment, accompanied by worthwhile opportunities to test their conceptual understanding of pedagogy with guidance from TTS teachers and university lecturers (Niemi, 2011, 2012). All teachers in a TTS have a minimum of a master's degree in education, with many having doctoral degrees or studying towards it (Neimi & Jakku-Sihvonen, 2011). Finnish student teachers are therefore exposed to highly-qualified practicing teachers. The role of the teacher in a teaching school, according to Neimi and Jakku-Sihvonen (2011) is multi-layered:

*“The practical studies guide student teachers to observe school life and the pupils from an educational perspective, and then they focus on specific subject areas and pupils' learning processes. Finally, they support student teachers as they take holistic responsibility in their teaching and schools. This final period can be tightly connected with their research studies and Master's thesis”.*

This close link between theory, research and the practice of teaching, is evident in the processes that operate. TTs are expected to produce quality teaching and curriculum planning and innovative training periods for student teachers. During a school visit to the Vikki TTS in 2014, I was afforded an up-close look at how Finnish TTs teachers manage the supervision and practise of integrating theory and practice in the school.

The teachers drew students' attention to how research in a particular topic influences their approaches in the classroom. Student teachers were encouraged to engage in discussion with fellow students and the teacher/s in interrogating the applicability of the research findings and the theoretical framing of the articles to the practice in the classroom. In this way, Finnish student teachers are granted multiple opportunities to use appropriate theoretical lenses to interrogate practice very early in their teacher training. Student lesson plans are also reviewed by teachers prior to the lesson being taught in order to make the links between theory and classroom practice, to tighten pedagogical content knowledge and content knowledge and to work towards optimal learner engagement. I also witnessed teachers engaging with each other about the importance of making their own thinking and actions visible during student teacher observations of their teaching (Collins, Brown & Holum, 1991).

Essentially Finnish teachers in teacher training schools emphasise their mentoring role in the development and qualification of students. It is this aspect which contributes largely to it being regarded as an exemplary teacher education system (Gordon & Maxey, 2000). In essence, Sahlberg, (2011) argues that in teacher practice Finnish mentor teachers "*adopt student-teachers*" and contends that it is the "*spiral sequence of theoretical knowledge, practical training and research-oriented enquiry for teaching*" under the guidance of a mentor teacher/s that makes the Finnish system so effective (Sahlberg (2012: 12). In this process, there is equal stress on student teachers learning to reflect (Niemi & Jakku-Sihvonen, 2006).

Finnish mentor teachers are said to hold a powerful influence on the sorts of teachers, student teachers might become (Rhoads, Radu, Weber, 2011) and how their influence impacts the professional development (Anderson, 2006).

It has however been argued that the idea of mentoring is sometimes very poorly understood and that this impacts its effectiveness in teacher education. Additionally, the limited professional training mentor teachers themselves are exposed to (Mavhunga, 2014) can also impede the process. In determining the nature and scope of mentoring in teacher education it is necessary to explore these two impediments in greater detail. In the section which follows I will look closely at the characteristics, roles and responsibilities of general mentoring practices for student teachers before moving on to more specific mentoring practices in the subject of mathematics.

## 2.6 Mentoring in teacher education

In the context of teacher education, mentoring characterizes the relationship of interaction between individual teachers and student teachers normally during practice teaching/school experience/ work integrated learning. Mentoring happens when teachers in their role as experienced professionals assist in developing student teachers. The mentor teacher (or supervising teacher) becomes the person responsible for guiding the student teacher in negotiating the key domains required for good classroom practice (Shulman, 1989). In teacher education, the mentor teacher plays a key role in aiding the process of enculturation of the inexperienced student teacher, in the day-to-day practices and processes within the context of the classroom as a workplace. A mentor is thus a *“more experienced teacher(s) who can ably explain school policies, regulations and procedures; shared methods, materials and other resources; help solve problems in teaching and learning; provide personal and professional support; and guide the growth of the new teacher through reflection, collaboration and shared inquiry”* (Feiman-Nemser & Parker, 1992). In the words of Koki (1997: pg.3) a mentor is *“someone who facilitates and assists another’s development”* and *“must be able to serve as a model of the teacher’s role in education”* whilst Galvez-Hjornevik (1986) proposes that a mentor is a trusted guide, counsellor, or teacher-guardian. In order to function effectively as mentors teachers need to establish effective mentoring relationships with mentees, take on particular roles in the mentoring interaction and undergo on-going training in order to function effectively. It is also important that the mentoring model used takes cognisance of the context in which it occurs.

In the process of mentoring, Tomlinson (1995: 7) argues that a mentor *“assists student-teachers to learn how to teach”* during their teaching practice and involves complex personal interactions *“conducted under different circumstances in different schools”* and thus *“it cannot be rigidly defined”* (Wildman, Magliaro, Niles, & Niles, 1992, p. 212). This process is dependent on the creation of a specific type of relationship that is characterized by “interaction” on many levels between the mentor and mentee (Bearman, Blake-Beard, Hunt & Crosby, 2007; Fairbanks, Freedman & Kahn, 2000; Kram, 1985). Ambrosetti and Dekkers (2010) support the view of a joined and reciprocal relationship between mentor and mentee/s by emphasising the value of both the mentor and mentee’s values, skills and knowledge in the mentoring



relationship. Their definition of the reciprocal relationship reinforces the notion of effective and productive social interactions between the mentor and mentee in order to meet each other's balanced interactive needs. Hudson (2010) in turn states that mentoring requires "real-time" interactions whilst Maxwell, Harrington and Smith (2010) claim that although modern technologies may be used to support mentoring, the development of the relationship between the mentor and student teachers and choice of suitable interventions are crucial for mentoring (Hudson, P. 2010).

It is this interactive nature of mentoring which allows for the mentor teacher to *provide good instructional support* to students (Rowley, 1999) in order to make the school experience of students more educative and the mentoring and its process more purposeful. This instructional support include the shared experiences of team planning and team teaching as well as shared observational experiences between mentors and mentees. In order to provide good instructional support a mentor teacher is also expected to engage in discussions with student teachers that would support the development of the student teacher's teaching skills and provide them with lesson feedback that would encourage them to think critically about their own classroom practises. The mentor teacher is thus expected to have excellent understanding of various methods of observations and very good reflective and feedback skills. In the context of this particular study, I am also of the opinion that mentor teachers in a teaching school should also be regarded as experts in teaching and should be able to make their classroom practices and the theoretical underpinning that informs such practices visible for student teachers during the students' observation periods. Being an effective mentor also requires teachers to take on a number of roles and/or characteristics.

In a 2012 article Abiddin lists some of these roles including (1) training mentees to teach their particular subjects; (2) developing the mentees understanding of how pupils learn; (3) training mentees to manage classes and assess pupils; (4) supervising mentees in relation to school-based elements of the course; and (5) assessing mentees' competence in subject application and classroom skills (Kirkham, 1993; Wilkin, 1992). Abiddin (2012: pg.78) also goes on to reference Parsloe's (1992) interpretation of good mentors and lists certain key characteristics such as being: (1) good motivators, who are perceptive and able to support the objectives of programs

and fulfil their responsibilities to the candidate/mentee; (2) high performers, secure in their own occupied position within the organization and unlikely to feel threatened by, or resentful of, the candidate's/mentee's opportunity; (3) good teachers, able to advise and instruct without interfering, and (4) good negotiators.

Tomlinson (1995) and Hudson (2004) acknowledge the advances in the knowledge of generic mentoring practices and the benefits of knowing the more general approaches to mentoring. However, Hudson (2004) cautions that for mentoring to be more effective it should be approached in different ways for different subjects and highlights the *“need to specialise mentoring practices in order to cater for developing mentees knowledge and skills in specific subject areas”* (pg. 2). Based on the various conceptualisations of mentoring, it therefore serves to reason that in order for mentors in primary school environments to fulfil and truly embrace their many roles as mentor, training should be provided to include general and subject specific mentoring practices. I thus concur with Hudson (2004: pg.1) that:

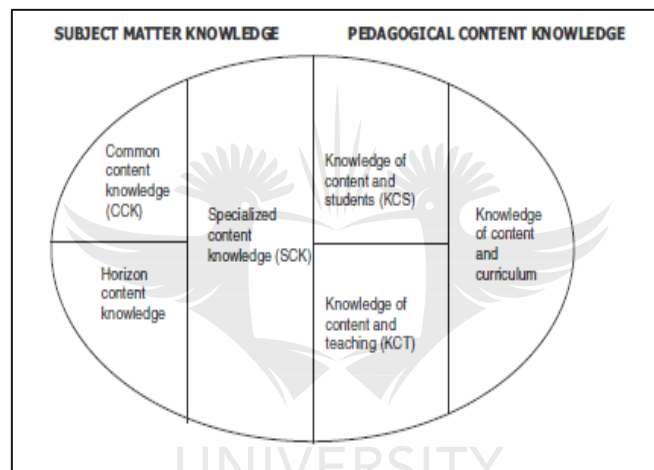
*“Mentoring can be a change agent but will require further initiatives from universities and school-based mentors to more effectively guide preservice primary teachers in specific subject areas. Indeed, for primary school based mentors to be more effective in their practices, mentoring programs need to focus on specific objectives for developing specific teaching practices.”*

It also stands to reason that training for mentors is required in order to better prepare the mentors for their roles and responsibilities and require specifically *“on-going support (to) ... extend their knowledge base on specific mentoring”* (Hudson 2004: pg2). Hudson also advocates that *“generalist primary teachers need to learn to mentor more effectively in subject areas where they are not experts”* (pg.2) and that *“mentors need explicit education in mentoring in order to reflect on their actions for developing in mentees”* (pg. 3). In the case of this study I was also interested in examining mentoring in the subject area of mathematics as more and more emphasis has been placed on learner cognition and success and mathematics teaching practices in the classroom both internationally (Education Queensland; NSW Department of Education and Training cited in Hudson 2006) and nationally (TIMSS, 2011). I was also interested in the practice of mentoring for mathematics *“as there are primary teaching mentors*



who may either not have the skills in mathematics education or lack content knowledge for effective mentoring strategies” (Hudson and Peard, 2006: pg. 227).

Of interest to me is Ball et al’s (2008, pg. 395) theory of mathematical knowledge for teaching also known as MKT (see Figure 2.1), which teachers of mathematics, including mentor teachers, “need(ed) to carry out the work of teaching mathematics”. Ball et al (2008) draw specific attention to the mathematical content knowledge, which exists within the domain of teachers and “recognizes that knowledge of mathematics for teaching is partially the product of content knowledge interacting with students in their learning processes and with teachers in their teaching practices” (Gu & Gu 2016: pg. 443).



**Figure 2.1:** Mathematical content knowledge

**Taken from:** Ball et al (2008)

The MKT distinguishes between the two key domains of Shulman’s (1986) seminal work on teacher knowledges namely subject matter knowledge (SMK) and pedagogical content knowledge (PCK). MKT divides the SMK domain into three categories namely: (1) common content knowledge (CCK), (2) horizon content knowledge (HCK) and (3) specialized content knowledge (SCK). The first of these categories namely CCK, is specifically aligned to those individuals who possesses only school mathematics education and “refers to mathematical knowledge (and skills) not unique to teaching” (Nolan, Dempsey, Lovatta, and O’Shea 2015, pg.55). The second category of HCK is vital for knowing the sequence of how mathematical content is taught and necessitates teacher knowledge of how various mathematical topics relate over the extent of the mathematics curriculum. The third category of SCK

is of particular relevance to all teachers and points to the *“mathematical knowledge and skills unique to teaching”* (Nolan, Dempsey, Lovatta, and O’Shea 2015, pg.55) and requires teachers to develop the skills of *“looking for patterns in student errors and determining if nonstandard approaches are valid and generalizable”* (Nolan et al, 2015, pg.55) in their classroom teaching practice.

Ball et al (2008) also decomposes Shulman’s (1986) PCK into the categories of (4) knowledge of content and students (KCS), (5) knowledge of content and teaching (KCT) and (6) knowledge of content and curriculum (KCC). KCS requires that teachers combine their knowledge of learners and how they understand mathematics and align it for effective and engaging classroom learning and teaching. KCT is a blend of *“knowing about teaching and knowing about mathematics”* (Nolan et al 2015, pg.55) and is of particular importance when the teacher is required to apply his/her own mathematical knowledge in deciding which instructional options and approaches would best suit a particular group of learners they are teaching . KCT is also likely to be involved in contingent teaching actions, where, for example, a teacher decides which student contributions to pursue and which to put on hold.

I also took note of the work of Mtetwa and Thompson (2000) who draw attention to the problems of generic mentoring *“rather than subject-specific teaching”* (pg. 140) and go on to state the importance of having mentors who *“possess a reasonable degree of expert knowledge of mathematics”* is valuable. (pg. 142). They propose three kinds of knowledge which mentors of mathematics should possess and develop continuously. They describe these as follows:

*“The novice teacher and the mentor must have a good command of content knowledge. The pupil’s teacher, however, must in addition develop pedagogic content knowledge. This makes it imperative for the mentor to have a good command of that knowledge as well. Finally, the mentor needs to have curricular knowledge that provides the context in which the other two kinds of knowledge operate. (Mtetwa & Thompson, (2000), pg. 142)*

Mtetwa and Thompson (2000) also highlight the importance of possessing good pedagogic content knowledge in mathematics and describe this knowledge as:

*“...part and parcel of craft knowledge, and as such it is embedded in practice. It is therefore hard to ‘trade’ it in explicit forms such as verbal or print. Secondly,*

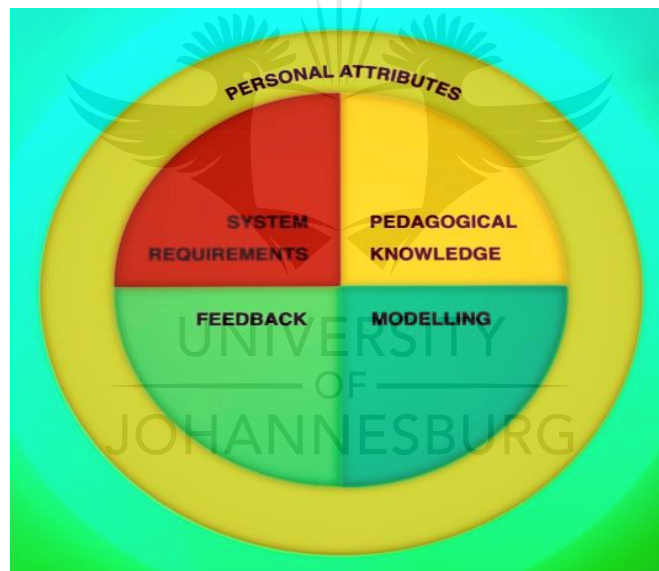
*pedagogic content knowledge is significantly influenced by the conceptions, world views or beliefs about the nature of mathematics held by the players involved, i.e. the mentor and the novice. They are tacit and can only be inferred from corroborating actions and utterances.” (pg. 144)*

Their advice for mentors in developing the pedagogic content knowledge of mentees is to become “*a source of inspiration and modelling*” (Mtetwa & Thompson, 2000: pg. 144).

In a 2013 article Asikainen, Pehkonen and Pekka, also cite Borko and Mayfield (1995) as a means of highlighting the important role which mentors play in influencing student teachers’ pedagogical thinking and action and the importance of the mentor teacher’s understanding of the structure of mathematical knowledge and theory of mathematics in enhancing the development of the student teachers’ teaching. They state that “*mentor teachers’ knowledge is very important in modelling quality teaching and helping student teachers in their professional development*” (pg.80). Asikainen, Pehkonen and Pekka (2013) continue to emphasise the importance of the mentor teacher’s ability to utilise “*different types of instructional approaches that can be used in the teaching of mathematics to develop students’ mathematical thinking*” (pg. 80) and list the (1) conceptual change approach; (2) the knowledge centred approach and; (3) the problem-solving approach as examples of such instructional approaches. One of the key lessons of the proposed teaching approaches for teacher education is that student- mentor teachers of primary school mathematics must themselves have an excellent understanding of teacher knowledge and mathematical knowledge in order to succeed at assisting student teachers to combine “*their study of mathematics with their study of educational theories so that they will learn to teach mathematics efficiently*” (Asikainen, Pehkonen & Pekka, 2013: pg. 87). I also reasoned that the mathematical knowledge, understanding of mathematical theory and specific mentoring practices and what these practices involve could best be achieved by utilising a mentoring model which would assist in making the mentor teacher’s knowledge visible with the added expectation that the mentor teacher would through his/her own classroom practice model this knowledge. In the following section, I will look at two specific mentoring models.

## 2.7 Models of mentoring for primary school teacher education

It is important to note that the selection of a mentoring model should not only be based on and matched to mentoring roles but should also recognise the needs of the mentees and the organizational contexts in which the mentoring happens. For teacher education, I find most useful two specific mentoring models. The first of these models is the interrelated Five Factor Mentoring model by Peter Hudson (2004) which was altered by Hudson in a 2006 study to reflect the “*mentoring practices of primary mathematics teachers*” (Hudson 2006: pg. 226). I should point out that the Five Factor Mentoring is an integrated approach and seeks to relate each of the factors with the other. Hudson’s model (2004) can be seen in figure 2.2 below and includes (1) personal attributes of the mentor; (2) system requirements; (3) pedagogical knowledge of the mentor; (4) modelling by the mentor; and (5) feedback from the mentor with each of these factors accompanied by specific mentoring practices and attributes.



**Figure 2.2:** The Five Factor Mentoring Model

**Taken from:** Hudson (2010)

The first factor relates to the personal attributes of the mentor and expects the mentor to “draw upon personal and interpersonal skills to engage with their mentees” (Hudson & Bird 2015:2). This includes the attributes representing that of an attentive listener that is supportive of the mentee and strives to instil confidence and encourages the development of positive attitudes and building and maintaining strong and trusting relationships with and amongst mentees (Moir, 2009). A key feature hereof for a mentor is that it asks mentors to “*encourage the mentee’s reflection on practices*”

(Hudson 2010, pg.32). The second factor of systems requirements relates to a mentor's ability to apply his/her pedagogical knowledge (Shulman, 1986) in order to communicate the 'aims, policies, and curricula required by an education system' (Hudson, 2010: pg. 32) and 'understand the complexities of the school's cultural context' (Hudson & Bird 2015:3). Hudson & Bird (2015) also argued that the second factor of systems requirements links closely with the third factor of pedagogical knowledge as it relates to a mentor's ability to apply his/her pedagogical knowledge (Shulman, 1987). The third factor of pedagogical knowledge includes amongst others the mentor's attributes of mentoring for effective lesson planning, scheduling lessons, effective timetabling and time management for mentees, planning and discussing relevant teaching and learning resources, selection of appropriate teaching strategies for specific lessons and closely scrutinizing the extent of the mentees' content knowledge for compliance against the education system and grade level which the mentees are engaged with. Additional pedagogical knowledge which the mentor can provide is related to discussions around types of questioning, lesson plan structure assessment and *"teaching practices that link curriculum, pedagogy, and assessment"*. (Hudson, 2010: pg. 32). The mentor teacher is also expected to apply his/her own pedagogical knowledge when mentoring student teachers on effective classroom management strategies particularly that of managing student behaviour because *"the mentor has insight into the various student personalities and behavioural traits"* (Hudson 2010: pg. 32). The fourth factor of Hudson's mentoring model (2010) relates to the mentor's ability to *"model appropriate classroom language suitable for student learning, teaching (if not what to do what not to do), effective teaching, classroom management, hands-on lessons, and well-designed lessons"*. (Hudson 2010: pg. 32). The vast accounts of documented literature on the need for mentors to model good teaching practice for student teachers is testament to the importance thereof in the development of student teachers' practices (Darling-Hammond et al., 2005; Hudson, 2015). Feiman-Nemser (2001:pg.19) is cited in Hudson & Bird (2015) as supporting modelling in mentoring practices which *"cultivates a disposition of inquiry, focusing attention on student thinking and understanding"*. The fifth factor is that of feedback and is directly connected to the mentor's ability to *"provide effective advice to the mentee"* and to *"review lesson plans, observe the mentee teach, provide oral and written feedback, and further feedback on the mentee's evaluation of their teaching and the learning environment"* (Hudson 2010: pg. 33). Bartell (2005) adds to this notion



and suggests that feedback by mentors should be directed at developing the needs of student teachers by channelling shared discourse which is descriptive and focused on the explicit teaching practices of student teachers.

I now turn to the cognitive apprenticeship model of Collins, Brown and Holum (1991) which involves making both the thinking of the mentor teacher and the mentee visible. Embedded in the cognitive apprenticeship model lies fundamental aspects of Bandura's social learning theory and the notions associated with traditional mentoring, namely the master/apprentice relationship. In such a relationship, the 'master' models the behaviours expected of the '*apprentice*' through '*cognitive modelling*' (Bandura, 1997). Bandura explains that this active processes of observing and listening to the mentor, would lead to the mentee identifying applicable behaviours and in that way further improve the increase of conceptual models of the practises involved in the cognitive apprenticeship model. The apprentice would consequently copy behaviours with the master observing and guiding him/her. The cognitive apprenticeship model highlights four main components of (1) situatedness, (2) legitimate peripheral participation, (3) guided participation and (4) membership in a community of practice (Brown, Collins and Duguid 1989) as key to understanding the "*subtle, tacit elements of expert practice that may not otherwise be explicated in a lecture or knowledge-dissemination format*" (Dennen, & Burner, 2008: pg. 427). Aspects from traditional apprenticeship that are most commonly used by mentor teachers namely, modelling, coaching, fading and providing support for mentees through scaffolding as well as articulation and reflection as a way in which to develop the practical wisdom and judgement of student teachers, are included. I reasoned that the relevance of the cognitive apprenticeship model for this study and broader teacher education lies in the fact that student teachers are engaged in situated learning within the actual classroom setting of a teaching school where "*authentic practices*" and "*performance conditions*" (Dennen, & Burner, 2008: pg. 427) of the mentor and learners is used to "*gain initial experience through observing a holistic process from the periphery*" (pg. 428). The student teachers' observations are considered to be legitimate peripheral participation in a community of practice (Lave & Wenger, 1991) as "*this label validates observation as a learning activity*" (pg. 428) and progress towards what Brown et al (1989) term the social element of guided participation when they engage in authentic teacher actions and classroom engagement led by the experienced mentor. I also rationalised

that the teaching school provides a setting for this kind of learning because the experienced mentor teacher guides the less experienced students through what Vygotsky (1978) coined as the zone of proximal development and could align with the medical profession's use of expert assistance in mentoring which was already mentioned in the section on teaching hospitals of this study.

In a 2006 study Hudson argued that *“for mentees to receive equitable mentoring in primary mathematics teaching there must be a set of specific mentoring attributes and practices for mentors”* (pg. 229) and to my mind the Five Factor mentoring model would also be a good fit for the specific mentoring of mathematics at the teaching school as the elements and factors contained in the model can be designed and aligned to accommodate for mathematics mentoring (Hudson, 2004). The model also allows for a working relationship between mentors and the students teachers and an acceptance of each of their individual roles and responsibilities whilst still being flexible enough and respectful enough to *“cater for the diversity of practices and needs”* (Hudson, 2004, pg. 229) of the mentor and student teachers. Because the mentor is employed in the education system for many years and is directly affiliated to the TS, there existed an understanding from me that the mentor teacher would possess an excellent understanding of the schooling system she is employed in as well as the curriculum she is engaged with on a daily basis and would therefore be ideally suited to guide student teachers in understanding the ‘mandatory documents such as curriculum and policies that help to regulate the quality of teaching practices’ (Hudson, 2007 cited in Hudson and Bird, 2015).

I next turn to current research on establishing teaching schools and professional practice schools in South Africa as possible spaces in which these mentoring models and practices might be effectively enacted.

## **2.8 Understanding university-school partnerships and the impact on student teacher mentoring**

One important issue that should be considered is that the type of mentoring model will depend on the nature of the relationship between a teacher education programme and schools where students are placed for practice teaching. I start my discussion in this

section with the latter before moving onto an argument for a particular type of mentoring model.

Generally there are three different relationships between universities and schools. The first type are schools where there is an agreement with teacher education institutions to host student teachers and with some arrangements for the guidance of students by the teachers. These are typically known as work integrated schools in South Africa, and all teacher education programmes in the country place students in such schools for varying periods in line with the requirements of the Policy on the Minimum Requirements for Teacher Education Qualifications (MRTEQ DHET; 2015). A second type of school has a commitment to disciplined inquiry about teaching and learning and teachers who are committed to both the education of children and the education of student teachers (Levine, 1988). In many contexts, these are known as professional development schools (Darling-Hammond, 1994; Metcalf-Turner & Fischetti, 1996) while in South Africa these are called Professional Practice Schools (PPS). Professional Development School (PDS) are schools in which student-teachers are educated, and where university faculty and school staff collaborate on research and development (Abdal-Haqq, 1998; Colburn, 1993). PDS are characterised by having in their employ teachers that are good models for aspirant student teachers who also serve as guides for student teachers. Although the research into the new type of school known as a “professional practice school”, as outlined in the integrated strategic framework for teacher education (Integrated Strategic Planning Framework for Teacher Education and Development in South Africa 2011) in South African teacher education is relatively new, there is ample literature on the collaborative nature of the relationship between universities and schools for teacher education over time in the country. For instance, Petker (2018) notes that there were some examples of how local schools operated as practice schools in association with colleges of education, such as the Pretoria Normal College. Another example is the Bethesda Teacher Training College which was associated with mission schools like the Bethesda Normal School (Matsaung & Seloane, 2005).

Research on PPS in South Africa focused on an examination of the role of universities in the strengthening of the school-based component of teacher education. Professional Practice schools are defined as ordinary public schools where student



teachers are placed for their normal teaching practise and work integrated learning module of their teacher education programmes. Student teachers in four year Initial Professional Education for Teacher (IPET) qualifications are expected to complete a total of compulsory school-based component of about eight to twelve weeks per year that must be structured, supervised and formally assessed (DHET 2015b, 13). There is an expectation that student teachers would receive mentoring from qualified teachers with varied years of experience in the profession and it was envisaged that PPSs would also be *“utilised as hubs for the development of professional learning communities”* (Robinson, M. 2016 pg. 14). Robinson’s report endorsed very specific criteria for the establishment of PPS which included (Robinson, M. pg. 20):

1. Potential PPS should be viewed as having the potential to be good sites for the School-based component of initial teacher education, and thus as potential Professional Practice schools.
2. Minimum conditions should be present in all schools where student teachers are placed for Teaching Practice.
3. Better communication is needed between schools and universities about the goals and activities of initial teacher education.
4. Policies and strategies should be directed at improving the capacity of schools and universities to work together more optimally to enhance the quality of teacher education.

Within South Africa the effective implementation of PPS presents its own set of problems and is not always possible when one examines the challenges in the current schooling system. Some of these challenges include that of poorly functioning schools, perceived unionisation of the teaching profession, insufficient and unequal distribution of teaching and learning resources, motivated teachers who are equipped to take on the roles and responsibilities of mentoring student teachers and teachers who would *“build and maintain productive professional relationships”* (Grossman et al, 2009: pg. 2057). Additional challenges for the implementation of PPS in South Africa arise when examining the preparedness of possible mentor teachers to engage in what Ericsson (2002) termed *“deliberate practice”* and what Donald Schön (1987) refers to as learning *“by doing but also careful coaching by others who have already been initiated into the profession”* (cited in Grossman et al, 2009).

A third school type is where there is a very close partnership between teacher education institutions and the school, and where the school operates as an extended facility for teacher training and/or as a site for educational research. These are more commonly known as laboratory schools or teacher training schools. There are many examples of how these operate across the world and I have written in section 2.5.3 about the Finnish (and other country) models that make extensive use of laboratory schools/teacher training schools. In South Africa this type of school is known as a teaching school (TS) (Gravett, Petersen & Petker, 2014). I briefly focus on the research investigating the efficacy of the TS for teacher education and research in South Africa.

The research over the last eight years on the operations of teaching schools in South Africa can be encapsulated in three main themes (Gravett, Petersen & Ramsaroop, 2019). The first of these themes is the complex nature of effectively integrating a school into a teacher education programme, in order to make the connection between the world of university and the world of the classroom obvious for student-teachers. The second relates to the role of mentoring in the development of student teachers' professional practice knowledge and the third examines the challenges of purposefully aligning key aspects of coursework learning and practice learning in schools, in order to deepen student teacher learning. I discuss each of the three themes separately.

## **2.9 The complex legal issues influencing the integration of a TS into a teacher education programme**

From the existing research it seems as if the biggest concern hindering the TS in fulfilling its aims has been the school's status as an ordinary public school and therefore subject to very specific rules and regulations which govern ordinary public schools (Gravett & Loock, 2014). Gravett and Loock (2014) argue that the TS should be granted special status in order to allow TS staff to fully embrace their roles as assisting student teachers with practical theorising and interacting with students about what they have observed in classrooms and attending to concerns students may have based on these classroom encounters and observations. Despite a MOA between University X and the DBE, allowing for flexibility in school organisation and teaching, the dyad of the teachers' role at the TS remains perplexing as the teachers are caught

between fulfilling their roles as set out by their employer and that of satisfying university expectations of them. The DBE has a definite expectation of all teachers to comply with all policies governing public schools including the full implementation of the CAPS curriculum.

It was also made clear in the Establishing Teaching Schools Report of 2015, (Gravett & Petersen, 2015) that the employment of teachers at the TS was problematic because as a public school, the generalized DBE procedures and appointment criteria for public school teachers was applied in the TS (Loock, & Gravett, 2014: 68). This resulted in GDE appointed teachers struggling with realizing and actualizing their roles of mentor teachers to student teachers. The ideal that mentor teachers would model teachers who would display good practice and be expert teachers (Hattie 2003), easily able to transition into such mentorship role still remains debatable. University staff were thus required to undertake the additional role of acting as mentors to the mentor teachers in an attempt to develop teachers who were “fit for purpose” (Gravett & Loock 2014: pg. 75) at the TS. The University X task team argued for a model that would recognise the important value of a collaboration that would recognise an equal partnership between the higher education institution and the school with regard to the governance, teaching practices and the mentoring practices by teaching staff at the TS. Gravett and Loock (2014) recommended the selection of a model which would require a minimal change to the current legislature and a short implementation time. They rationalised that currently the DBE independent school model as well as the recognition of teaching schools as a school type at national level, were best suited as TS model.

## **2.10 The role of mentoring in the development of student teachers’ professional practice knowledge**

Initially TS teachers experienced difficulty with mentoring roles, despite development and support from the university and mentor training sessions (Gravett, Petersen, & Petker, 2014). Additional TS staff challenges arose when TS staff did not serve as good teaching models for the students. In spite of these challenges the school mentors were able to provide good teaching examples and student teachers reported benefitting from observing the school teachers at work (Gravett, Petersen & Ramsaroop, 2019). In addition the TS staff recognised and highlighted the valuable

contributions they made in helping student-teachers' learning, with student planning, thinking processes behind the planning of lessons, practical real life classroom settings and experiences (Gravett, Petersen & Petker, 2014). The report (Gravett & Petersen, 2015) also highlighted the value of student teachers' early exposure to the classroom situation, enculturation into the practice of being a teacher and experience of learning about young children, such as Grade R (Kindergarten) learners who might have just recently entered the formal classroom and school environment. TS staff also reiterated the value benefits of the first hand experiences of engaging in real class situations from the students' first year of academia as beneficial. The role which TS staff play in the training of student-teachers as well as the exposure of student-teachers to the type of clinical experience the TS and staff would offer was also highlighted.

Gravett and Petersen (2015) further highlight the benefits of improved professional development felt amongst TS staff as staff recognised how the students' practical experiences in their classrooms allowed for them to become more reflective of their own teaching strategies, methods, planning and improving their own skills as teachers. One of the very real challenges experienced by university academic staff and TS staff, was the non-alignment between university staff expectations of the teaching school staff and the involvement of the university student teachers at the TS, and its effect on the TS staff. Additional TS staff challenges arose when TS staff did not serve as good teaching models for the students.

### **2.11 Purposeful alignment of key aspects of coursework learning and practice learning in TS**

Criticism has been levelled against university teacher education programmes, particularly with respect to the lack of effective integration of the coursework with the practice of teaching and worthwhile practical classroom experience. The generalized notion of teacher education programmes that are too theoretical has been blamed for many novice/new teachers not being able to manage the actual practical aspects and practices of teaching (Zachary, 2000, Sahlberg, 2012, Spencer, 2003). University academic staff involved in the coursework alignment of teacher education programmes, have been described as poorly informed as to actual classroom experiences and events and structuring coursework that does not quite align with the

actual classroom practice and events. The irrelevance of coursework to the practice of teaching as well as student teachers' lack of preparation to apply the coursework has been critiqued over many decades both nationally (Gravett & Petersen, 2007) and internationally (Parsloe, 1992). At a Teacher Development Summit in 2009, the same critique was levelled at the South African initial teacher education programmes. The pursuit of the theory and neglect of the practice was debated and highlighted.

Despite the many challenges and iteration to coursework and practicum learning materials, the University X report, highlights the benefits of the involvement of the TS as a place of learning for student teachers that not only requires and supports their coursework integration but also their practice learning. The development of students' practical wisdom in classroom experience and the development of wisdom of practice is focused on during their TS engagements. The ideal of meeting this compatibility between coursework learning and school experience learning is still a challenge and reaching a balance is still difficult especially if students are placed in schools that are not necessarily meeting these experiences. It is for this reason that the University X report highlights the benefits of the TS in linking theory and practice in the school.

This research is still ongoing although much has been learned about the functioning of such a school in teacher education in South Africa (Gravett & Loock, 2014), curriculum for teacher education (Petersen & Petker, 2014) and utilising the school as a research site (Henning, Petersen & Petker, 2015) over the last eight years. Ultimately, the research generated thus far recognises and highlights the vast benefits of TS integration with teaching education as a critical factor in preparing student teachers for the reality of teaching whilst still remaining true to the key role which academic coursework also plays in their preparation and development of excellent teachers.

## **2.12 Conclusion**

This chapter sought to describe the most favourable attributes of mentor. Three different models of mentoring were discussed namely the Five factor model and the Cognitive apprenticeship model. The role of the mentor in the mentoring role was discussed as were the core functions of mentoring as well as the common characteristics displayed by effective mentors.

## CHAPTER 3: Research design and Methodology

### 3.1 Introduction

In this chapter, I explain why I selected a qualitative case study to explore the following research question of this study what characterises the mentoring practices of a teacher in a teaching school? I provide detailed discussions of the selected data collection methods and provide a motivation for how these methods were used to address the research problem of this study. Following this, I provide an in depth discussion of the methods used to analyse the data, together with the processes and procedures followed to ensure the validity and reliability of this research study. I wished to gain an in-depth understanding of how a mentor teacher conceives of her mentoring role with pre-service teachers and sought to represent this in a manner that would “seek to discover and understand a phenomenon, a process, or the perspectives and world views of the people involved” (Merriam, 1998, p.11).

### 3.2 Situating myself as a social science researcher

As a social scientist part of planning an educational research project involves me clarifying my epistemological and ontological positioning. The literature I consulted (Merriam & Tisdell, 2016, Creswell, 1998) describes ontology as a branch of philosophy which relates to the reality and the nature of the social world in which all individuals exist. Crotty (2003) defines ontology as the ‘study of being’ whilst Guba and Lincoln (1989) describe the social researcher’s ontological conventions and assumptions as answers to questions of ‘what is the nature of reality’ we are researching. Taking an ‘ontological position’ would therefore allow me as researcher an opportunity to clearly set out what I believe about the nature of the world in which I exist but also clarify how I fit into it.

On the other hand, epistemology is the branch of philosophy that investigates the nature and study of knowledge, what researchers can know, and how they can know it. Additional core elements of epistemology lies in understanding the ways of knowing and learning about the varied social realities, which exist in the world (Merriam &



Tisdell, 2016). In being able to clarify my epistemological positioning, I would have to specify how I see myself acquiring valid knowledge for this study and how my epistemology aligns with my ontology. This involves expanding upon the nature of any knowledge claim/s I make and interrogating my own belief system of 'what constitutes truth and knowledge' (Merriam & Tisdell, 2016). All of these factors naturally influence the way in which I conducted my research (Wagner et al. 2012). This required me to look critically at the nature of the world in which I exist and the position and relationships I encounter within it. Social scientists like Schwandt (2001) and Kuhn (1962) refer to this as a *paradigm*. Kuhn (1962) describes a *paradigm* as a particular way of thinking whilst Schwandt (2001) defined it as commitments, beliefs, values, methods, outlooks and so forth shared across a discipline. Prior to starting with this study, I thus reflected on my ontological and epistemological orientations and how this would have an influence on my study of a teacher's views of her mentoring role.

In order to situate myself I looked to the research methodology literature in this regard. In my readings, I have come across three main social science paradigms. These are the positivist, interpretative/constructivist and emancipatory paradigms. As the main reason for this study was to understand how a mentor teacher conceives of her own role as mentor, I was of the view that the underlying assumptions of the positivist paradigm would not be a good fit for me. The epistemology of positivism is associated with objective and detached views of knowledge. In addition, positivist ontology is governed by a singular reality. Common designs in this paradigm include experiments, pre-tests and post-tests.

The emancipatory paradigm was also not suited to my study. Neuman, (1997) defined the ontological paradigm of this research as 'social reality being historically bound and continuously influenced by political and power-based factors'. The emancipatory paradigm is more aligned with research that is founded in an understanding that researchers and participants make meaning together in the research process – they thus collaborate from the beginning of the research process by setting the questions, choosing the methods, etc., and work in ways that leads to participant empowerment. While some of this resonates with my research, as the mentor teacher in my research actively cooperated with me in the focus of this study, the aim was not to work in

successive cycles to reflect together or to bring about change to a situation. This line of positioning are more commonly aligned with designs which include participatory action research and action research.

The third paradigm, namely the interpretivist or constructivist was more suited to my ontological ideas about the nature of reality and how knowledge is made and more particularly what my role as a social scientist researcher is in the process. The interpretivist paradigm has become influenced most of the data analysis in social sciences (Bergin, 2018: 17). Interpretivists argue from an ontological assumption that reality is socially and personally constructed as individuals are the creators of their own realities (Wagner et al. 2012). As I believe that individuals are shaped by their backgrounds, experiences and assumptions (Shadish, Cook, & Campbell, 2002) this paradigm was a good fit for this research study. Constructivism builds on the foundation of social creation of reality (Searle, 1995), with a foundational belief system that the “truth is relative and that it is dependent on one’s perspective” (Baxter, & Jack, 2008, pg. 545). The constructivist reality is therefore subjective and may change or have multiple perspectives through social interactions and is essentially influenced by the societies and the communities that we live in (Bergin, 2018).

From an epistemological perspective, I needed to be aware of how these realities impact on how knowledge is understood/constructed by the research participants. I reasoned that because of the historicity of the mentor, including her experience and knowledge as a practicing teacher for many years, as well as the numerous social interactions the mentor teacher engaged in her time at the teaching school, would be an influencing factor of her conception of her role as mentor. An added advantage of the interpretivist /constructivist paradigm is that it would also allow me to hear the participant’s (mentor teacher) stories whilst collaborating closely with me as researcher in a non-threatening manner (Crabtree & Miller 1990). An interpretivist approach would enable me as the researcher to explore the influence of these multiple realities on the mentor teacher’s ability to understand what her role as mentor comprises and how she enacts this with student teachers in a TS. The data collection methods of video recordings, semi-structured interview with the participant (mentor



teacher), the mentor teacher discussions and feedback with student teachers during video recordings and the practicum documents lent itself more to the interpretivist/constructivist paradigm. I was deeply interested in getting from the teacher an understanding of how she conceives of her role as a mentor and thus the methods I chose were focused on getting this 'insider perspective' (Merriam, 1998: pg.6-7).

### **3.3 Designing a study that would capture a mentor teachers views of her role**

The rationale for choosing a *qualitative case study research design* (Merriam, 1998) for this study is because I was interested in gaining an in-depth understanding of one case of the mentoring of student teachers from the perspective of one mentor teacher in the university-affiliated teaching school.

In general, qualitative research designs are founded on an understanding that "meaning is socially constructed by individuals in interaction with their world" (Merriam, 2002: pg. 3). In addition, it enables the researcher, to "gain an in-depth understanding of the situation and meaning for those involved" (Merriam, 1999). A qualitative research design enabled me, the researcher, to gain an in-depth understanding of how meaning is constructed by the mentor teacher during her mentoring sessions with student teachers. Here the views of the qualitative methodology author Charmaz (1995:pg. 54) was also useful. She argues that in qualitative research,

*"we start with the experiencing person and try to share his or he subjective view. Our task is objective in the sense that we try to describe it with depth and detail. In doing so, we try to represent the person's view fairly and to portray it as consistent with his or her meanings."*

It naturally also lead me to try to understand the practices and processes she adopts in mentoring sessions with student-teachers. For the purposes of this study, a mentoring session will include three components:

1. A reflective discussion with students on the lesson planning.
2. The actual lesson taught which may or may not involve input from the mentor teacher.

3. A discussion after the lesson where the mentor teacher engages with the student teachers.

Given the above I was prompted by the views of Smith, (1997) who defines qualitative case study design as “intensive descriptions and analyses of a single unit or bounded system”. When I considered the interaction of mentor with students in the three episodes outlined above, I have also attempted to address the purpose of the study (Henning et al, 2004), namely to describe “what the actions of the people (the mentor teacher) in the settings are, what they (the mentor) think(s) and maybe also what they feel, what their settings looks like and what the significance of the signs and symbols in the setting is’. I also applied the question guidelines set out by Henning et al (2004), and used the answers to determine whether or not the case study in question leaned towards a bounded system. These questions included:

1. Who would be the focus of the case study?
2. What would the unit of analysis be?
3. The types of activities and events to include.
4. What is the research method that would be employed?
5. What are the defining parameters of the choice of case study?

The confirmation of this qualitative research as a bounded case study lies in the fact that the focus of this case study was to understand how one particular mentor teacher understands her role as a mentor to student teachers in a TS. Accordingly I used multiple data generation methods including video recordings, observations, document analysis, a semi-structured interview, the mentor teacher interactions and discussions and also a video recorded mentor teacher discussion session with a group of student teachers. All of these activities were investigated within the bounded system of the teacher education programme which incorporated an affiliated primary school known as the teaching school. The case was considered within the contexts of the mentor teacher, student teachers and the clinical/classroom settings. It was in these settings that the decision was developed and utilized. It would not have been possible to have a true reflective picture of how the mentor teacher conceives of her role without considering and including the setting, context and boundaries within which the phenomenon occurred.

Stuurman (1997) and Sagadin (1991) also describe a qualitative case study as an explorative process of an individual. This all-inclusive description of the mentor teacher's view of her role is also combined with the environment or context in which her view was formed. Maykut and Morehouse (1994) too note that a qualitative case study is a more effective presentation of a narrative, because the researcher is better able to present data in which the research participant (in this case the mentor teacher) speaks for herself. I kept these ideas in mind as part of my design and as I moved into the empirical world of the teacher.

### **3.4 Selecting the research participant**

In a qualitative case study, the choice of participants is based on the level of intimate involvement in the study (Merriam 1994). This qualitative case study is comprised of a small, purposely selected sample (Merriam 1994), rather than a large or randomly selected sample. This is an attempt to encapsulate what Patton (1990) refers to as information-rich cases that will supply rich and thick data for the study. In this study the mentor teacher was purposely selected based on a number of criteria. She has many years of experience in foundation phase teaching, and has been involved as a mentor to student teachers in the teaching school since its inception in 2010. She also holds a leadership position in the school management team and is responsible for curriculum leadership in the foundation phase. She thus has detailed knowledge of the structure and day-to-day working mechanisms within the teaching school, as well as the structure of the University X's practicum. Choosing her was deliberate, as it allowed me to opt for a participant who was comfortable with engaging in non-judgemental dialogue about how she assists students in making sense of their classroom practices, while still providing an openness that would permit her to offer varying opinions of her own mentoring role over time. I reasoned that such an experienced teacher would be an excellent example of what Collins, Brown and Holum (1991) describe as the "expert" in a cognitive apprenticeship.

In addition to my role as main researcher, I also serve as Practicum co-ordinator between University X and the Teaching School. This is mainly an administrative position aimed at keeping records of attendance of students and for directing practicum activities and there is no hierarchical power or line management function

attached to this role. Thus there existed no possibility of the researcher exerting a role of power over the students or participant mentor teacher.

Also, although not participants I would interact with directly in the empirical work, the other participants in this study comprised of 15 final year, B.Ed. Foundation Phase student teachers. The student teachers were naturally included in the selection as they are the ones who are guided (mentored) in an intact group of 15 students by the teacher. In the B.Ed. programme, the central organising framework for the teacher education programme and the associated practicum is child study. Students are thus paired with a child from their first year of study and 'follow' this child through their schooling as they themselves progress through their degree programme (Gravett, Petersen & Petker, 2014). Thus, first years are paired with a child in Grade R and as the students' progress to second year they follow this child into the next grade. As the main languages of the school in the foundation phase are isiZulu and SeSotho, which are languages I do not speak, I had to focus on grades where interactions are conducted in English. In this way I could follow both the lesson itself as well as the participant's interactions with the student groups thereafter. I also wanted to choose a group of students that were relatively advanced in their degree programme and I reasoned it would give me more insight into their learning over time in this model of teacher preparation and they would also have a deeper understanding of their university coursework and its connection with practice, know the teacher for four years, and be familiar with the mentoring process. It would thus likely influence the quality of the mentoring conversations. Another group that I did not actively engage with was the 30 grade three learners in the SeSotho home language class, but as they were the recipients of the teaching, they were included in the video taping of the lesson.

### **3.5 Data collection methods**

In keeping with a qualitative case study research design, I used qualitative methods of data collection. Although the methods associated with qualitative research, might be considered laborious and time consuming, I chose methods that would give me information to help me understand the unit of analysis in a more nuanced way. As I was 'concerned with gaining in depth understanding' of the phenomenon I was studying from the perspective of the teacher herself, while also searching for shared

understanding of teacher-mentor actions and discourse/s in mentoring episodes, I turned to video recording, semi-structured interviews and document analysis. Video recordings, would allow me to gain insight into the social phenomenon of the mentoring process as it occurred naturally. Qualitative data such as videos would also enable a more detailed understanding of the process adopted by the mentor teacher and thus shed light on the less visible aspects of the social world which teachers and student teachers inhabit and operate in. I also used semi-structured interviewing to get insight into the mentor teachers opinion/views of the mentoring process and her role within it.

Accordingly, data was generated in two phases. In the first phase of data generation, video recordings of a lesson package were taken. This first phase of data generation also included the collection of completed mentor teacher assessment documents. The second phase of data generation included a semi-structured interview using the data collected in phase 1 to inform the questions I asked the mentor teacher during the interview.

### **3.5.1. Phase 1: Video recordings**

Video recording according to the Sage Handbook of Qualitative Research (Given, 2008) is a qualitative research method that involves capturing moving images, with or without sound, to study the visual details of interaction and behaviour. It has the advantage of offering a permanent source of complex data that can be reviewed repeatedly. The two most frequently used methods of video recording are those of researcher-generated recordings and participant-generated recordings. In participant-generated recording, the participant of the study is the only person responsible for the selection of the video content to be recorded as well as the physical control of the video camera. This method of video recording was not suited for my study and instead I selected the researcher –generated method. The latter allowed for me as the researcher to record the participant (mentor-teacher) engaging in lesson planning within her natural working environment of the classroom. I was able to capture the mentor teacher involved in interactive discussions at various stages of the three part lesson package. In the teaching school practicum, each lesson package comprises three parts/components.

**Part one** consists of a lesson planning session, which includes a mentor teacher and a group of 15 students. In this study, the session was on planning a Grade 3 mathematics lesson. As per the teacher education practicum in the teaching school, the mentor teacher leads the session and requires student engagement about aspects such as content, alignment with the Curriculum and Assessment Policy Statements, choosing appropriate teaching methods as well as discussion about how the lesson would unfold and progress in line with the format required by the academic department. Hereafter students would work as a group to prepare the lesson for execution in the following week. Such preparation would include finalising the lesson plan, creating the resources and the preparation of all students in the group to act as teacher in anticipation of the mentor teacher selection on the day of lesson evaluation.

**Part two** comprises of the lesson presentation to the school learners, and would follow the lesson preparation stage. One of the group members, would be chosen to present the lesson to a group of 30 Grade 3 learners from a particular class at the teaching school. In addition, two of the group members would serve as teacher assistants during the lesson delivery and provide in-class support during learner group activities, individual activities and general classroom management. The assistant teachers would not participate in the actual teaching of the lesson. The mentor teacher would assume the role of observer and evaluator during the student lesson delivery and would generally not engage with the student teachers or learners. The lesson evaluation template is a shared template developed by staff members and TS staff members directly involved in both the teaching school and the teacher education programme of University X. Teacher education staff in conjunction with the mentors and students are familiar with these practicum documents as it is used from the first year for lesson evaluation up to and including their 4<sup>th</sup> year of study.

A third element namely the lesson evaluation and mentoring session would follow immediately after the presentation of the lesson. Here the expectation is for the mentor teacher and the students to reflect on the lesson and students learning. This reflection session includes but is not limited to positive aspects of the taught lesson as well as the challenges they experienced. It is also here that the expectation is that the mentor would assist the student in connecting their university coursework, in for instance student methodology, child development studies and mathematics, with their practice. The mentor is also expected to invoke appropriate research findings or theoretical



perspectives on these elements with the students. In the current practicum, the reflective session is an opportunity for practice development in that the mentor teacher would offer suggestions that could possibly improve the student's future lesson presentation. It is also during this stage that the students are expected to evaluate their peers on aspects such as group work, active participation, etc. The mentor teacher assessment rubric was collected and used as part of the Phase 1 of the data generation.

Video can also be used alongside interviews to prompt discussion, or to stimulate recall or provide a basis for reflection (Roth, 2009). In my case the video recordings afforded me an opportunity to select specific sections or episodes within the recordings to inform the semi-structured interview questions. By using the technology tool of video recordings I was also better able to capture the mentor teacher and student teachers engaging in the process of mentoring.

As video recording and data can provide researchers with a powerful way to collect, share and analyse complex processes of human interaction (Fitzgerald, 2012) events captured on video can provide a wealth of information. This notion is supported by Barron's (2003) account of video recording and data presenting prospects for observing details such as interactional occurrences, including eye gaze, body posture, content of talk, tone of voice, facial expressions, and use of physical artefacts, as well as between-person processes such as the alignment and maintenance of joint attention. In the case of this research it could also provide indirect clues and incidents relating to the interactions between the mentor teacher and her mentees, and would allow for me to carefully check for patterns within the recordings that would lead me to understand how she conceives of her role. There are generally three sets of guidelines (Erickson, 2006) which would inform pattern identification in video analysis namely the whole-to-part inductive approach, part-to-whole inductive approach and the manifest content approach. The approach I selected as most relevant and appropriate for this research was the whole-to-part inductive approach to identify patterns in the video recordings because I had not developed any initial assumptions or developed any prior predictions of what would be revealed in the video recordings. I therefore used a more grounded method of identifying particular clues, incidents and patterns

As researcher, I did not interact with any of the participants in this process. I was also relatively confident that neither the students or the mentor were influenced by my presence as we routinely conduct observations of teaching in the school and regularly video tape lessons and interactions between students and mentors for analysis – they are thus accustomed to having an academic staff member in the classroom and with videotaping. The mentor teacher as main participant was also afforded the opportunity to display her own proficiency in what Shulman (1987) described as the knowledges every teacher should possess. I videotaped the lesson packages, using a video recorder strategically placed in the classroom to ensure that a full view of all the participants was possible

### ***Documents***

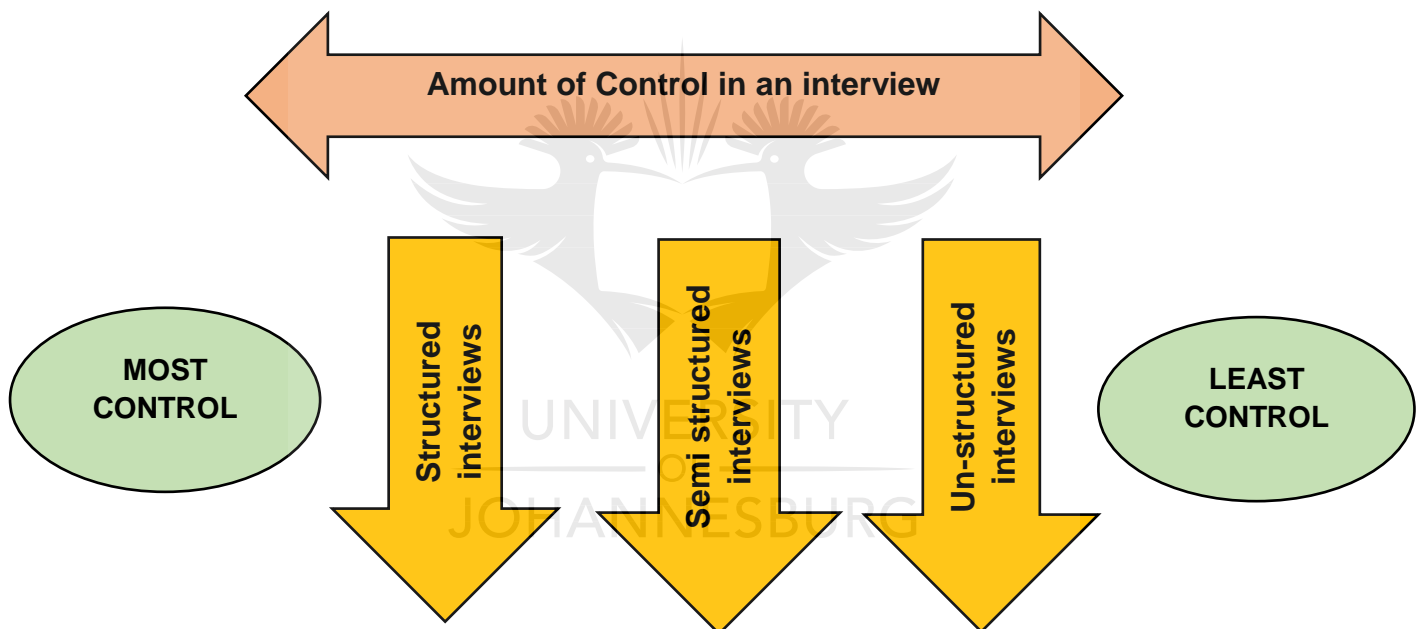
Hudson (2014) argues for a shared responsibility and collaboration between universities and mentor teachers with regard to the design of any type of feedback tools for student teacher evaluation. In the case of this study, the documents selected for analysis were made up of a set of evaluation and feedback forms which had been collaboratively designed by University X and TS staff in order to provide the quality of feedback which would seek to contribute towards the improvement in the professional teaching competencies of University X's student teachers (Hudson (2014). An added rationale for the selection of the lesson evaluation forms was that “written feedback formalised the process” (Hudson & Hudson, 2014 pg.7) and that there existed an expectation that student teachers would exact the changes suggested by the mentor in the feedback forms in order to improve planning of future lessons.

### **3.5.2 Phase 2: Semi-structured interview with the mentor teacher**

There has been some debate around the use of the common terms of interviewer and interviewee. Brenner in 2006 premised the terms “*researcher*” to describe the person heading a qualitative interview and “*informant*” as the person who directs the interview process through sharing his/her knowledge related to the topic. For this study I selected the terms interviewer and interviewee to describe the persons directly involved in the interview process.



There are a number of ways in which to describe interviews which are used in both quantitative and qualitative research (see figure 3.1). Given (2008) refers to the three types as the structured, unstructured and semi-structured interviews. Merriam, (2002, 1994) describes interviews as one of the major sources of data for a qualitative research study, and suggests a “semi-structure approach as an option for the qualitative interview” (Merriam 1998). Denscombe in 2007 described the interview continuum as two opposing ends and the semi structured interview placed somewhere between these two opposing ends. According to Henning et al (2004:5) interviews provide the participant with a “more open ended way of giving her views and demonstrating her actions”.



**Figure 3.1:** Distinguishing between different interviews

**Adapted from:** [www.rand.org](http://www.rand.org)

The most controlled type of interview is the structured interview and is characterised by a fixed order and set of interview questions. Merriam (2002: pg.12) describes these interviews and respective questions as ‘highly structured and the order in which they are asked are determined ahead of time’. I surmised that a structured interview would not be suited for this study, as it would not leave me with much room to explore issues that interested me arising from the video recording, document analysis and assessment rubrics to pursue with the mentor teacher. The opposite end of this

interview continuum speaks to unstructured interviews. Embedded in these interviews is a clear plan of what will be asked by the researcher however there is very little control over how the participant answers. The interviewer is limited in the amount of control exercised over the course of the interview discussion. Merriam (2002: pg. 13) described these interviews as having 'topic areas to explore but neither the questions nor the order are predetermined'. I opted not to choose this particular type of interviews as it was not suitable for my purposes – I would already have had access to the video recording and wanted to pursue a line of questioning informed by my reading of the literature and what I observed in the video recordings.

On the other hand, semi-structured interviews are characterised by the interviewer having set some key questions and having flexibility about the order in which they are asked. The semi structured interview can also be described as a mix of main questions and probing questions. With semi-structured interviews, the interviewer has the added benefit of generating or sidestepping interview questions according to the research topic, thus leading to a much more flexible and adaptive interview (Gavora, 2006). Probing questions could also be asked to ensure that the researcher covers the correct material. This type of interview collects detailed information in a style that is more conversational than formal. Semi-structured interviews are used more often when the researcher requires a deeper understanding of the topic and wishes to probe further the answers which the participant provides (Patton, 2002).

In the second phase of data collection, I thus conducted an individual semi-structured, interview with the specific Grade three teacher who serves as student mentor. A semi-structured interview with the mentor teacher, I reasoned would provide for an opportunity to explain how she conceived of her mentoring role. It would also allow me to get her insights, based partly on her actions with students in the video-recording, of how she engaged as a mentor.

Prior to the interviewing process, I explained the reason for the interview and provided a consent form for the teacher. I accordingly requested an interview with the teacher at a time and place convenient for her. I also informed her that she would have carte blanche to choose the most convenient time for her. Assurance was also given to the teacher telephonically that the interview could be conducted outside of her school hours and would not infringe on her teaching duties and responsibilities. The teacher

granted her consent for the interview, and I subsequently sent an informed letter which provided details of my study. The teacher was then sent a consent letter for the interview to be conducted, recorded and transcribed by me. The interview was conducted in the teacher's office with only the two of us present. The office lay-out allowed for us to face each other in close proximity, and thus interact freely. As I do not speak the home language of the teacher, the teacher was interviewed in English – her command of the language is more than adequate for the purposes of interviewing.

Because semi structured interviews are partly directed by the researcher's main questions and also allow for relative flexibility for changing direction and the order in the questioning based on the participant answers, it allowed for me to garner additional information from the teacher which I did not consider at the time of question selection. The flexible nature of semi-structured interviews, also afforded valuable opportunities for the teacher to share numerous examples to illustrate her experiences of the mentoring process. Keller (2012) says it is the fairly open framework of the semi - structured interview, which allows going into detail when it is needed in order to both give and receive information. The interview was tape recorded by me in order to facilitate the transcription and analysis (Patton, 2002).

The following main questions were asked during the interview:

1. *How do you see your role as a mentor?*
2. *Based on what you see as your role as mentor, what do you think your specific role is during this planning stage/phase with the 4<sup>th</sup> years?*
3. *What do you think your role is specifically when you are evaluating the students during a lesson presentation?*
4. *What do you think your role is when you are giving feedback to students?*
6. *How has your role as mentor teacher influenced your own teaching practices?*
7. *In your opinion, do you think that your mentor training was sufficient for your purposes? Could you elaborate on why/why not?*
8. *How equipped do you think you are at this stage, for your role as mentor teacher?*
9. *Do you think that mentoring has a place in teacher training programmes?*

As the video recordings provided context for the way in which 4<sup>th</sup> year students and their mentor teacher engaged in lesson planning sessions, presentations, evaluations and mentoring feedback sessions, I focussed on identifying incidents from the video recordings as prompts for engaging in discussion with the mentor teacher. For instance,

*In the video recording of you planning a mathematics lesson with the students I noticed that you spent a lot of time going over the various stages of lesson planning. Can you be more specific as to why you think it is important to do so?*

I reasoned that this type of probing question would encourage her to freely share additional details of how she engaged with students during mentoring and planning sessions, as well her rationale for her particular actions and utterances. The participant was given time to respond to the open-ended questions and was assured that there was no time limitation attached to answering questions. This also allowed for a comfortable, relaxed atmosphere during interviews.

### **3.6 Data analysis**

I used processes associated with qualitative data analysis. I will discuss the video analysis first, as it was this data that prompted certain questions in the semi-structured interview. The video data was analysed in two ways: first for content and then using a matrix composed of criteria which would highlight specific roles and responsibilities of the mentor engaging with student teachers. I then made links to specific “clips” in the video recordings where the mentor can be seen enacted her role.

For content analysis of the semi- structured interview, I used a composite of the guidelines provided by Charmaz (2006), Henning, van Rensburg and Smit (2004) and the more detailed explanations of Maykut and Morehouse (1994). The first step of this method required qualitative coding, or describing the data into usable ‘chunks’ or ideas of information. Charmaz (2006:43) explains coding as “naming segments of data with a label that simultaneously categorises, summarises, and accounts for each piece of data”. Once I had organised the raw data according to codes, the possible categories existing in the codes were abstracted. From the categories, I established themes that all connected to the research question and sub-questions.

### 3.7 Ethical Considerations

Welman et al (2010) list four essential considerations which qualitative data should pay particular attention to when conducting their research. These include:

1. informed consent
2. the right to privacy
3. protection from harm and
4. involvement of the researcher.

I will discuss the relevance and of each of these considerations in relation to the entire study and then to each of the methods of data collection namely video recordings, document analysis and the semi-structured interview.

The research was conducted and complied with the set standards of University X's Faculty of Education's ethical standards and an ethical clearance certificate was duly issued (Addendum A). Before data collection proceeded, the participant was informed in a face-to-face meeting and a letter of intent (Addendum B) of the nature of the research, her role in terms of time and effort as well as the procedures to be used by me to protect her anonymity and confidentiality (Mouton, 1996:47). The participant was ensured confidentiality and finally in the reporting of the findings, and the participants was given a pseudonym. This was followed up with a signed letter of consent form (Addendum C). Ethical clearance was sought for the mentor teacher only as the study was about the mentor teacher. Students were not part of the active research however, as they are the participants being mentored and the teacher was taped, they were included in the video recording. Students' inputs and remarks were not used except to give context to the mentor teacher practices and data was not collected from students directly. There was no harm either physical, psychological, legal or social to the persons who participated in this study.

**Ethical clearance number:** 2018-187

**Video recording** has the tendency to raise ethical issues pertaining to the privacy and confidentiality of the teacher, student-teachers and learners as research participants. (Given, 2008) As all of the research was conducted at the University X's teaching school, a blanket consent for teachers, student-teachers and learners is already in place for videotaping for research purposes. Despite the already available consent, I

briefly discussed the reason for the video recording as part of my masters' study with the student teachers and mentor teacher and the possibility of the research for improved practice, transformation and knowledge contribution, prior to the commencement of the data collection. I chose not to discuss this with the group of learners. I also requested permission from the relevant university co-ordinating committee to conduct research in the teaching school.

**Documents for analysis** comprised of a set of practicum lesson evaluation documents which the mentor had completed whilst observing one of the group members deliver a mathematics lesson. The mentor had provided written feedback using the practicum student teaching evaluation rubric form provided by University X. This form allowed for the mentor to provide feedback using ticks, checks or circles against a list of student teaching abilities which were listed under the criteria titles of a) lesson design, b) lesson presentation, c) Classroom management and communication and d) Reflection. Additional space was also made available for the mentor teacher to provide additional written feedback notes.

**Semi-structured interviews** allow individuals to share their private thoughts and feelings. It is a method of data collection that depends on the effective inter-personal skills of the interviewer for success. It also requires a well-developed ability to establish and maintain a relationship and rapport between the interviewer and the interviewee throughout the interview. Although these human qualities are valuable they are also ethically sensitive. It is important that the interviewer and interviewee engaged in serious discourse related to the types of questions to be asked, issues of confidentiality and anonymity prior to the actual interview process. Trust is essential and must be maintained and reflected through professional and respectful recognition for each interviewees' unique and valuable perspective which they bring to the interview (Welman et al, 2010, Bergin, 2018).

When I transcribed the semi structured interview data, I removed the name of the individual teacher in the transcript and replaced it with the name Ruth, in order to maintain anonymity of the participant mentor teacher.

### **3.8 Reliability and Validity**

Measures associated with validity and reliability in qualitative research, such as member checks and employing an audit trail was employed in order to ensure that the results “are consistent with the data collected” (Merriam,1998:206; Maykut & Morehouse, 1994:146).

By triangulating the data collected, the evidence from the various primary and minor sources of video recording, document analysis, observation and semi-structured interview as well combining the numerous methods at different times assisted in supporting the research in the following ways:

- Additional sources of information presented further understanding into the topic of the study.
- Limitations and weaknesses in one data source was reduced when one or more of the other data sources confirmed the same data
- Multiple data sources validated and corroborated similar data
- More complete data was achieved
- Data and information was sustained in numerous places of research, resulting in easier analysis of the data, making assumptions and reaching conclusions.

Validity and reliability was also enhanced through the triangulation of the various data sources and submitting the same data sources to both content and critical discourse analysis.

### **3.9 Trustworthiness**

Lincoln & Guba (1985) refer to four critical issues in trustworthiness which qualitative researcher should pay particular attention to. These include a) credibility, b) transferability, c) dependability, and d) confirmability. They describe credibility as an assessment as to whether or not the research findings represent a “credible” conceptual analysis of the data collected from the sample participant’s original data and transferability is described as the extent to which the findings of a research study



could be applied or transferred outside of the confines of that particular research study. They also go on to describe the remaining 2 critical issues of dependability as a measure of the quality of combined procedures of data collection, data analysis, and findings generated from these and confirmability is a measure of how well the research findings are sustained by the data which was collected. For this research I approached trustworthiness by using methods such as member checking, peer reviewing, maintaining a paper trail, and a review of my research methods and research study by an expert supervisor as well as a co-supervisor (Merriam, 2002).



## CHAPTER 4: Data analysis and presentation of data

### 4.1 Introduction

In this chapter I will give a more detailed account of the presentation, analysis and an interpretation of the data I had collected. For my study on mentoring in a teaching school, the main research question was set as: What characterises the mentoring practices of a teacher in a teaching school? with the sub-questions set as:

- How does a mentor teacher understand her mentoring role with student-teachers?
- What is the nature of the mentoring relationship/s between the school teacher and student-teachers?
- What influences the mentoring practices of a mentor teacher?

The research question/s required analysis methods which could lead me to a deeper understanding of the mentor teacher's conceptualisation of her role as well as of the role of a mentor teacher. According to Maykut and Morehouse (1994: 112) the procedures for qualitative data analysis are fundamentally "a nonmathematical analytical procedure that involves examining the meaning of people's words and actions". Meriam (1998: 178) in turn, refers to data analysis as "the process of making sense of the data". The qualitative research findings of this study were inductively derived (Creswell, 1998; Patton, 2002) from the data because I was interested in gaining an understanding of the mentor teacher's views from their words and actions, and did not attempt to prove an already predetermined theory.

### 4.2 Analysis of data

For this study I utilised the constant comparative method of data analysis. This method of analysis is set out for a beginner researcher by Maykut and Morehouse (1994) in a way which breaks down the process of qualitative data analysis in an easily understood manner. The methods explained by Maykut and Morehouse (1994) draw on Glaser and Strauss's (1967) *constant comparative method*, the procedural details of the steps involved in analyzing data using the constant comparative method as set out by Lincoln and Guba (1985) and the analytical procedures of Taylor and

Bogdan(1984). The data sets included the video package, a transcription of the semi-structured interview with the mentor teacher, observational notes made during video recordings and documents related to the practicum. The findings were constructed from the analysis of these various data sets using as a guide the research question and sub-questions.

### **4.3 Preparing the data for analysis**

As a result of the large corpus of data, I had to first find a way to store and organize the data to enable organised and systematic analysis. This process started by first preparing the data sets for analysis by assigning codes to the data, particularly the written textual data to indicate its source. In this process however, I was already starting with the analysis as I was familiarising myself with the content of the data sets. The three sets of textual data were the interviews, the video recording observational notes and the written practicum documents.

For the videos my approach to coding the data to source is intertwined with the method I used for organising the video text for analysis. I found few sources that explicate the process of video analysis, despite the common use of video recordings in qualitative research. I chose not to use analysis methods such as TRANSANA or to transcribe the speech in the video recordings word for word, but segmented the video into analysable units guided by what was occurring, e.g. the introductory phase of the lesson planning session. In this way I was able to construct a series of the important events and narrative occurrences within the bigger video recording referred to as 'clips'. In the video recording I detailed a total of five clips for analysis. Then, by using Erickson's (2006) description of a whole to part inductive approach I viewed the entire video recording and then identified points which defined significant interactional occurrences between the mentor teacher and student teachers (Derry, 2007) that were directly related to the research questions: What characterises the mentoring practices of a teacher in a teaching school? I reasoned that it would not be useful to transcribe the video word for word as the detailed description such as gestures, gazes and tone of voice of the participants in the video recording would result in an excessively large transcript. In this respect I took heed of the caution of Rose (2008) who refers to this transformation of audio-visual material into written text as a translation, and

simplification of the actual video recording. In table 2 I provide an example of how I recorded the salient aspects of the video recording. This was done in a two part process. I first indicated important elements such as time, participants, the subject, etc. I then created segments where I could describe the detail of what occurred in each 'clip' (or episode) of the video recording. This system helped me make detailed notes of what occurred in each clip/episode. The entire table with the complete analysis is included as Addendum D.

I thereafter also chose to code the video data set to source as I did with the written practicum documents and semi-structured interview transcript. On each page of the video recording data source, I allocated a code for the type of data, the source of data and the page number of each page of data synopsis. For example, the first page/clip (1) of the video recording package (VP) on lesson planning (LP) from the recording with the mentor (M) is indicated as VP/LP/M-1 in the top right-hand corner of the page. I then stored all the original recordings on a flash drive.



**Table 2:** Exemplar of the process of preparing the video data for analysis

VIDEO RECORDING PACKAGE 1 : Lesson planning					VP/LP/M-1
Time	Participants	Nature of the recording	Foundation Phase Subject	Mathematics Content Area and Skill	Content Areas in CAPS
<b>Total recording</b> 1½ hours.	<ul style="list-style-type: none"> <li>•4<sup>th</sup> year student-teachers</li> <li>•Mentor teacher</li> </ul>	The lesson planning session was recorded in 4 chunks of viewable clips.	Mathematics: Grade 3	Numbers, Operations and Relationships	<ul style="list-style-type: none"> <li>•Solving problems in context</li> <li>•Recognise and identify all the South African coins and bank notes</li> <li>•Solve money problems involving totals and change in rands or cents</li> <li>•Convert between rands and cents</li> </ul>
Clip No.	Who talks	Events (What is happening during this time?)			
CLIP 1 OF 1: Lesson Planning	<ul style="list-style-type: none"> <li>• Dominant Mentor teacher talk.</li> <li>• Mentor teacher questioning.</li> <li>• Limited student teacher talk.</li> </ul>	<p><b><u>Mentor discussion on lesson planning elements</u></b></p> <ul style="list-style-type: none"> <li>• Mentor asks students what they expect to see when they enter the classroom</li> <li>• Asks what they expect to gain from the mentor in that particular session of their practicum</li> <li>• Students respond that they expect to discuss what they are going to teach for their lesson presentation and how to plan a lesson</li> <li>• Mentor re-affirms the student teacher’s expectations of teaching them elements involved in a lesson plan</li> <li>• Mentor teacher reaffirms the purpose of the discussion is for planning a Grade 3 Mathematics lesson</li> </ul>			

		<ul style="list-style-type: none"><li>• Students topic/theme of the lesson, the content of what they are going to teach</li><li>• Mentor questions students about the necessity of a well-structured lesson plan</li><li>• Students respond by talking about importance of teachers' knowing what to teach and how to teach the lesson</li><li>• Mentor reinforces the importance of preparing lesson plans for both seasoned and novice teachers</li><li>• Mentor talks about the purpose of a lesson plan as a guide for teaching, must be well structured, include activities, must have relevant and available resources, contain relevant assessment information</li><li>• Mentor talks about teachers using the lesson plans as a tool to reflect on whether or not they have achieved what they have planned for at the end of the lesson</li><li>• Mentor talks about well-planned lesson plans as a tool to avoid time wasting and easy flow of the lessons</li><li>• Mentor teacher talks about elements needed for a lesson plan (aims, objectives, assessments, differentiation</li><li>• Mentor teacher defines and talks about the differences between aims and objectives of lesson planning</li><li>• Mentor talks about why students should include the type of learner they are teaching in their lesson planning, She refers them to coursework textbook Becoming a teacher for further information</li></ul>
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		<ul style="list-style-type: none"><li>• Mentor tells students that knowledge of learners' cultural backgrounds, learning styles of learners, learner diversity, levels of understanding, inclusion of learners with challenges, should be included in the lesson plan</li><li>• Mentor talks about grouping learners according to differentiated abilities and encourage cooperative learning</li><li>• Mentor talks about planning a lesson with the knowledge of the broader community within which the school is located in</li><li>• Mentor talks about lesson plan aligning with the social context of learners</li><li>• Mentor talks about assessment as continuous and throughout the lesson</li></ul>
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The written practicum documents which I had collected for analysis were comprised of a lesson rubric and mentoring feedback notes which the mentor had completed after her evaluation of the mathematics lesson which was planned for and delivered by the student teachers. These practicum documents were created by a team of university staff members and TS staff members directly involved in both the teaching school and the teacher education programme of University X. I felt that these documents would be reflective of the values and ideas of the team. In order to ensure the anonymity of all the participants, I first concealed all names of persons, institutions and mark allocations. I then coded the document data to source and allocated a code for the type of data, the source of data and the page number of each page of the data. The document data source was therefore coded as the first page (1) of the practicum documents (PD) with the mentor (M) and indicated as PD/M-1 in the top right-hand corner of the page. The written documents were then photocopied and the original documents set aside. Figure 4.1 provides an example of how I coded the written practicum documents to source.

**Figure 4.1:** Coding written practicum documents to source

PD/M-1

Grade	3	Surname and name of mentor teacher	
Week	2	Date	Duration of lesson (h)
Year group		Group number	
Name and surname of student			
Student number			
Subject	Mathematics	Content area being taught	Number, Operations and Relationships
Topic/lesson title			
Details of assessor			
Title, name and surname			Signature of assessor
Email address			

SECTION	MARKS	GROUP MARKS
A	21	
B	56	
C	7	
D	7	
<b>Total Score</b>	91	

With the interview, before beginning the data analysis, I prepared the audio-taped semi-structured interview with the mentor teacher by transcribing it word for word. The transcription process allowed for me to become completely engaged in the mentor teacher's narrative and develop a deeper sense of understanding her perceptions of her role. Extracts from the interview were also cleaned by removing hesitations and unnecessary pauses and breaks such as 'um' and 'er' whilst still presenting the mentor's responses as accurately as possible. This was purposely done to follow the flow in the conversation during the interview. Thereafter I was in a position to code the data set to source. This means that on each page of the interview transcript in the upper right hand corner I allocated a code for the type of data, the source of data and the page number of each data set. For example, the first page (1) of the transcript (T) from the interview with Mentor (M) is indicated as T/M-1 in the top right-hand corner of the page and the entire interview was coded in the same way. I then made a photocopy of the interview transcript and stored the original for referral purposes (Addendum E). I was now in a position to move onto the actual analysis of the data. I began the data analysis by following the order of which the data was collected.

#### **4.4 Analysis of the video recording**

I started the video analysis by first viewing each of the video clips a few times in order to gain a clear understanding of what was happening in each of the clips. During the viewing, I used Emerson, Fretz and Shaw's (1995) recommended questions to guide me in the coding process of the video clips just as I did with the semi structured interview. These questions include:

1. What are the participants trying to achieve/doing?
2. What are the specific ways/strategies do the participants use?
3. How do the participants talk about, characterize and understand what is going on?
4. What assumptions are the participants making?
5. What did I observe that was happening? What have I learned from the notes that I have made?
6. Why did I include specific notes?

The next stage of the video analysis involved once again reading through the detailed notes and descriptions of each of the "clips" or episodes I had made for each of the

video segments. I proceeded to look through the content of these notes to see how they could be clustered for similar meaning and created a provisional coding category and wrote a “rule of inclusion” for each one. Table 3 provides an example of a provisional coding category of mentor modelling curriculum and pedagogic content knowledge and the rule of inclusion for this category.



**Table 3:** Excerpt of a provisional category (Mentor models curriculum and pedagogic content knowledge) and the rule of inclusion

<b>Provisional coding category</b>	
Mentor models curriculum and pedagogic content knowledge	
<b>Rule of inclusion</b>	
The mentor's actions and explanations guide the development of students' pedagogic content knowledge and curriculum knowledge.	
Mentor's explicit reference to a math classroom/teaching strategy	<b>VP/LP/M-1</b> Mentor teacher discusses possible math activities that could be used in the introduction and the body of the lesson
	<b>VP/LP/M-1</b> Mentor discusses how possible integration of 5 Mathematics content areas could occur using the topic of money
	<b>VP/LP/M-1</b> Importance of teaching mathematics vocabulary is discussed with the students
Curriculum Knowledge	<b>VP/LP/M-1</b> Mentor shows students how to navigate the Mathematics CAPS document to access various sections such as curriculum overviews of each term, allocated time for each lesson, mental mathematics, Mentor tells students that the policy document is a guide and is not prescriptive

	<p>Mentor tells students the policy document must be used in conjunction with knowledge of learners level of development in math</p>
Learners and their characteristics	<p><b>VP/LP/M-1</b></p> <p>Mentor talks about why students should include the type of learner they are teaching in their lesson planning, She refers them to coursework textbook <i>Becoming a teacher</i> for further information</p> <p>Mentor tells students that knowledge of learners' cultural backgrounds, learning styles of learners, learner diversity, levels of understanding, inclusion of learners with challenges, should be included in the lesson plan</p> <p>Mentor talks about grouping learners according to differentiated abilities and encourage cooperative learning</p> <p>Mentor talks about planning a lesson with the knowledge of the broader community within which the school is located in</p>
Classroom management	<p><b>VP/LP/M-1</b></p> <p>Mentor talks about effective classroom management skills which would ensure successful group activities and the effective selection of groups</p>

Table 4 on the page which follows provides an additional example of a provisional coding category of encouraging student teachers to work co-operatively in a group and the rule of inclusion for this category.



**Table 4:** Excerpt of a provisional category (Encourages student teachers to work co-operatively as a group) and the rule of inclusion

<b>Provisional coding category</b>	
Encourages student teachers to work co-operatively as a group.	
<b>Rule of inclusion</b>	
The mentor's actions aims to encourage active student group participation and create a community of practice amongst student teachers.	
Relationship building amongst students	<p><b>VP/LP/M-1</b></p> <p>Mentor teachers articulates the expectation that she is expecting to see some innovation and shared communication from students during the lesson planning</p>
Value of group work	<p><b>VP/LP/M-1</b></p> <p>Mentor teacher reinforces using combined group ideas and styles of teaching and not simply repeating of mentor teacher's style and how she models lessons</p>
	<p><b>VP/LP/M-1</b></p> <p>Situational learning is emphasised and students encouraged to learn from the group</p>
Positive criticism during group work	<p><b>VP/MS/M-1</b></p> <p>Mentor teacher assures students that the session is not a fault finding session but positive criticism</p>



	<p><b>VP/MS/M-1</b></p> <p>Mentor informs students that mistakes should be acknowledged and efforts made to work positively towards reflecting on them so as to avoid repetition of the same mistakes in future lessons</p>
<p>Communicating and sharing ideas amongst group members</p>	<p><b>VP/MS/M-1</b></p> <p>Student teachers echo the mentor's positive criticism for student who presented the lesson</p>
	<p><b>VP/LP/M-1</b></p> <p>Brief student discussion about what learners' prior knowledge could be regarding the topic</p> <p>Brief discussion on appropriate and relevant resources to use, specifically flashcards for the teaching of math vocabulary</p>
	<p><b>VP/LP/M-1</b></p> <p>She encourages the students to think outside of the box when planning their lesson and how they will deliver the lesson</p>
	<p><b>VP/LP/M-1</b></p> <p>Encourages a brainstorming of ideas amongst students around ideas and then a selection of the only one that would serve them best</p>
	<p><b>VP/LP/M-1</b></p> <p>Mentor encourages immediate student teacher discussion of the lesson</p>

I was able to elicit 6 provisional categories from the video recordings. I have listed these categories in table 5 below.

**Table 5:** Video recording provisional categories

Linking coursework with practical experience
Student teachers work co-operatively as a group
Mentor teacher qualities which reflect her role as mentor
Teaching strategies for good classroom practise
Emphasises the technical aspects of lesson planning
Mentor models curriculum and pedagogic content knowledge

#### **4.5 Analysis of the practicum documents**

The document analysis process allowed for me to analyse the data without becoming involved in the setting within which the completion was taking place, nor was I concerned that my presence would have an effect nor would it affect the group dynamic or even alter the events for which the documents were designed. (Marshall & Rossman, 2011).

I began the document analysis by carefully reading through the completed documents thrice. With each reading I was searching for information which I could link to the mentor's function of providing lesson feedback to students. I was also looking to see the links between the feedback and the development of the student teachers as practitioners able to integrate their coursework and classroom practice. The annotated practicum document was used to provide context to the mentor teacher practices as captured in the video

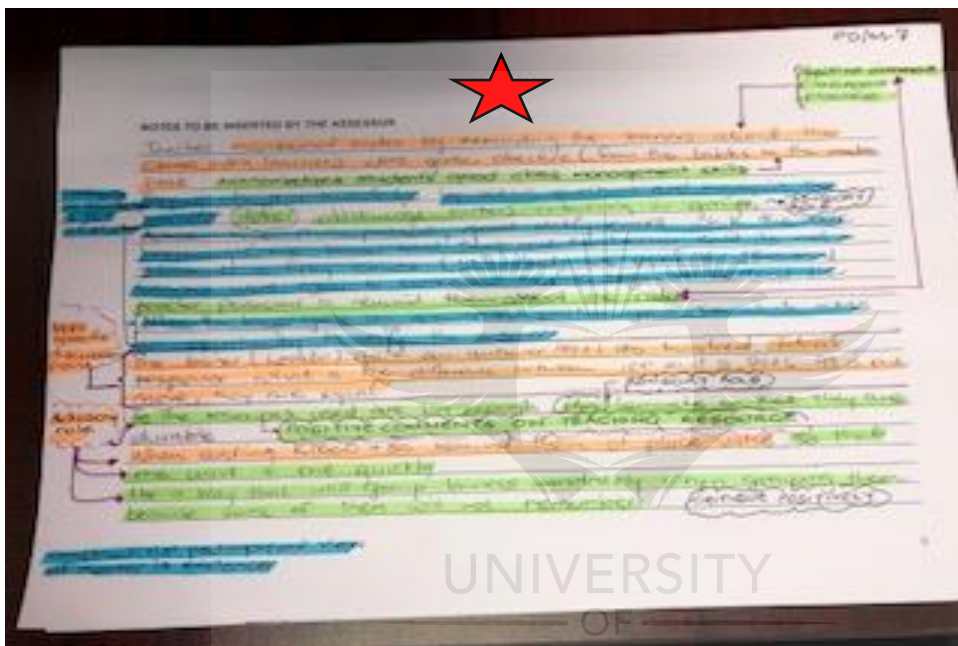
My analysis was also focused on the nature of the mentor teacher feedback and if it was aimed at developing the pedagogical content knowledge and curriculum knowledge of students. I furthermore looked to see if the mentor was herself reflecting on her discussion in the planning phase of the lesson and if the completion of the documents was reflective of these stages. Following this process, I then used Berg's

(1995) suggested questions in order to enhance the validity of the use of the documents for analysis. The questions included:

1. What information supports the accuracy and authenticity of the material?
2. Where was it located?
3. What corroboration, if any, can be, or has been located?

Figure 4.2 below is an example of how I had used annotations to analyse the practicum document.

**Figure 4.2:** Annotated practicum documents for analysis



Following the analysis, I created 9 categories which are included in the table 6.

**Table 6:** Categories for practicum documents

Mentor feedback relates to the elements of the lesson plan
Feedback on learners' activities and engagement
Mentor comments based on observed lesson
Mentor feedback on specific teaching practice
Mentor feedback instils confidence in student teachers
Mentor feedback provides positive critique of lesson delivered
Mentor directly links coursework and practical activities during feedback
Student feedback on learning from group work
Mentor feedback on classroom management

#### 4.6 Analysis of the interview data

The analysis of the interview transcript started by me reading through the transcript a number of times in order to familiarize myself with its contents. Thereafter I was able to identify a number of overarching ideas in the data. In the back of my mind in this process I kept the advice of Emerson, Fretz and Shaw (1995) who argue for the development of questions which I could follow in order to assist me in completing the coding process. These questions included:

1. What are the participants trying to achieve/doing?
2. What are the specific ways/strategies do the participants use?
3. How do the participants talk about, characterize and understand what is going on?
4. What assumptions are the participants making?
5. What did I observe that was happening? What have I learned from the notes that I have made?
6. Why did I include specific notes?

I also used these questions in mind when I was writing up significant aspects that stood out for me, recurring ideas, overarching questions and key concepts, which I documented on a page I labelled as my "Discovery Sheet". The discovery sheet became the beginnings of recurring ideas that I would keep close as I worked through and analysed the various data sets. Table 7 provides an example of the discovery sheet which I utilized.

**Table 7:** Partial example of discovery sheet

Discovery Sheet	
1	Actual teaching activities made visible
2	Everyday experiences linked to math activities
3	Her own training for mentoring
4	Reflection on her own practice
5	The value of her mentor training
6	The effect of mentoring role on own practice
7	Interaction between mentor and mentee
8	The nature of interaction with students/mentees
9	Her own experience as a teacher

10	Difficulties encountered with 'seeing' theory in practice
11	Mentor's past experiences of being mentored to
12	Teacher's beliefs about teaching mathematics
13	Students and co-operative group work

Then I was in a position to begin to work more closely with the line-by-line coding using the methods outlined by Maykut and Morehouse (1994). In this process I looked for 'chunks of data' that could stand on their own with meaning – referred to as “unitizing the data” (Maykut & Morehouse: 1994). In this process small segments of meaning were identified in the text and allocated a code (captured as a phrase or a word) that was descriptive of its meaning/ essence. This stage of the data analysis involving the initial coding of each line of the data to identify keywords or phrases is also referred to as in vivo codes (Saldaña, 2009:74) because the codes preserve some of the participants' words. For instance in the interview in response to my question about how she would describe her own role as a mentor teacher, Ruth indicated the following: *“I think mostly my role it's guiding them because many a times when there's a question that needs be addressed they first pose the question”*. I coded that response as *“guide for student's learning”*, which was descriptive of its content (see figure 4.3).

**Figure 4.3: Coding**

R	Okay... I think <b>█</b> <u>mostly my role it's <b>uhh</b> guiding</u> them because many a times when there's a <u>question that needs be addressed they first pose the question then I will go about</u>	Guide for students' learning
	<u>it...depending on what the question is. <b>█</b> I'll just give an example like let's say maybe</u>	Mentor answers students' questions

It was at this point during the coding process of the interview transcript, I noticed that many of the same codes were repeated because the mentor teacher had given similar responses in different parts of the interview. Their recurrence in the data set also highlighted to me their importance in the mind of the mentor and were an indication of prominent aspects emerging in the process of analysis. Figure 4.4 provides an additional example of how I proceeded to code the remainder of the interview transcript.

**Figure 4.4: Coding**

R	<p>You know, sometimes, <u>they come in a group. They work in a group</u> but one of them is going to do the presentation, and <u>from that one I expect all these other ones to see that: 'is this how we did it</u>, if it was me, how would it, that means <u>its individual learning in a way</u> because when we are working in a group you might think that you know, and that <u>somebody might come and teach you from the very same group that you like working with. So I always encourage them to engage and not in a way that they chopping each other but in a way that they are building each other</u> because at the end of the day <u>I think in a group you are at the most advantageous as going back to when you are alone</u> because when you are alone you might think that someone is critiquing you <u>but if you're critiquing positively because we were all working</u> that. You know what <u>as much as she did it like this, if it was me I would have done it like that. In the very same way the next person is learning.</u> And if we would just present a lesson and assume that everybody is on the same page, because <u>now as they are presenting if you look at the students faces sometimes you see like, it's like they seeing something that they didn't understand would</u></p>	Co-operative student group work
		Making understanding visible during group
		Student learning during group work
		Positive criticism during group work
		Encourage positive student relationship building
		Advantages of student group work
		Positive criticism during group work
		Co-operative student group work
		Encourage reflective student thinking
		Advantages of student group work
		Understanding non-verbal communication

To enable me to reference the placement of this comment in the wider text, I used the source code (T/R-1) describing each page where the comment was placed. Once I had coded the entire interview I began grouping the codes using what Maykut and Morehouse (1994) refers to the “looks like/feels like criteria”. In this process codes that are similar are grouped together. For example: I started with the code ‘*making mentor’s tacit knowledge visible*’ identified on page 5 of the interview transcript and put it together with “*explicit reference to a classroom/teaching activity*” on page 6 of the interview transcript. Both “units of data” (Maykut and Morehouse 1994) deal with the issue of a teacher making actions in the process of teaching explicit. I continued in the same way until there were between five to eight codes and then I was able to write a “rule of inclusion” (the mentor’s actions are intended to demonstrate and communicate real/existent teaching activities for student teachers to observe and learn good classroom practice) written as a propositional statement that became the basis/guide for inclusion of further codes. Table 8 provides an example of this grouping.

**Table 8:** Provisional coding category (Making teacher's thinking explicit) and the rule of inclusion

<b>Provisional coding category</b>	
Making teachers thinking explicit	
<b>Rule of inclusion</b>	
The mentor's makes her thinking about actions during teaching explicit so that students can both observe and learn good classroom practice	
Making mentor's tacit knowledge visible	<b>T/M-5</b> When I talk to them its understanding that they can see the way that this is how you are supposed to do it
	<b>T/M-20</b> so I always make the students aware that you know what ...if you want your teaching to succeed, when you're giving them something to work with
Mentor's explicit reference to classroom/teaching strategies	<b>T/M-6</b> You need to talk about the bird, and as soon as you get someone to take the bird out, then you'll go back to your lesson
	<b>T/M-9</b> I saw you Lesedi, you did it the way, exactly the way I did it. Come and stand here and tell us how you did it
	<b>T/M-19</b> Now what I do it's when you have your smaller groups it's easier to monitor whatever is it that you are giving them to work with because at the end sometime you see



	<p><b>T/M-21</b></p> <p>And the other thing that I taught them is if you want to divide them into groups, you can't just say: "Come, come stand up, I want groups" You need to give them clear instructions</p>
Mentor models good teaching practices	<p><b>T/M-9</b></p> <p>You follow up on the work, and you must give them feedback</p>
	<p><b>T/M-9</b></p> <p>If I make follow ups on it until I am sure that everybody in my class is comfortable, then I know that whatever student is watching me, they know that, it's not just about the lesson and the activity</p>
Mentor's explicit reference to a math classroom/teaching strategy	<p><b>T/M-20</b></p> <p>When you doing your maybe there's a calendar: you've got a big one to show everybody, but get the small ones for them to touch</p>
	<p><b>T/M-21</b></p> <p>Today when I come, I just say "Okay fine, I want us to look all this windows." We looking at the windows, right come stand count the windows. It's counting on its own. Then the other day I come, Okay now I want us we counted from 1-50, can you count back for me</p>
Mentor's explains the value of a specific classroom/teaching strategy	<p><b>T/M-19</b></p> <p>The other thing that I do, is that they get to understand that...group the purpose of group work is that learners are in smaller groups and you can get the chance to do individualized teaching within the group</p>

**T/M-20**

So if they're in nice small groups, you can give an instruction, you move to the next group. By the time you get to that group, each and every one is sorted



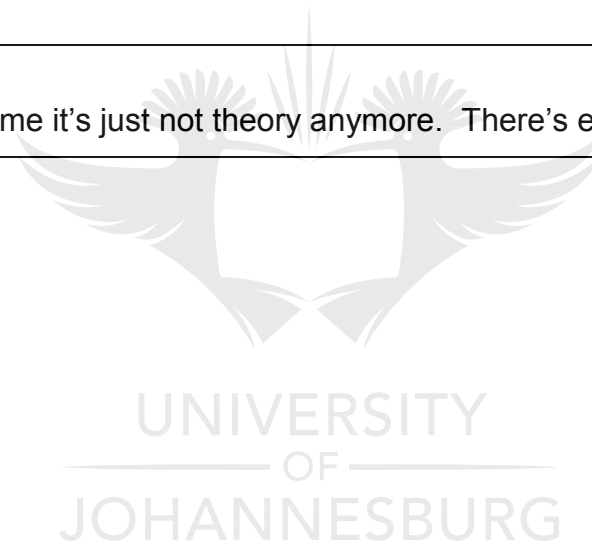
Table 9 provides an excerpt from an additional example of how I wrote a “rule of inclusion” (the mentor’s actions are informed by her own experience of being mentored and her idea of good teaching) written as a propositional statement that became the basis/guide for inclusion of further codes.



**Table 9:** Excerpt of a provisional category (Learning about mentoring through experience) and the rule of inclusion

<b>Provisional coding category</b>	
Learning about mentoring through experience	
<b>Rule of inclusion</b>	
The mentor's actions are informed by her own experience of being mentored and her idea of good teaching	
Her own past mentoring experiences (or lack thereof)	<b>T/M-30</b> you get into a class you close the door and nobody comes in says you doing wrong you doing right
	<b>T/M-30</b> Or if you just...taking out and not getting in then you end up like you don't even know whether you are right or wrong and that's one feeling the most frustrating thing that maybe made me look at the post that you know I'm in
	<b>T/M-31</b> Yes, in that school there were senior teachers that used to like guide us here and there but it wasn't intense like this one.
	<b>T/M-32</b> We worked in a time when it was just me and, and, an old lady that would show me; "No my baby we don't do it like this we do it like this". When I got to teaching, that's what I got into.
	<b>T/M-33</b> The one that I had it was a middle aged lady that would come knock at my door when I am teaching and check, check. Then she'd say: "Oh you know what... you can do it like this as well." For me, I just

	<p>took her as a sister that wanted to see me develop into a better teacher. And sometimes, I didn't engage in a sense that I ask questions</p>
<p>Her experience as a teacher</p>	<p><b>T/M-8</b> When I started teaching, I do used to imitate what I saw my teachers do.</p>
	<p><b>T/M-5</b> But it and it's understandable considering the experience that I have and they have, its two different things</p>
	<p><b>T/M-26</b> Of course, with me it's just not theory anymore. There's experience at work</p>



In this way I was able to sort the number of codes into provisional coding categories. By creating these provisional coding categories I was also able to look for connections between and across the categories that were forming. In the process some provisional coding categories were combined and the rules of inclusion adapted to reflection the broader meaning. In this process of identifying links and interactions between the categories I was moving to “higher levels of abstraction” (Merriam, 1994, 2005) in which I could construct themes that would form the outcome of the analysis.

#### **4.7 Identification of themes**

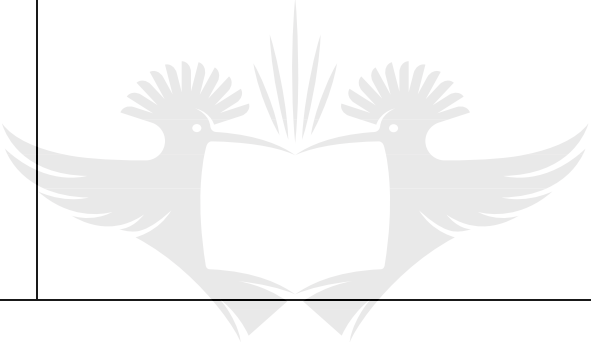
The sources of data namely video recordings, semi structured interview and documents were placed side by side as shown in table 10 and I included all the provisional coding categories which emerged from each of the sources. In this way I was able to make links and comparisons between the patterns that had emerged between the three sets of data. One particular example of how I linked the provisional coding categories was when I examined the video recording packages and identified an emphasis by the mentor teacher on making the elements of lesson planning explicitly clear in her discussion with student teachers. The same emphasis on elements of lesson planning was found in the practicum documents and again resurfaced in the semi-structured interview with the mentor teacher. I then combined these 3 ideas because they were similar. Another example of how I linked the provisional coding categories was when I identified the mentor’s attempt at linking coursework with practical experience in the video package and again came across the same code in the practicum document provisional coding of ‘mentor directly links coursework and practical activities during feedback’ and again in the semi-structured interview of the provisional coding category of ‘co-ordinating student teacher theory course work and classroom practice’. The analysis of the *content* of the practicum documents was thus used side by side with the other two forms of data. Three aspects were the focus: a) nature of the mentor teacher feedback, b) if it was aimed at developing pedagogical content knowledge and curriculum knowledge of students and c) evidence of reflection by the mentor in the planning phase of the lesson.

In table 10 I have highlighted what I have found from each of the data analysis provisional coding categories which linked closely to one another.

**Table 10:** Triangulation of data from different sources

<b>Video recording Package</b>	<b>Practicum Documents</b>	<b>Semi-structured interview</b>
Linking coursework with practical experience	Mentor directly links coursework and practical activities during feedback	Coordinating student teacher theory course work and classroom practice
Emphasises the technical aspects of lesson planning	Mentor feedback relates to the elements of the lesson plan	Mentor teacher is a guide
Mathematical content knowledge in action	Mentor feedback on student teacher level of PCK	Mentor models knowledge of mathematics content
Student teachers work co-operatively as a group	Student feedback on learning from group work	Encouraging student teachers to develop as a community of practice
	Mentor comments based on observed lesson	Learning about mentoring through experience
Teaching strategies for good classroom practise	Mentor feedback on specific teaching practice	Mentor teacher making actions in the process of teaching explicit
	Feedback on learner activities and engagement	
	Mentor feedback on classroom management	
Mentor teacher qualities which reflect her role as mentor	Mentor feedback instils confidence in student teachers	Mentor teacher attributes which reflect her multiple roles



	Mentor feedback provides positive critique of lesson delivered	
Mentor models/Actions which reflect curriculum and pedagogic content knowledge	Mentor feedback on student teacher level of PCK	Mentor models curriculum and pedagogic content knowledge
		Importance of Mentor training and development is important
		Role of student teachers in mentoring
		Mentor' own developmental trajectory
		An increase in reflective mentor practices.

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After the completion of this process I was able to return to my research question of: “What characterises the mentoring practices of a teacher in a teaching school?” in order to determine the extent to which my data responded to the three sub-questions which were set as:

- How does a mentor teacher understand her mentoring role with student-teachers?
- What is the nature of the mentoring relationship/s between the school teacher and student-teachers?
- What influences the mentoring practices of a mentor teacher?

I then began to create composite results across the three data sets in order to link each of the 3 research questions to the results from the various sets of data in table 11.



**Table 11:** Composite coding categories

<b>How does a mentor teacher understand her mentoring role with student-teachers?</b>
The teacher understands her role as mentor as multidimensional because she sees herself as a guide and role model for student learning.
The mentor views her role as that of one who is able to provide developmental feedback for student teachers which would assist in developing student teacher practice.
She understands her role as continuously developmental and in this respect considers herself a lifelong learner in the mentoring process.
The mentor teacher understands her role as bridging the theory and practice divide for students.
The mentor teacher understands her role as making the practice of teaching mathematics explicit by modelling good practice. The mentor understands her role as that of a person who will assist in the development of students' pedagogic content knowledge.
<b>What is the nature of the mentoring relationship/s between the school teacher and student teachers?</b>
The nature of the student teachers and teacher relationship is characterised by cooperation. She sees the nature of the relationship as one in which a community of practice is developed.
The relationship is characterised by the recognition of the differences and diversity amongst students as a strength.
The nature of the mentoring relationship is characterised by trust.
The nature of the mentoring relationship is characterised by dialogue which reflects the teacher's knowledge bases.
<b>What influences the mentoring practices of a mentor teacher?</b>
The mentor teacher her own past mentoring experiences, her in-service mentor training and her interactions with students and other teachers.

The mentor's own previous mentoring experiences influences her current practice.

The mentor training sessions influences her practice of mentoring student teachers.

The mentor's subject content knowledge of mathematics influences her practice of mentoring

The mentor's own developmental reflexivity influences her mentoring practices.



Once I had coded and categorised all 3 sets of the data, I began to look at the possible connections between the categories and the main research question of my study. Here I looked at how the categories could link to my existing knowledge of the research topic of mentoring, mentoring roles and teaching schools through the literature which I reviewed in Chapter 2 (Henning et al., 2004). I was able to determine from this process that the analysed data had provided me with sufficient information to enable me to address my main research question as well as the research sub questions (Henning et al., 2004). These patterns were used to confirm the emerging findings (Merriam, 1998) and to provide supporting evidence (Creswell, 1998). They enabled me to form a general picture of the data (Henning et al., 2004) or what Henning et al (2004) describes as thematic patterns. The findings to each of the sub-research questions created coherence across the findings to result in the final three which emerged:

Theme 1: The multidimensional, evolving nature of mentoring.

Theme 2: The mentor displays generalised and subject specific role in her mentoring.

Theme 3: The nature of the mentoring relationship builds a community of practice.

These patterns have been included in table 12 as final results of the data analysis.

**Table 12: Final results**

<b>How does a mentor teacher understand her mentoring role with student-teachers?</b>
The teacher understands her role as mentor as multidimensional because she sees herself as a guide and role model for student learning.
The mentor views her role as that of one who is able to provide generalised developmental feedback for student teachers in order to develop student teacher practice and bridge the theory-practice divide.
She understands her role as continuously developmental and in this respect considers herself a lifelong learner in the mentoring process.
The mentor understands her subject specific role to assist in the development of pedagogic content knowledge for mathematics by making the practice of teaching mathematics explicit and by modelling good practice.
<b>What is the nature of the mentoring relationship/s between the school teacher and student teachers?</b>
The nature of the student teachers and teacher relationship is characterised by dialogue and cooperation (trust) towards building a community of practice where difference and diversity is recognised as strengths. She sees the nature of the relationship as one in which a community of practice is developed.
<b>What influences the mentoring practices of a mentor teacher?</b>
The mentor teacher practices are increasingly reflexive and denote the influence of her own past mentoring experiences, her in-service mentor training and her interactions with students and other teachers.
The mentor's subject content knowledge of mathematics influences her practice of mentoring.

## CHAPTER 5: Presentation and Discussion of Findings

### 5.1 Introduction

The aim of this research was to investigate the nature of the mentoring encounters of one mentor teacher with a group of student-teachers in a university-affiliated teaching school. The investigation was guided by the following main research question: What characterises the mentoring practices of a teacher in a teaching school? Three themes emerged from the analysis of data and were presented at the end of chapter 4. These provide an indication of the teacher's mentoring practices with student teachers at a teaching school and include the mentor's own perception of her role, the nature of the mentoring relationship/s and the factors which influence her mentoring practices.

I discuss each of the themes by linking each of them to the sub-questions set out for this study. I will also refer to specific selections from the three data sets namely the video recordings, semi-structured interview and documents in my discussion in this chapter. These will be presented with reference to the applicable research literature.

### 5.2 The multidimensional, evolving nature of mentoring

One of the key findings of this study is that the process of mentoring student teachers is multidimensional and evolving. This finding also enables me to respond to sub question 1 about how a mentor teacher understands her mentoring role with student-teachers. In this study the mentor denotes the influence of her own past mentoring experiences, her in-service mentor training and her interactions with students and other teachers as factors that influence her role as mentor to student teachers.

The first aspect that stands out is that Ruby is clear on the multidimensionality of her role. For instance, she says she tells the students "*you know what, mentoring is just not me and you doing academic work. You can ask me about anything as long as I know I'll give you the answer*" (T/M-6). She seems to also take on a role of listener and advisor to students. This may be because she is familiar with the issues faced by student teachers, because she has taught in the area for a long time and is aware of

the financial, social and other issues students face and/or because she has a long history as a teacher comfortable with dealing with the myriad issues beyond simply teaching that impacts young people's lives.

She describes her mentoring role inter-alia as "leader" and as "*me being the one that is leading*" (T/M-5) in the relationship with student teachers, clearly indicating that she sees her role as giving direction to the process. As a result of her many years of teaching experience and also because pre-service teacher education acknowledges the importance of the mentor leading the mentoring relationship (Kamvounias, et al. referenced in Ambrosetti, 2006), the mentor appears to easily step into this role. It is also not surprising, given her own training and the set practise that operate in many South African schools, that she comfortably assumes a more traditional and hierarchical role of leadership as a mentor – this is also evident in the interactions with students in the lesson planning video recording. Here there are ample examples of how she takes the lead in the majority of the discussions and uses her own teaching, knowledge and skills experience to great effect in making recommendations for learner activities.

Secondly it seems as though the mentor understands her role as "*being a good curriculum driver*" (T/M-7) and she describes how she fulfills this role by modelling good teaching practice, modelling good classroom management and modeling professional teacher behavior for the student teachers. I felt that this was of particular importance because student teachers need exposure to someone who understands how to teach the curriculum, but should also be able to see her modelling good practice in the teaching of the curriculum and good classroom management skills. Ruby recognizes that these aspects are all part of the mentoring process. However, it seems that her views, when she says '*the other thing that mentoring taught me, is be time conscious*' (T/M-31), may be somewhat influenced by the current model of particular timelines for curriculum coverage, monitored closely by the district departmental officials. Again this is not unexpected as the strict monitoring of curriculum milestones by district officials tends to dominate in teacher's minds and in their work in schools. On the other hand, I am also of the view that given the mentor teacher's training, her position as head of department and her many years of experience as a teacher, she would have a deep understanding of Curriculum Knowledge (Shulman, 1986) and how time needs to be set aside to reach the curriculum goals. There is ample evidence of



her mastery of this knowledge base in the video recordings which capture her interaction with students. She shows an understanding of the organised framework of the curriculum and the relevant learning outcomes which learners are expected to learn in mathematics. There is also evidence of her understanding the numerous processes which learners undergo in order to achieve the said learning outcomes set out in the curriculum. The video recording shows how she shares with student teachers her expert understanding of what to do to assist learners in achieving these goals, as well as an understanding of the numerous contexts in which good teaching and learning might occur.

The mentor also makes effective use of her own curriculum knowledge to enact her role as curriculum driver as part of her mentoring role. She uses the CAPS mathematics documents as a departure point for leading the students' towards developing their pedagogical knowledge, curriculum knowledge as well as suitable classroom management strategies and mathematics teaching strategies. In VP/LP/M-1 she points out to students how to navigate their way around the curriculum and assessment policy statements of mathematics in order to access various sections of curriculum overviews. The video recordings also reflect the actions of a mentor who encourages the student teachers to develop "a pedagogical stance rooted in knowledge of child development" (Feiman-Nemser 2001, 1018) as she discusses with students how the policy statements might be used in conjunction with their knowledge of the learners' mathematical development to achieve the set curriculum outcomes level of development. This focus is likely due to two reasons. One is that the centrality of child study is emphasised in the teacher education qualifications at the affiliated university (Gravett, Petersen & Petker, 2014), and the second with mentors being made aware of the importance of bringing coursework and practice together in student supervision.

The mentor teacher also takes on the role of communicator, and by example shows the students how to engage with each other and with the children they will teach. However, she seems to struggle with maintaining the dialogic nature of the interaction. Thus although she maintains an openness to questioning throughout the mentoring episode, which is in line with her still developing role as teacher educator, she veers more towards an instructive mode in most of the video. It is also evidenced by her comment: "*when there's a question that needs be addressed they first pose the*

*question then I will go about it"* (T/M-1), indicating that she takes on the role of instructor who then responds to questions from students. This is in contrast to the Finnish model where I first observed mentors who are regarded as experts in operation. Here mentors, both in planning with students and in post-lesson reflection 'employ a theoretical/conceptual view of the activities that had been taking place in the classroom' (Lavonen, Henning, Petersen, Loukomies, & Myllyviita, 2019: pg. 7). My observation of mentor teachers in interaction with their students in a 2014 visit to the Viikki Teacher Training School in Helsinki Finland, showed me first-hand how the ideal mentoring relationship develops and how mentors and student teachers engage in communication and reflection of theoretical views of the lesson activities as opposed to largely questions and answer sessions. However, given the newness of the teaching school model, it is not surprising that the mentor teacher in South Africa struggles with this aspect.

Then there is also evidence that the mentor teacher enacts a supportive and instructional role for student teachers' professional development and responsibilities in respect of lesson planning tasks and adherence to set timeframes. In this respect, she balances the roles of guide and supporter with that of assessor well because she stresses her expectations of timely preparation by the student teachers, and highlights the importance of her review of the students' group lesson plan prior to them presenting the lesson. This speaks to a mentor who is not only familiar with the structures of the university practicum but also assumes the role of administrator of the practicum structures and processes (Lavonen, Henning, Petersen, Loukomies, & Myllyviita, 2019; Gravett, Petersen & Ramsaroop, 2018).

It is also clear from the data that the mentor conceives of her mentoring role as continuously changing and in this respect considers herself a lifelong learner in the mentoring process. This is evidenced in her response that "*when you are a mentor teacher it doesn't mean that you know it all*" (T/M-34). There are also other pointers to this. For instance she says in the interview: "*because once you here, and you, you stagnant here, then you are just going to repeat the same idea over and over and over which is not 5 years of teaching, it's 1 year of repeating 5 mistakes, you see*" (T/M-28). The mentor teacher understands that in order to maintain a supportive and consistent relationship with the student teachers the learning experiences cannot be

confined to the student teachers alone, but should include what Hudson (2013) refers to as the possibility of professional development on the part of the mentor as significant in 'advancing their own mentoring skills' (Hudson, 2010, pg. 39).

I read into this that she understands that there are benefits for her own continuous development because she concedes that she must continuously refine not only her mentoring skills but also endeavor to enrich and develop skills of professional development as key to her mentoring relationship and the roles which she occupies in the relationship. This finding aligns itself well with the Finnish mentoring model in that mentor teachers are also expected to engage in continuous supervisor training in order to learn how to be teacher educators (Jussila & Saari, 2000, cited in Loock & Gravett, 2015) and "training school teachers are also expected to engage in research in collaboration with the university so as to contribute to the development of teacher education" (Sahlberg, 2012). This is also supported by data from the interview: "*as a mentor teacher, I'm thinking that if I can get more exposure which I'm trying to do with just take out an article and just go through it and see how other people are doing it (teaching and mentoring)*" (T/M-27) and again "*what I think would really work for me is getting to understand how other people do other stuff*" (T/M-28).

She considers the reflection on her own practices key to improving her role as life-long learner and consequently works to improve her roles as advisor and role model. The mentor's reflection on her practice is supported by the literature which notes that mentoring provides 'classroom-based teachers' opportunities to reflect critically on their own practices and revitalise them' (Ambrosetti, 2014, pg. 34). It also seems that she continuously examines her own teaching approaches and techniques because she has accepted that "mentors can be capacity builders for implementing reform as they simultaneously enrich their own practices in both mentoring and teaching and the mentee's teaching practices" (Hudson, 2010, pg. 40).

In VP/LP/M-1 the mentor can be seen reprising a guiding role for student learning as she talks in great detail to students about the elements of the lesson plan such as the phases of a lesson, aims and objectives, differentiating between these elements. She can also be seen in VP/LP/M-1 discussing with students the purpose and importance

of a good lesson plan as a guide not only for novice but also seasoned teachers, and lists the importance of good planning, relevant and available resources as well as relevant assessment information as important elements for effective teaching and learning. In doing so it indicated to me that the mentor was not only a “thinking / reflexive teacher” (Korthagen & Vasalos, 2009, Korthagen, 2014) but also one who understands that undergraduate students have to first get the basics right. In this respect it seems that she equates effective lesson planning with good teaching. She says the following in her interview: *“through my mentoring sessions I’ve picked up that most of them they don’t understand what introduction, the body and the conclusion of the lesson are”* (T/M-2). It also appears though that the mentor herself still thinks more like a teacher and less as a teacher educator because she focusses heavily in the lesson planning video on providing student teachers with the “tools” (in this case the lesson plan) to teach the particular mathematics content. Feiman-Nemser and Buchman (1985) argue that in order to shift into the roles of teacher educators, teachers must be properly prepared to assume the roles of mentors and teacher educators.

Lastly, Ruth denotes the influence of her own past mentoring experiences and says *“when I started teaching, I do/used to imitate what I saw my teachers do”* (T/M-8). However, there is also evidence in the interview that the university-initiated mentor training assisted with deepening her understanding of her role as mentor, particularly in terms of the holistic development of student teachers and the understanding that learning can occur via social interactions between student teachers and mentors (Lin, 2007). The mentor teacher affirms that *“what I learned (is) that mentoring is not just curriculum, when you mentor somebody you mentor them holistically”* (T/M-25). I thus deduced that training in preparation for mentoring can assist in developing effective mentors (Ambrosetti, 2014) in understanding the nature and role of mentoring to student teachers (Hall et al., 2008), but needs to be ongoing. Here I draw on the views of Wang and Odell (2002, cited in Ambrosetti, 2014) who highlight the value of mentor training for increasing mentoring skills and techniques and conceptualizing how this knowledge contributes towards influencing the mentor’s practice. The mentor teacher further indicates that the mentor training made mentoring more explicit for her and she says *“I’ve been doing this, I wasn’t, I just wasn’t aware that I’m mentoring someone”* (T/M-26). It should be noted at this point that there was no indication by the mentor

that the training which she received was focussed on a specific subject or subject specific mentoring practices.

### **5.3 The mentor displays generalised and subject specific role in her mentoring**

The second key finding of this study is that the mentor fulfils both a generalised and subject specific role when she is working with student teachers. Her more generalized role is when she says *“sometimes they might have an idea but not put it across the way I would put it. But it and it’s understandable considering the experience that I have and they have, its two different things”* (T/M-5). The mentor teacher typifies her role as a provider of feedback as one in which she encourages student participation and understanding because she says *“I always encourage them”* (T/M-5) and *“what makes me content many a times when I talk to them its understanding that they can see the way that this is how you are supposed to do it”* (T/M-5).

The mentor does make deliberate attempts to provide student teachers with developmental feedback to bridge the theory-practice divide. But she does acknowledge that this continues to be one of the big challenges she experiences with mentoring student teachers. This is evidenced by her statement *“when it’s theory, they always struggle to bridge the two”* (T/R-12) and she also explains that *“what I’ve picked up is that when you teach them that side (coursework), when they come here (school), they are expecting something else. They’re thinking, oh we are at a school now, they forget that when they get there (school)...now we are putting it down”* (T/R-12). I surmised from this that the teacher herself has developed her own understanding that classroom practice can be viewed through the lens of students’ coursework and vice versa.

As early as the 1900s Dewey (1904) noted the first concerns related to the challenges of the theory and practice divide in teacher education. Within the South African context researchers have written about the challenges related to bridging the theory and practice divide and Gravett (2012) writes that there exists “a discourse of ‘studying theory from books and in lectures’ and then ‘applying’ it practically in what is termed the ‘real world” (pg. 4). Gravett (2012) also discusses how teacher education

institutions use a “translation-of-theory-to-practice” and explains that “coursework component of programmes supplies the theory that the students then apply, implement and “test,” e.g. through assignments, observations and experiences in schools as sites of practicum” (pg. 4). In the USA, the National Council for Accreditation of Teacher Education (NCATE) (2010:2) reported a similar impasse indicating that teacher education programmes are characterised and pigeon holed into subject-matter preparation, theory, and pedagogy and are all taught in lone intervals which ultimately cause conflict in the student teachers’ clinical experience/school based experience. The mentor teacher confirms this notion with her statement that *“they are thinking: “Oh Miss lecturer and Miss mentor are two different people, so they are talking two different things and for them once you bridge the gap, only then do they say: “Okay now we understand what is happening” (T/R-12).*

The mentor teacher acknowledges that despite the feedback she provides and her attempts at assisting students in connecting theory and practice this requires constant attention. She says *“you can work with them on Monday, Wednesday...on Thursday around this time, only then do we get to the ‘Aha stage”* and that *“it takes time” (T/R-12).* The NCATE (2010 ii) have acknowledged that in order for students to understand and associate the theory which they learn to the practice of teaching will require excellent partnerships and preparation programmes that could be integrated with the knowledge held by practitioners and teachers working in such programmes. I would also like to highlight the reference Lavonen, Henning, Petersen, Loukomies, & Myllyviita, (2019) makes to the value and importance of students learning from mentor practices that are aligned to students’ university method courses.

There is also evidence that the mentor’s subject content knowledge of mathematics influences her practice of mentoring. I deduced that because of the years of classroom experience as a teacher and as Foundation Phase head of department that she would also have good mathematical content understanding to be able to teach in this phase. She displays what Ball et al (2008) referred to as common content knowledge as well as specialised content knowledge. This is revealed in the video recordings as she informs students of the algorithm to multiply two numbers together relates to place value and the distributive property.



The international research on mentor teacher feedback has highlighted the importance of mentors providing the type of quality feedback for student teachers that would serve to promote an improvement in the student teachers' practice (Hudson, 2014, Ambrosetti, 2010) and with the mentor teacher observing carefully the development of student teachers' pedagogical knowledge practices it would allow for informative feedback (Hudson 2014). The mentor teacher in this study seems to echo this and she can be seen in the video recordings providing students with both oral and written feedback in a manner that is aimed at enhancing the students' practice. Both oral and written feedback from the mentor is immediately provided for students after the lesson delivery and there was no lengthy waiting period (VP/MS/M-1). I found this action important because it encouraged students to reflect immediately (Hudson, 2014) on how they might improve future practice teaching lessons with their mentor and their respective group members.

The document analysis of the evaluation rubric provides additional evidence of written feedback which included key points which were elaborated on in more detail during the shared oral feedback discussions in the mentoring and feedback sessions. The video recording of the mentoring and feedback session (VP/MS/M-1) and written feedback (PD/M-1) also highlighted the oral and written developmental feedback of the mathematics lesson which the mentor provides in order to facilitate the development and growth in the student teachers' practice of teaching mathematics. It included mathematics specific points such as advising on the use of place value and vertical sums to teach the addition of Rands and cents and informing students that a *"child should think about place value before they start adding"* (VP/MS/M-1) and *"when adding R100 + 50 remind them of place value"* (PD/M-7).

The mentor's oral feedback during mentoring sessions (VP/MS/M1) also detailed additional classroom practices such as classroom changeovers, learner behaviour management, teaching and learning resources and how the students could improve on these. The written feedback also indicated positive comments on general classroom practice and management. These include *"maintained order by reminding learners about the class rules"* and *"learners were given directives (from the tables to the mat)"* (PD/M-7). The data obtained in the interview pointed to the mentor teacher having a constructivist pedagogical view and belief of how children learn and she

understands that mathematical knowledge cannot be simply transferred from one person to another. The mentor's common content knowledge is revealed in the video recordings as she informs students of the algorithm to add numbers as well as how this relates to place value in the content of the curriculum. She says in VP/MS/M-1 "*I see a 9 and I see a 2. I'll just double the 9 and I'll get my answer*" and again "*when they see 5x2 they will see I must have 2 groups of 5 and bring them together and I will have my answer*". These are aspects missing from much of the mentoring I have seen in public schools.

The mentor teacher encourages the students to engage learners in practice that would allow for individual construction of mathematical knowledge and allow for teaching strategies and methods which provide learners opportunities to interpret and also apply and demonstrate their own understanding of mathematics. This is evidenced by her statement "*taking the lesson out of the class, and we are bringing it into real life*" (T/M-18) and in doing so, aligning herself to what Korthagen (1999) referred to as Hans Freudenthal's realistic approach towards mathematics. Korthagen (1999) stated that "when one pursues his line of thinking, mathematics becomes, or rather has always been, a human activity, based in the reality of the world around us" and that mathematical problems "should be presented within a context recognizable for children, and often taken from everyday situations" (pg 6). She reaffirms her opinion again when she states "*for your lesson to be more effective, you need to bring something that you can that will help you to explain*" (T/M-18).

The mentor progressively applies her constructivist view and guides the student teachers on the central features of good teaching for mathematics by modelling classroom practice that would reveal that mathematics is learned through problem-solving, with the teacher serving as facilitator "*who's active*" and "*you need to be someone who is hands on*" (T/M-16). This is also revealed in (PD/M-7) when she comments "*tapping into prior knowledge by asking questions and encouraging the learners*". This is of particular relevance to the mentor's level of content and curriculum knowledge if one considers that constructivist learning is what fundamentally underpins the South African curriculum (Du Plessis, Conley & Du Plessis, 2007). She also reveals her views in the interview when she says "*but now with teaching especially with Maths, your learners really need to understand exactly what you are*



*talking about*” (T/M-15) thereby strengthening her belief and view that learning consists of the active construction of understanding, problem-solving, assessment and self-reflection. Her comment (PD/M-7) “*after the learner gave an answer the teacher gave the whole class an opportunity to verify the answer*” is further indicative of her constructivist stance to learning and teaching. The mentor guides the student teachers on core aspects of good teaching for mathematics such as pedagogical content knowledge and applying their knowledge of how children at varying developmental stages learn mathematics because “*you can’t just throw it into a class and expect everyone to do what you are saying they must do. They are different of course*” T/M-20. In a 2011 document the Department of Higher Education and Training acknowledged the complexity of teaching and the resulting impact which factors such as integration, acquisition and application of different types of knowledge practices and learning might have on this practice. The NCATE (2010:1) states that, “we need teachers who are well versed in their curricula, know their communities, apply their knowledge of child growth and development, use assessments to monitor student progress and effectively engage students in learning’. This aligns with the previous research about the success of the teaching school model at this institution and how the “*practicum in Johannesburg seems to support the learning of PCK amply*” (Lavonen et al, 2018 pg. 12). The interview also reveals several examples of how the teacher models good teaching strategies for student teachers and encourages student teachers to allow learners to “*do it practically in the class*” (T/M-19) and “*let it be them (learners) who are leading*” (T/M-23). It thus appears that the mentor teacher is dedicated to modelling good mathematical strategies and methods which are linked to constructivist ideas and directing student teachers away from the traditional direct teaching of mathematics.

#### **5.4 The nature of the mentoring relationship builds a community of practice**

The final finding of this study is that the nature of the mentoring relationship is categorised by the mentor encouraging dialogue and cooperation amongst all the stakeholders in the relationship. My impression as a researcher is that conversation and discussion between the student teachers and mentor is encouraged and the mentor’s emphasis on dialogic exchange positively affects the learning process of both

mentor and student teachers. I am also of the opinion that the nature of verbal exchanges throughout the mentoring relationship encourages reflection and purposeful thinking and this in turn encourages professional growth for the mentor and an increase in students' active participation in a community of practice. One can describe 'communities of practice' as people who share a common concern or interest in something they do and through interaction amongst each other, learn valuable lessons for how to improve on their actions. (Wenger, 2006). The community of practice in this study are constituted as the mentor and the student teachers.

The mentor is also aware that solutions to challenges which might arise during the mentoring process and relationship can only be found provided there is an engagement in constructive dialogue amongst her and the student teachers. This inevitably speaks to both the mentor and the student teachers becoming change agents in the mentoring relationship and a willingness and a preparedness to learn from, and within, the relationship.

With this possibility also comes the added benefit of the development of trust amongst the mentor and student teachers. This building of trust amongst the members in the relationship, with the mentor teacher guiding the process, is garnered from her continuous stressing of her encouragement of the student teachers to engage actively with her during classroom observations and discussion (T/M-5 and VP/LP/M-1). International studies on mentoring relationships (Zachary, 2000, Tomlinson, 1995 and Sahlberg, 2012) have also pointed to the vital need to develop trust between participants in the relationship through active and productive conversations which result in higher degrees of learning for mentees. The nature of the mentoring relationship is immersed in dialogue and communication between the mentor and the student teachers and is a valuable contributor to building a relationship of trust between her and student teachers and she says that "*I want them to talk to me*" (T/M-2). Communication and dialogue also serve as strong features of the mentor's view of herself as a guide, thus tying in with theme 1. She reaffirms this on a number of occasions in the interview when she says: "*always when I talk to them*" (T/M-3) and "*it is always a time for us to talk to each other*" (T/M-6).

Furthermore, the mentor teacher highlights the importance of actively sharing learning experiences with the student teachers and encourages this exchange in a social context of active and combined discussions and dialogue. She encourages student teachers questioning by telling them *“if you ask, at least I know my information is shared within three people that will take it to three more, then its six, then at least then there’s a network that’s going on”* (T/M-10). The mentor continues the emphasis on the dialogical exchange of ideas and knowledge, and states that *“I like to see them as people that are just not coming to take knowledge, but they are giving knowledge as well”* (T/M-10). This shared exchange and dialogue particularly during mentoring sessions, is non-threatening and collegial and she says that *“it is always a time for us to talk to each other, and I think build more relationships”* (T/M-6). The importance of shared communication and dialogue is seen in the third (VP/LP/M-3) and fourth clips of the video recordings (VP/LP/M-4), in which the mentor is guiding the students on how they were going to implement their mathematics lesson for evaluation with a group of grade three learners. The two clips highlight the communication and sharing of mathematics lesson activities between the students and the mentor. This is key to enculturating students, from a position of legitimate peripheral participation (Lave & Wenger, 1991) into a community of practice of teachers.

The nature of the mentoring relationship is also characterised by mutual respect for the diverse composition of the members in the mentoring relationship. The mentor teacher regards the mutual sharing of diverse ideas and knowledge, recognition and merging of individuals’ experiences thoughts and skills amongst student teachers during group work as important to developing a community of practice. The mentor states: *“So, when I’m talking to them, there will be those ones that are just quiet and I’m like: “Mam let’s hear what you’re saying. Not that I want to expose you, but I want you to understand this, that you are given a platform, to refine your skills. But now, if you are not refining and hiding, behind others, you’re going to walk out of UJ the same as you came in, and you’re not going to make a difference in other people’s lives”* and reaffirms this sentiment when she says: *“The group is just there to assist you”* (T/M-35). The video recording (VP/LP/M-1) showed the mentor teacher inviting student teachers to become active participants in the group lesson planning while she listened as they planned. There is also evidence of the mentor expressing the importance of

students' taking responsibility for their own learning whilst still engaging actively in group work and a community of practice. She says the following: *"many a times, when they're working, they hide themselves within their group and when they go to schools, the group won't be there"* (T/M-35)

In addition, the mentor teacher encourages collegial and respectful interaction during student teacher group work as is evidenced by her statement: *"because at the end of the day I think in a group you are at the most advantageous as going back to when you are alone because when you are alone you might think that someone is critiquing you but if you're critiquing positively because we were all working"*. The mentor teacher also references the importance of building relationships with students as a means to develop a community of practice in the mentoring relationship. She stated: *"I make sure that I establish a relationship with them when they get into my class"*. The mentor teacher emphasizes the continuous nature of the mentoring relationship between her and the student teachers and states that: *"They need to know that between the teaching and the activity, the relationships just goes on, it doesn't stop until the bell rings."*

The student teachers and teacher relationship is characterised by the mentor teacher's awareness of student diversity and the purposeful practice of inclusion of differences amongst student teachers. Students' cultural diversity and the inclusion thereof is a distinctive factor characterizing the nature of her mentoring relationship with students and she demonstrates inclusivity within the community of practice *"because at the end of the day you might find yourself with people who are just moving around because some of them feel out that...I'm Zulu speaking and I'm in a Sotho class and she's teaching Sotho. That means I can't do anything"* (T/M-11). The mentor teacher also approaches student diversity with an attitude and practice of showing interest and respect for the student teachers. She continues to validate the importance of including all students by comments such as the following: *"I make sure that I establish a relationship with them when they get into my class"* (T/M-10).

She reaffirms this in the interview: *"it's not about me running with the five that understand and leaving everybody behind that would mean I'm not fair to some of them, because they come, they are very diverse"* (T/M-10). The mentor teacher also encourages students to embrace and recognize one another's diversity as a strength and integrate it into their own development of a community of practice. A study by

Gravett and Petersen (2007) addresses diversity in mentoring. They argue that “if the mentoring process is approached in this way, the opportunity is created for co-learning – not only learning by mentees, but also mentors, implying the enhancement of personal and professional development of all involved” (pg. 205). In the interview she says that she tells student teachers *“wherever you go there is going to be somebody that doesn’t think like you, and that doesn’t mean that that person is stupid, or that person is backward or something. Listen to the person and maybe you might make sense out of what that person is saying”* (T/M-5, T/M-6). I surmised that this utterance was a strategy which the teacher sought to enhance the value of learning from the group individuals’ knowledge through practice as a strategy for creating new knowledge within the groups’ community of practice.

There is also evidence of the mentor expressing the importance of students’ taking responsibility for their own learning whilst still engaging actively in group work and a community of practice. She says the following: *“many a times, when they’re working, they hide themselves within their group and when they go to schools, the group won’t be there”* (T/M-35). The importance of active participation and worthwhile individual participation is further highlighted with the interview statement *“that is the aim of you being in the group, so that you get more ideas and you can do it on your own. But if you are going to come here and rely on the group totally rely on the group for everything, then that means you are not learning anything, and we are wasting our time, because we are here to help you”* (T/M-36). She continues saying *“if you, yourself is not developed, how else do you develop somebody else?”* (T/M-35).

Lastly there is evidence that the mentor teacher encourages constructive criticism as a key element amongst student teachers and considers it a means of encouraging and building relationships amongst students that would see students engaging in a community of practice and learning from each other during group work activities. She says in the interview: *“I always encourage them to engage and not in a way that they chopping each other but in a way that they are building each other”* (T/M-4). The teacher also embeds in her feedback session and directs self-reflective questions for students on the instructional success, the technical preparation and presentation of the lesson and the use of learner groups in the lesson. I surmised that these questions were aimed at encouraging students to share in respectful dialogues with each other’s reflective practices as a means of developing a community of practice. Based on my

experience and interaction with student teachers during peer evaluation sessions, I found them not yet ready to critique one another as they have not yet developed enough in this area. The student teachers' peer evaluations and mark allocations for each other is usually high but lacks critique.

### **5.5 Limitations of this study**

A limitation of this study lies in the fact that as it is a case study of one teacher it is difficult to generalise the setting to that of other settings in which student mentoring takes place.

### **5.6 Possible further studies**

After completion of this study it is my belief and understanding that mentor teachers have a significant role to play in pre-service teacher education particularly with regard to student teacher practice of classroom teaching.

In order for this to be achieved possible further studies is required in the following areas:

1. seeking more appropriate ways for mentor teachers to assist student teachers in bridging the theory of university work with that of the practice of teaching,
2. additional research is required in developing mentor teachers to move beyond thinking merely of themselves as classroom teachers modelling good practice, to mentors who are able to recognise and enact their role of expert teacher educators,
3. determine whether or not there exists differences between mentors in a teaching school and mentors in ordinary schools in terms of how conceive of their roles in mentoring student teachers.
4. As this is a deep-dive study, which has the potential to improve practice at the TS, it could be taken into account with other studies focussing on the same, as a means to contribute towards a model that could eventually be replicated in South Africa.



## 5.7 Conclusion

The aim of this study was to report on the main research question on what characterises the mentoring practices of a teacher in a teaching school. The research question, results and the findings were framed within the interpretive research paradigm and, as such, it contributed to a deeper understanding of mentoring practices at a teaching school. Three key findings emerged from the analysis of the qualitative research. The first of the findings of this study is the multidimensional evolving nature of mentoring which the mentor is engaged in. This finding expounded on the influence of the mentor's past mentoring experiences, in-service mentor training interactions with student teachers and qualified teachers as factors which impacted not only on her own learning but also aided in influencing her multidimensional role as mentor to student teachers at a teaching school. The mentor teacher categorised her mentoring roles amongst others as a good curriculum driver, leader to student teachers, guide and communicator. The mentor teacher also acknowledged her continuous reflection of her own classroom practices as a positive influence on her mentoring practices with student teachers. The research did however reveal that the mentor teacher was still transitioning from her role as mentor to student teachers to that of expert teacher educator.

The second of the findings of the data analysis revealed that the mentor teacher occupied a generalised and subject specific role when she was working with and mentoring to student teachers. This was evidenced by the type of feedback which she provided to student teachers which was aimed at developing the pedagogical content knowledge of student teachers. There was evidence that the mentor's modelling of good classroom practice and methods was aimed at enhancing the student teachers' practice. There was further evidence that the mentor's constructivist pedagogical view and mathematical beliefs not only influenced the mentor's classroom practices but also how she engaged with student teachers particularly in planning specific mathematics lessons. One of the critiques in this finding revealed that the mentor teacher continued to experience challenges with assisting student teachers bridge the practice theory divide of university coursework and classroom practice.

The third and final finding of this study revealed that the nature of the mentoring relationship is categorised by the mentor encouraging dialogue and cooperation amongst all the stakeholders in the relationship and find her encouraging reflection

and purposeful thinking in which served to encourage professional growth for the mentor as well as an increase in students' active participation in a community of practice.





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# ADDENDUM A: ETHICS CERTIFICATE

NHREC Registration Number REC-118613-036



## ETHICS CLEARANCE

Dear Hayley van der Haar

Ethical Clearance Number: 2018-087

**Mentoring in a teaching school; how do teachers conceive of mentoring encounters with student teachers?**

Ethical clearance for this study is granted subject to the following conditions:

- If there are major revisions to the research proposal based on recommendations from the Faculty Higher Degrees Committee, a new application for ethical clearance must be submitted.
- If the research question changes significantly so as to alter the nature of the study, it remains the duty of the student to submit a new application.
- It remains the student's responsibility to ensure that all ethical forms and documents related to the research are kept in a safe and secure facility and are available on demand.
- Please quote the reference number above in all future communications and documents.

The Faculty of Education Research Ethics Committee has decided to

- Grant ethical clearance for the proposed research.
- Provisionally grant ethical clearance for the proposed research
- Recommend revision and resubmission of the ethical clearance documents

Sincerely,

Dr David Robinson  
Chair: FACULTY OF EDUCATION RESEARCH ETHICS COMMITTEE  
29 January 2019

## **ADDENDUM B: INFORMED LETTER of CONSENT**

Dear Participant

### **INFORMED CONSENT TO PARTICIPANT IN RESEARCH- MENTORING PRACTICES IN A TEACHING SCHOOL**

My name is Hayley Van der Haar and I am currently enrolled for a Master's degree at the University of Johannesburg. The topic of my research study is "Mentoring Practices at a Teaching School".

The main aim of the research is to investigate how a teacher conceptualises of her mentoring encounters (including practices and processes) with student teachers in a teaching school. In order to realise this aim the objectives of this research were set as:

1. Describe how the school teacher views her role as mentor teacher to student teachers.
2. Describe the nature of the mentoring relationship between the school teacher and student-teachers.
3. Identify the factors that influence the mentoring practices of a mentor teacher.

I would like to invite you to participate in this research study.

If you agree to participate in this research study, I will conduct a 45minute to 1hour interview with you on a date, time and venue that would be appropriate for you.

During the course of the interview you will be asked to explain or even elaborate on some of the replies you will provide during the interview. The interview will be recorded and then transcribed by me afterwards.

Please be aware that your participation in this interview is voluntary and you will not be advantaged or disadvantaged in any way. As this is a voluntary process, you may at any point during the interview remove your consent to participate, in which case your participation will be concluded immediately without any negative consequence

to you. Any and all data that had been collected up to and including that point will be destroyed and will not be used in this study.

Neither you nor your school will be referred to by name and your anonymity will be assured. Should there be a need to quote you exactly in the study, a pseudonym will be used in place of your name.

Your contribution and response is crucial in order for me to answer the questions regarding mentoring practices at a teaching school and I am hoping for a positive response from you in this regard.

Yours sincerely,

Hayley Van der Haar

Researcher

[hhvanderhaar@uj.ac.za](mailto:hhvanderhaar@uj.ac.za)

083-702-9180

Prof. Nadine Petersen

Supervisor

[nadinep@uj.ac.za](mailto:nadinep@uj.ac.za)



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OF  
JOHANNESBURG

# ADDENDUM C: LETTER OF CONSENT

## LETTER of CONSENT

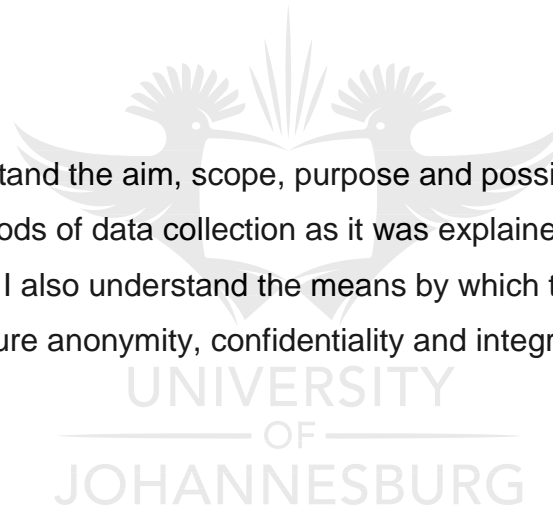
### VOLUNTARY PARTICIPATION IN THE RESEARCH STUDY ENTITLED

#### “Mentoring Practices in a Teaching School”.

I, \_\_\_\_\_, (Full name/s and Surname)

hereby voluntarily and willingly agree to participate as an individual in the above-mentioned study introduced and explained by Hayley Van der Haar, who is currently enrolled as a student for an M.Ed in Childhood Education at the University of Johannesburg.

I declare that I understand the aim, scope, purpose and possible consequences and benefits and the methods of data collection as it was explained by the researcher, Hayley Van der Haar. I also understand the means by which the researcher, Hayley Van der Haar will ensure anonymity, confidentiality and integrity of the information she will collect.



\_\_\_\_\_  
**Signature**

\_\_\_\_\_  
**Date**

# ADDENDUM D: ANALYSIS OF VIDEO RECORDINGS

VIDEO RECORDING PACKAGE 1 : Lesson planning					VP/LP/M-1
Time	Participants	Nature of the recording	Foundation Phase Subject	Mathematics Content Area and Skill	Content Areas in CAPS
Total recording 1½ hours.	4 <sup>th</sup> year student-teachers. Mentor teacher	The lesson planning session was recorded in 4 chunks of viewable clips.	Mathematics Grade 3	Numbers, Operations and Relationships	Solving problems in context Recognise and identify all the South African coins and bank notes. Solve money problems involving totals and change in rands or cents. Convert between rands and cents.
Clip No.	Who talks	What is the focus of the discussion			
CLIP 1 OF 1: Lesson Planning	<ul style="list-style-type: none"> <li>• Dominant Mentor teacher talk.</li> <li>• Mentor teacher questioning. Put in questions</li> <li>• Limited student teacher talk.</li> </ul>	<p><b><u>Mentor discussion on lesson planning elements</u></b></p> <ol style="list-style-type: none"> <li>1. Mentor asks students what they expect to see when they enter the classroom</li> <li>2. Asks what they expect to gain from the mentor in that particular session of their practicum</li> <li>3. Student responds that they expect to discuss what they are going to teach for their lesson presentation and how to plan a lesson</li> <li>4. Mentor re-affirms the student teacher's expectations of teaching them elements involved in a lesson plan.</li> <li>5. Mentor teacher reaffirms the purpose of the discussion is for planning a Grade 3 Mathematics lesson.</li> <li>6. Students topic/theme of the lesson, the content of what they are going to teach</li> <li>7. Mentor questions students about the necessity of a well-structured lesson plan</li> <li>8. Students respond by talking about importance of teachers knowing what to teach and how to teach the lesson.</li> <li>9. Mentor reinforces the importance of preparing lesson plans for both seasoned and novice teachers</li> <li>10. Mentor talks about the purpose of a lesson plan as a guide for teaching, must be well structured, include activities, must have relevant and available resources, contain relevant assessment information.</li> <li>11. Mentor talks about teachers using the lesson plans as a tool to reflect on whether or not they have achieved what they have planned for at the end of the lesson</li> <li>12. Mentor talks about well-planned lesson plans as a tool to avoid time wasting and easy flow of the lessons.</li> <li>13. Mentor teacher talks about elements needed for a lesson plan (aims, objectives, assessments, differentiation,</li> <li>14. Mentor teacher defines and talks about the differences between aims and objectives of lesson planning.</li> <li>15. Mentor talks about why students should include the type of learner they are teaching in their lesson planning. She refers them to coursework textbook Becoming a teacher for further information</li> <li>16. Mentor tells students that knowledge of learners' cultural backgrounds, learning styles of learners, learner diversity, levels of understanding, inclusion of learners with challenges, should be included in the lesson plan.</li> <li>17. Mentor talks about grouping learners according to differentiated abilities and encourage cooperative learning.</li> <li>18. Mentor talks about planning a lesson with the knowledge of the broader community within which the school is located in.</li> <li>19. Mentor talks about lesson plan aligning with the social context of learners.</li> <li>20. Mentor talks about assessment as continuous and throughout the lesson.</li> <li>21. Mentor refers students to Bloom's Taxonomy to guide assessment in the lesson plan.</li> <li>22. Mentor explains that planning only lower order questions will not develop critical thinking skills for learners.</li> <li>23. She provides an example of a type of question students could ask.</li> <li>24. Mentor talks about resources as tools for assisting in the teaching and the learning that will take place and must be included in the lesson plan.</li> <li>25. Mentor emphasises that lesson plans must be detailed and include all necessary elements and step by step procedures for how to teach the lesson.</li> <li>26. Mentor asks for clarity on whether or not students understand her and asks for clarifying questions from them.</li> <li>27. Mentor reiterates the importance of student teacher and mentor engagement and discussion.</li> <li>28. Mentor assures students that they have a platform to engage in discussion to clarify uncertainties and ask questions.</li> <li>29. Mentor talks about group, individual and paired activities as a specific strategy they could use in their lesson to achieve the lesson objectives.</li> <li>30. Mentor talks about effective classroom management skills which would ensure successful group activities and the effective selection of groups.</li> <li>31. Student relates a learner-teacher classroom interaction experience of group activities at WIL school.</li> <li>32. Mentor suggests reflecting on their WIL and FUNDA experience of good mentor practice vs bad mentor practice, and comparing the experiences in order to improve the student learning.</li> </ol>			

		<p>33. Mentor talks about the teaching style as an influencing factor on the way in which learners interact with their teachers. She uses the example of teacher centred lessons limiting the amount of learner interaction.</p> <p><b><u>Mentor teacher turns her discussion to focus on specific Mathematics lesson</u></b></p> <ol style="list-style-type: none"> <li>1. Mentor teacher asks students: What are the <b>components</b> which teachers use to teach mathematics? What <b>guides</b> teachers when they plan the mathematics lesson? What are the <b>guided sections</b> that teachers use to teach mathematics? (Mentor <b>does not call them the five content areas</b> of Mathematics)</li> <li>2. Students respond by naming the content areas in Mathematics</li> <li>3. Mentor asks students whether all five content areas can be taught in 1 lesson.</li> <li>4. Mentor talks about the percentage of teaching time which should be spent on each content area as per the curriculum requirements.</li> </ol>
<b>Clip No</b>	<b>Who talks?</b>	<b>What is the focus of the discussion?</b>
CLIP 2 OF 1: Lesson Plan 34 min	<p>Dominant Mentor teacher talk</p> <ul style="list-style-type: none"> <li>•</li> </ul>	<p><b><u>Mentor Teacher discusses:</u></b></p> <ol style="list-style-type: none"> <li>1. Mentor mentions that Numbers, operations and Relationships will take up the largest percentage and more teaching time is allocated to this content area.</li> <li>2. Mentor talks about using integration to cover remaining 4 areas of the maths syllabus.</li> <li>3. Mentor gives a practical example of teaching money in content area numbers operation but integrating in with content area of patterns functions and algebra. She says: <i>Make a pattern with money....R2, R4,</i></li> <li>4. Mentor says: R5, R25? What did I skip...20. Tells students: You then teach the rule of the pattern. Learners must include the R or c before the number.</li> <li>5. Mentor focusses talk on adequate time allocation for each content area.</li> <li>6. Mentor tells students to include counting, mental maths in the daily math planning</li> </ol> <p><b><u>Mentor uses multiplication examples to explain effective math activities</u></b></p> <ol style="list-style-type: none"> <li>7. <i>I see a 9 and I see a 2. I'll just double the 9 and I'll get my answer.</i></li> <li>8. <i>When they see 5x2 they will see I must have 2 groups of 5 and bring them together and I will have my answer.</i></li> </ol> <p><b><u>Mentor talks about vocabulary</u></b></p> <ol style="list-style-type: none"> <li>9. Mentor tells students to use appropriate mathematics vocabulary in their lesson plan and teaching to ensure active learner engagement in the lesson.</li> <li>10. She uses the example of <b>amount</b></li> <li>11. She says: Vocabulary is the signposts to remember....<b>doubling means put together only 2.</b> When one says <b>halving, it means I take the equal part out.</b></li> </ol> <p><b><u>Mentor talks about counting</u></b></p> <ol style="list-style-type: none"> <li>12. Counting depends on the learners level</li> <li>13. Idea in maths is that whenever I do counting I will be to count something, take away something, count forward, count back, when counting on we adding one more, when counting backward we are taking away something depending on what you are doing.</li> </ol> <p>Mentor declares at this stage that she has <i>'covered the 5 areas of math that we are doing'</i>.</p> <p><b><u>Mentor talks about the Maths CAPS document</u></b></p> <ol style="list-style-type: none"> <li>14. Mentor shows students how to navigate the Mathematics CAPS document to access various sections such as curriculum overviews of each term, allocated time for each lesson, mental mathematics,</li> <li>15. Mentor tells students that the policy document is a guide and is not prescriptive</li> <li>16. Mentor tells students the policy document must be used in conjunction with knowledge of learners level of development in math</li> <li>17. Mentor tells students to think about their teaching style that will draw learners into the lesson and engage with the teacher</li> </ol> <p><b>Mentor and the planning of a lesson.</b></p> <ol style="list-style-type: none"> <li>18. Importance of tapping into PCK and other knowledges in lesson planning.</li> <li>19. New knowledge must be integrated into existing knowledge</li> <li>20. Effective teaching resources is important.</li> </ol> <p><b>Mentor initiates the start of group discussion and reminds students about the importance of having a 1<sup>st</sup> draft lesson plan ready for the next day.</b></p> <p><b><u>Student Teacher group discussion:</u></b> (23min into clip)</p> <ol style="list-style-type: none"> <li>21. Students navigate their way around the Math document.</li> <li>22. Brief student discussion about what learners' prior knowledge could be regarding the topic.</li> <li>23. Brief discussion on appropriate and relevant resources to use, specifically flashcards for the teaching of math vocabulary.</li> <li>24. Discussion on the use of currency and symbols on each note and coin in the introduction of the lesson.</li> <li>25. Discussion on establishing objectives for the lesson</li> <li>26. Students voice concern amongst each other regarding the short time frame for the lesson planning, as well as insecurity regarding learners' prior knowledge.</li> </ol> <p><b><u>Mentor and student teacher interaction and discussion:</u></b></p> <ol style="list-style-type: none"> <li>27. Students' voice concern regarding not knowing what learners' prior knowledge is regarding the topic.</li> <li>28. Students reaffirm their understanding of <b>WHAT</b> they are expected to teach.</li> <li>29. Mentor teacher and students recall what was taught and learned in previous day's Math lesson and using that as prior knowledge in the introductory phase of the lesson.</li> </ol>
<b>Clip No</b>	<b>Who talks?</b>	<b>What is the focus of the discussion?</b>

Clip No	Who talks?	What is the focus of the discussion?
CLIP 3 OF 1: 3:08 min	<ul style="list-style-type: none"> <li>Mentor teacher</li> </ul>	<p><b><u>Mentor teacher and student teacher interaction:</u></b></p> <ol style="list-style-type: none"> <li>Mentor teacher clarifies the importance of working from knowledge learners already know to what they do not know. Examples of types of skills that student teachers could develop are discussed; problem-solving using addition and subtraction.</li> <li>Mentor teacher refers to expanding learners' knowledge by referencing the CAPS document. Mentor teacher reiterates that the planned lesson should show evidence of progression as per the curriculum document</li> <li>Discussion in English</li> <li>Mentor displays a positive attitude to teaching mathematics</li> <li>Teacher refers to the content area of numbers operations and relationship and problem solving, Discussion on the conversion of monetary units.</li> </ol> <p><b><u>MATHEMATICAL CONCEPTS</u></b></p> <ol style="list-style-type: none"> <li>No direct reference to the actual mathematical concepts taught</li> <li>Mentor teacher discussed:</li> <li>Progression from identifying currency to conversion.</li> <li>The importance of teaching problem solving for planning the lesson topic on money.</li> <li>Examples presented to students of posing appropriate problems associated with the topic on money.</li> <li>Importance of asking appropriate high order questions in the math lesson.</li> <li>Developing the number concept, calculation and application skills during the lesson planning.</li> <li>Mentor teacher does not directly refer to it as additive and subtractive reasoning</li> </ol>

Clip No	Who talks?	What is the focus of the discussion?
CLIP 4 OF 1: 9:32 min	<ul style="list-style-type: none"> <li>Mentor teacher and students</li> </ul>	<ol style="list-style-type: none"> <li>Mentor teacher reinforces the attempt at using their own ideas and styles of teaching and not simply repeating of mentor teacher's style and how she models lessons.</li> <li>Mentor teachers articulates the expectation that she is expecting to see some innovation from students.</li> <li>She encourages the students to think outside of the box when planning their lesson and how they will deliver the lesson.</li> <li>Encourages a brainstorming of ideas amongst students around ideas and then a selection of the only one (1) that would serve them best.</li> </ol> <p><b><u>Student-Teachers:</u></b></p> <ol style="list-style-type: none"> <li>Students ask clarification of whether the teacher will expect a lesson plan draft the following day and provided reasons as to why this would be challenging to deliver.</li> <li>The reasons include public transport, lack of time to plan and discuss new ideas and not knowing sufficient information of learners' prior knowledge.</li> <li>Mentor teacher reiterates the importance of discussing the 1<sup>st</sup> draft of the lesson plan prior to the teaching of the lesson, in order for her to review the draft.</li> <li>Mentor encourages immediate student teacher discussion of the lesson.</li> <li>Whilst students discuss the possibility of using a menu as a new activity for learners, the mentor teacher interjects and informs that this has already been covered.</li> <li>Mentor teacher suggests dramatization as integration into the Math Lesson</li> <li>Mentor teacher displays attributes of encouragement, confidence building in students</li> <li>Situational learning is mentioned by the mentor where she reiterates the idea of students learning from active group participation and planning the lesson as a group</li> <li>Mentor teacher</li> <li>Mentor reinforces the importance of planning as part of pedagogical knowledge</li> <li>Integration of Creative Arts into Mathematics.</li> </ol>



**VIDEO RECORDING PACKAGE 3 : Mentoring session**

**VP/MS/M-1**

Time	Participants	Nature of the recording
Total recording: 17 minutes	4 <sup>th</sup> Year student teachers and mentor teacher	The mentoring session was recorded as 1 viewable clip
Clip No	Who talks?	What is the focus of the discussion?
Clip 5 of 5: 17 min.	Mentor and student teacher talk	<p><b><u>Mentor as guide for lesson planning</u></b>                      Talk mostly about lesson time management</p> <ol style="list-style-type: none"> <li>1. Mentor reinforces the importance of adherence to time allocation stipulated by the curriculum policy documents.</li> <li>2. Mentor critiques the length of time students took to teach the lesson.</li> <li>3. Mentor also discusses the lack of time management and how it impacted on the teaching time of another subject.</li> <li>4. Mentor reflects back to the lesson planning phase and questions whether or not students.</li> <li>5. Specific reflective questions are posed to the student teachers by the mentor teacher :</li> </ol> <p>*Yesterday did you go back and check on the time?                      *And you found out that you could teach the lesson in 30min?</p> <p><b><u>Mentor as a guide for student learning</u></b></p> <ol style="list-style-type: none"> <li>1. Mentor informs students that they should have asked for her guidance and clarity with regard to effective time management for their lesson.</li> <li>2. Mentor critiques students with regard to their failure in exacting the changes she had suggested they make in their preliminary lesson plan related to more effective management of time.</li> </ol> <p><b><u>Engages in student-mentor dialogue</u></b>  <b><u>Mentor questions</u></b> students:                      -Do you think it went as we had planned?                      -If it didn't, what do you think we can change?  <b><u>Student 1 responds:</u></b>                      reducing number of activities during the lesson,                      effectiveness of the learners' group work activities,                      effectiveness of the learners' individual worksheet activities  <b><u>Student 2 responds:</u></b>  <i>they (students) planned well together</i>  <i>the introduction of the lesson went well</i>  <i>the lesson did take up more time than they had planned for</i>  <i>the lesson was not a bad lesson</i>                      Mentor responds to student 2 statement by reminding them of the planning phase and the reminder she gave about the time management of the introduction and that it should be kept short                      Student 1 voices students' uncertainty and confusion regarding learners' prior knowledge, hence the extra time spent on the introduction of the lesson to ensure that the basics were taught before moving onto the conversion of money.  <b><u>Student reflection on actions:</u></b>  <i>If we had known they were that good, we would have moved on to the conversion of money</i>  <b><u>Mentor encourage positive criticism in group work</u></b></p> <ol style="list-style-type: none"> <li>1. Mentor teacher assures students that the session is not a fault finding session but a positive criticism.</li> <li>2. Mentor informs students that if mistakes should be acknowledged and efforts made to work positively towards reflecting on them so as to avoid repetition of the same mistakes in future lessons.</li> </ol> <p><b><u>Nature of mentors interaction</u></b></p> <ol style="list-style-type: none"> <li>1. Mentor positive re-assurance and sentiment for student who presented the lesson.</li> <li>2. Student teachers echo the mentors positive sentiment for student who presented</li> </ol> <p><b><u>Mentor encourages students' learning from the lesson experience</u></b></p> <ol style="list-style-type: none"> <li>1. Student 3 reflects on what she has learned from the lesson</li> </ol> <p><b><u>General feedback/evaluation of lesson.</u></b></p> <ol style="list-style-type: none"> <li>2. Mentor focusses on evaluation the phases of the lesson in the evaluation discussion</li> <li>3. Mentor focusses on evaluating and critiquing the lesson activities as good and engaging for all learners.</li> <li>4. Mentor focusses on evaluating and critiquing the management of learner behaviour during the lesson. Recommends alternative method to deal with learner behaviour.</li> <li>5. Mentor focusses on evaluating and encouraging students to reflect on the management of learner groups</li> <li>6. The mentor gives practical classroom strategies for hpw to deal with effective group management.</li> <li>7. Mentor values the immediate correction of errors during the lesson</li> <li>8. Mentor highlights the resources used during the lesson as a positive</li> </ol>

		<p>9. Mentor highlights the integration of new vocabulary as a positive aspect of the lesson. Mentor tells students that these are teachable moments and defines the term for students</p> <p><b><u>Distinct evaluation of Mathematics</u></b></p> <p>10. Mentor advises the use of place value and vertical sums to teach the addition of Rands and cents</p> <p>11. Mentor informs students that a “child should think about place value before they start adding” and students should guide/remind the learners about this.</p>
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VIDEO RECORDING MATRIX			
VIDEO ANALYSIS	VP/LP/M-1		
	Yes	No	Location
Guidance on the technical elements and aspects of a lesson plan by guiding student teacher through each element	√		CLIP 1 OF 1: Lesson Planning
Emphasis on mathematical concepts	√		CLIP 2 OF 1: Lesson Plan
Guidance on curriculum content (CAPS) to be taught.	√		CLIP 2 OF 1: Lesson Plan CLIP 3 OF 1: 3:08 min
Emphasises on the Big Ideas in Mathematics		√	
Mentor models MKT	√		CLIP 2 OF 1: Lesson Plan CLIP 3 OF 1: 3:08 min
Suggestion of an integration of university coursework into lesson planning	√		CLIP 1 OF 1: Lesson Planning
Provides practical examples on integration of mathematics theories in the lesson planning.		√	
Guidance on Mathematics concepts to apply in the lesson planning	√		CLIP 1 and 2 OF 1: Lesson Plan
Mentor transfers an excellent understanding of the CAPS curriculum	√		CLIP 1 and 2 OF 1: Lesson Plan
Guidance on pedagogical content knowledge to be discussed	√		CLIP 1 and 2 OF 1: Lesson Plan
Mentor displays favourable mentoring characteristics	√		Entire video clip
Guides student teachers on knowledge of the learners	√		CLIP 1 OF 1: Lesson Planning CLIP 3 OF 1: 3:08 min
Mentor displays excellent pedagogical content knowledge	√		CLIP 1 OF 1: Lesson Planning CLIP 3 OF 1: 3:08 min

Shares knowledge of teaching strategies and multiple representations	√		<b>CLIP 1 OF 1:</b> Lesson Planning <b>CLIP 3 OF 1:</b> 3:08 min
Guidance on classroom management strategies to be discussed	√		<b>CLIP 1 OF 1:</b> Lesson Planning
Leading discussion with student teachers	√		<b>CLIP 1 OF 1:</b> Lesson Planning <b>CLIP 2 OF 1:</b> Lesson Plan
Positive critique of lesson following delivery thereof	√		<b>CLIP 5 OF 5:</b> Mentoring session and feedback
Shared dialogue amongst mentor and student teachers following lesson delivery	√		<b>CLIP 5 OF 5:</b> Mentoring session and feedback



## ADDENDUM E: INTERVIEW TRANSCRIPT

INTERVIEW TRANSCRIPT WITH MENTOR TEACHER RUTH		T/M-1
	H: Interviewer R: Ruth	
H	Morning R	
R	Morning H	
H	We are going to start our semi-structured interview related to what is essentially my study for my master's degree.	
R	Mhmm	
H	We've done a view recordings with regard to lesson planning, lesson evaluation as well as your mentoring sessions with your group of 4 <sup>th</sup> year students.	
R	Mhmm	
H	We know you are one of the key mentor teachers particularly that deals with our 4 <sup>th</sup> year students in the Foundation Phase programme.	
R	Mhmm	
H	I'd just like to start by asking you how you would describe your own role as a mentor teacher?	
R	Okay I think mostly my role it's guiding them because many a times when there's a question that needs be addressed they first pose the question then I will go about it depending on what the question is. I'll just give an example like let's say maybe they're going to	
R	present a lesson the following in two days' time what they will do is. I always encourage them; Bring your lesson plan, then after they bring their lesson plan before we can talk about the lesson plan, I want them to talk to me like okay fine this is what you talked about: did you check how you placed your introduction, did you check your body, did you check your conclusion. But whatever is it that they are going to give answers that are going to be, is what is going to guide me to understand what they don't understand, cause of late through my mentoring sessions I've picked up that most of them they don't understand what introduction, the body and the conclusion of the lesson are three different things and need to approach them differently.	T/M-2
H	I noticed during your initial planning session, one of the video clips, you started quite a lengthy part of your lesson planning where you went through all of those stages.	
R	Yahh	
H	Can you be a bit more specific about why you think that's important to do? To mentor to plan different stages of a lesson plan?	
R	You know why I take it important is if you can come, I always explain to them; I say to them You what, imagine someone inviting you to a party...	
H	Yes...	
R	...and just giving you a page where she scribbled I have a party on Saturday.	
H	Yes?	

<b>R</b>	<p>You get 2 invites, the one is on an A4 that's just scribbled, the other one is nicely cut, it's fancy, it's got colours, it's got your theme it's got everything. Which one you want to, it's in the same date and most of them will say; I'll take the colorful one 'cause at least I know what they expect from me. They'll tell me come dressed in a maybe it's a Halloween party. I'll know exactly.</p> <p>Now this one, that's just on an A4, I'm not interested because what if it might turn out to be not what I wanted or I might not learn something. From that's where I'll get to introduce: you know what an introduction is the same as an invitation card. It depends on how they present the invitation card to you, then you'll decide, let me rather go to this party and not go to this party.</p> <p>But now if the kids are in your class, and you come to them and you are just standing there and saying "Today I want us to add, and you don't have anything that you are going to show them: this is what I want us to add. Or "today I'm going to deliver letters. I'm talking a letter. Now here's a postman. I'm dressed in a postman's dress. They are going to be curious and say: Let's hear what this postman is doing. Is it the same as a postman that I know? Because whatever is it your introduction needs to really make them think: Is this what I know? Is this a new thing? And you'll even see them in their faces that's it's a wow. But not if is a wow then they'll just do and will look for something to do to keep them busy. That's why, even if your body it's not that like packed, but if your introduction is packed and your conclusion is packed, then with your conclusion you are obviously going to consolidate what you were doing there, though it making, it just enriches the learners. So I always when I talk to them; You can come and present the lesson for the sake of presenting it, or you can</p>	<b>T/M-3</b>
	<p>present it for the sake of the learners understanding and once they catch it there, it's for, you are just going to pack on top. You don't have to lay the foundation again.</p>	<b>T/M-4</b>
<b>H</b>	<p>Okay. Thank you. I just wanted to find out also when we were doing the video recording you also did the evaluation session. Remember the students had delivered their lesson and you had the feedback and evaluation session. I just wanted to know, for you as a mentor teacher, what do you think your role during that particular evaluation session is? What do you regard as most important during that evaluation session? How would you go about engaging your students during that evaluation session?</p>	
<b>R</b>	<p>You know, sometimes, they come in a group. They work in a group but one of them is going to do the presentation, and from that one I expect all these other ones to see that- is this how we did it, if it was me, how would it, that means its individual learning in a way because when we are working in a group you might think that you know, and that somebody might come and teach you from the very same group that you like working with. So I always encourage them to engage and not in a way that they chopping each other but in a way that they are building each other because at the end of the day I think in a group you are at the most advantageous as going back to when you are alone because when you are alone you might think that someone is critiquing you but if you're critiquing positively because we were all working that. You know what as much as she did it like this, if it was me I would have done it like that. In</p>	

	<p>the very same way the next person is learning. And if we would just present a lesson and assume that everybody is on the same page, because now as they are presenting if you look at the students faces sometimes you see like, it's like they seeing something that they didn't understand would</p>	
	<p>be there, but I always encourage them. You know what you can go to Grade R until you get to me you see different four different teachers but all the ideas that you got from us, you're going to put them in a pot, stir them and put in your idea and that's going to come out to you. You might come out and watch me and like one, two, three from me, then copy one, two, three, four, five, six from someone else. Then when you put all those that is going to be you. You can't be you can't be, but you can be yourself. But with our ideas we can build you towards being the better person.</p>	<b>T/M-5</b>
<b>H</b>	<p>Thank you. If you go through the stages of how you're evaluating, what is your rationale for doing that?</p>	
<b>R</b>	<p>You know I always say: 'Make sure that give them the assurance that you know what, I am not here to condemn you, and I am not her to like fault, like do the fault finding: you did this wrong, you did this wrong. From you I learn. I learn from the students and they learn from me. So I can't. Sometimes they might have an idea but not put it across the way I would put it. But it and it's understandable considering the experience that I have and they have, its two different things. But you know what makes me content many a times when I talk to them its understanding that they can see the way that this is how you are supposed to do it. They can...they've got that thing of this is the right thing, and if they can just practice, in time they will be very refined. Now the other thing that I look at when I'm like talking to them and me being the one that is leading, I always encourage them you know what wherever you go there is going to be somebody that doesn't think like you, and that doesn't mean that that</p>	
	<p>person is stupid, or that person is backward or something. Listen to the person and maybe you might make sense out of what that person is saying. So, it is always a time for us to talk to each other, and I think build more relationships cause what I have picked up is most of the students that you work with, after some time they'll come and they'll say: Ma'am one day I saw you. Let me give you an example; we were once walking around the school with the learners and we were looking at the signage of the school I wanted to show them: 'You know what the signage work like this; if the office is that side, obvious the arrow will show.' Then as we are walking there, then we saw a dead bird. The learners were like ooh mam. Then I immediately changed from the signage and we talked about that bird. But now after, I think it was a year, a student came and asked me: "Ma'am there was a time when you were teaching them about signs, but you ended up confusing the learners end went (going into) the dead bird. Then I said: "No, I wasn't confusing them, its called, when I was at College we called it a teachable moment'. You're not teaching birds, but you're sitting in a class and a bird flies in; to calm them down, you need to talk about the bird, and as soon as you get someone to take the bird out, then you'll go back to your lesson. Those are some of the things that I try to</p>	<b>T/M-6</b>

	<p>explain to them and tell them that: you know what, mentoring is just not me and you doing academic work. You can ask me about anything as long as I know I'll give you the answer. Some people have like okay when I'm teaching here and somebody comes and be rude, I'll leave ma'am and come...We don't do that...you can go outside and take five, but you still need to come back. You can't say I'm angry I'm leaving the kids like this. So you know from where they are they most of them fresh from College from</p>	
	<p>three years out of school, they still have those ideas that you know what when I work, this is what I want to do but, now when you give them that, once you walk into the schoolyard according to the law, you don't just go out of the schoolyard and go buy yourself a cooldrink. That is why you see me sending someone, and after buying that cooldrink, you don't come back and open it in front of the kids...it's not allowed. So they don't understand some of those things: Haai mam now I'm hungry, I want to nibble something. You can't go out and just do whatever and just come back and it's just business as usual. So, its stuff like that I talk to them about. You can't just walk in with your sweets and eat in front of them, 'cause some of them walked out of their homes and didn't eat anything. So I talk to them about, it's not just what we did in the class, it's what your ELRC would tell them, that you know what, when they say school is eight o'clock, we start eight and count your seven hours then you can go to your house. So we talk during those mentoring sessions, we do that as well.</p>	<b>T/M-7</b>
<b>H</b>	So, that's in your opinion as your role as mentor, and I mean mentoring has got many roles	
<b>R</b>	Yaahhh!!	
<b>H</b>	What would you consider as the most important role that you see yourself fulfilling as a mentor teacher to these students? I know there are many of them (mentoring roles)?	
<b>R</b>	Most importantly, I think it's being a good curriculum driver because now as much as there's this how much does a teacher earn, how do I get around. Teachers don't get enough...ma'am would you advise me to do.... No, No, No the bottom line is, we as teachers, we don't get that much, but once we can see our learners being able to apply what we teach them in the class outside, that's all the thanks we know we can get. So many a time I explain,	
	<p>as much as teaching is not something that you can like teach now and see the results now...But now at TS we are even lucky because we see them from Grade 1 and see them in Grade 7 and see how they can like, tell a speech differently from when they were in Grade 3. That on its own for me it gives me reason to wake up and come here.</p>	<b>T/M-8</b>
<b>H</b>	And for your students? How would you define your fundamental role as a mentor for our students (our University X students)? What is most important for you with the University X students in terms of your role?	
<b>R</b>	<p>You know with the University X students, I think me being a good teacher, by a good teacher I mean, being on time. After I give my learners an activity, I don't sit and mark or something. I do my shoulder marking, I move around. Because now most of the time when I started teaching, I do/used to imitate what I saw my teachers do. They would give me work, then go and mark the register. But now since I came to TS I picked up that you know what, there's kids that will always want you to go and check around and check, if what you said, they</p>	



<p>understand and clarify to some of them, but now if you give them work and keep yourself busy, you don't see with them when they get lost. By the time you see them then you've got a lot of work to do. But when you are doing your rounds, then you can see that okay let me help this one quickly....maybe by the end of the lesson he will be fine. So the students' needs to know that teaching is not just about talking and when you are finished, activity, then after the activity then we move onto something else. They need to know that between the teaching and the activity, there must, the relationships just goes on, it doesn't stop until the bell rings. You can't be saying: "Okay fine, I gave them this, can I run and go and make tea and come back? It doesn't</p>	
<p>work like that. Once you give them work, you follow up on the work, and you must give them feedback. So if you don't follow up on it, how are you going to give them feedback? How are you going to give them a chance that ...you know what ... I saw you, you did it the way, exactly the way I did it. Come and stand here and tell us how you did it...so that they can peer teach. Because at the end of the day ...I just have this lesson that I have now. Then after the lesson delivery, for me I need to go in, and see if it worked, because if I say: Okay, I gave them lesson and activity and that's it, I am just going to be working by task that is like your two out of ten and wonder where did I go wrong? But if I make follow ups on it until I am sure that everybody in my class is comfortable, then I know that whatever student is watching me, they know that, it's not just about the lesson and the activity. When do you do your follow up, when do you enrich this one that got it right, let me give her something and see if she is where I think she is.</p>	<b>T/M-9</b>
<p><b>H</b> Thank you Ruth. I just wanted to also ask you, just in terms of your relationship with the mentees/(the students), What do you think is important for you to identify within these mentees/students that you are mentoring. What are some of the important things that you need to recognize as good practice?</p>	
<p><b>R</b> You know what I picked up as much as many a times in a group you will find that maybe it's a group of twelve, but out of that group there will be this one student that will be like just next to you. They walk in in the morning and they are like just next to you. Once you say; Okay ma'am...they run, but you'll find these ones that are reserved and they're trying to check is she?</p>	
<p>But what I do, I make sure that I establish a relationship with them when they get into my class. So that, when if there's something that needs clarity they can just ask. We pick it up like that, 'cause I don't like a situation where I do something then six months down the line, somebody comes and says But Ma'am I saw this. Sometimes I don't even remember it. So if it's immediately that during break then they'll say: "Oh, Ma'am are we on duty?" "Yah, we are on duty". They come with you, but now we are talking about what happened in the class. So I always encourage them that you know what, if you don't ask, then you leave me with information. But if you ask, at least I know my information is shared within three people that will take it to three more, then its six... then at least then there's a network that's going on. That's what I always encourage, and I like to see them as people that are just not coming to,</p>	<b>T/M-10</b>

	<p>take knowledge, but they are giving knowledge as well, cause there's been a lesson that I did, and you'll find that a learner asked a question and I'm like: "Oh?" Then one of them will be like just quickly and there's an answer. Which I wouldn't, I was still going to say: "Oh it's break, where's my laptop? Come let's address this. But they are very efficient most of them. Then, besides here and there there's going to be one that will be a negative one, but I'm thinking if the whole group or maybe four or five is positive, then you can simply win these other ones. Because at the end of the day, it's not about me running with the five that understand and leaving everybody behind that would mean I'm not fair to some of them. Because they come, they are very diverse. Just like the learners. (I won't get into that). Sometimes some of them, you have to probe. Like. I haven't heard your voice today and look at the time. Then they'll smile and say something. If you don't do that, then they don't.</p>	
<b>H</b>	<p>I know this idea of diversity and including all of our students and your learners in your class is important. I just want to expand a little more on what you just mentioned. What other ways do you as mentor teacher try and include this kind of diverse student that you are engaged with?</p>	<b>T/M-11</b>
<b>R</b>	<p>You know the other thing that I do because some of them you will find that it's the mix of culture, I would be that fine: "Who from you can read a Sotho books"? Then one will say; "Aaah it's so and so and so and so will come. I say: "I'm giving you ten minutes, read out aloud for them". Then when as they are reading out loud then maybe this other ones might say: "What do you think you can do better, not that you can outshine somebody. You as a person, what do you? Some will say: "No Ma'am I can draw. Now if you can draw, look at this picture. Can you draw something out for me?" Then by then, each and every one is guided into; when I get into this space, how do I keep myself busy? Because at the end of the day you might find yourself with people who are just moving around because some of them feel out that <i>'I'm Zulu speaking and I'm in a Sotho class and she's teaching Sotho. That means I can't do anything.'</i></p> <p>Then the other thing that with especially with the learners, when I'm doing my lesson planning I take them to Howard Gardner's multiple intelligences. Most of them will say that: "Yes Ma'am we've heard Ma'am talk about it, what exactly in the practical? They'll say: "When you are doing your lesson go and look for something that is content relevant that the learner can listen to. Look for something that is content relevant that the learners can touch with their own, something that is measured. Stuff that is just has to do with that as long as they can do it with their ..so they can touch, they can feel, or they can do whatever. But now you find that</p>	
	<p>students are like: "Oh I didn't understand it like that." Because now when it's theory, they always struggle to bridge the two. Only until you say this is it's supposed to be done, only then "Oh yes Ma'am". That takes time....it takes time. You can work with them on Monday, Wednesday, on Thursday around this time, only then do we get to the 'Aha stage'</p>	<b>T/R-12</b>
<b>H</b>	<p>That's good to hear, you know that's important to integrate this idea of theory into practice. So, in your opinion that's one of the core issues that affects</p>	
<b>R</b>	<p>That really drags. For me, I don't know about other people, but what I've picked up is that when you teach them that side, when they come here, they are expecting something else.</p>	

	<p>They're thinking, 'Oh we are at a school now, they forget that when they get there, now we are putting it down. So it's only after you explain to them that they will be 'Oh we understand that one' And maybe you give them an example and some of them will be like: 'Okay Ma'am. You can see that they really want to understand what you are explaining. But somewhere along the line they are thinking: "Oh Miss H and Miss R are two different people, so they are talking two different things and for them once you bridge the gap, only then do they say: "Okay now we understand what is happening"</p>	
H	<p>I'm very glad to hear that. Are there any other issues that you think as a mentor teacher would be easier for you to be able to bridge theory and</p>	
	<p>putting it into practice. Are there any other ways that you feel as a mentor teacher you could show them, transfer, try and relate, or teach them, to be able to learn both in and from practice?</p>	T/R-13
R	<p>But you know what, one day I was sitting and thinking that, I wonder if it's possible that maybe at the University when you doing like, maybe let's say Piaget's stages then this side we make sure that, even if it's a month we do examples that will show them when you talking this. What are we talking about? Because sometimes you come and you want to say: "Okay you want to talk something like your Erikson stages, and some of them yes they are there, it's two, three that is not there. Because now if you choose three that is not there, you need to bring them on board. As we doing that, time is going for us. So now I was thinking if there is an opportunity like that, make us aware and we doing like we doing the De Bono hats. How do I do it so they (<i>students</i>) can see it practically in the class? Because I might gain it for my own knowledge and when I do it I don't even, cause we're with them (<i>students</i>), many a time it's not that when you teach the learners and maybe doing teaching methods that are like, you don't say: "Learners now I am going to teach you using DeBono. No. We don't do that, we just (<i>clicks her fingers</i>). And many a time, the students don't pick it up until you mention it. If you don't and then it's the way we doing it, it's not like every time when we do something, we say: "Oh ja now I'm explaining. Unless somebody/they catch it, because sometimes I let them get into my class, and teach, teach, teach, teach and then I say..when I give them (<i>learners</i>) work, I say: "Come</p>	
	<p>let's talk. What is it that you (<i>students</i>) want?" Then they (<i>students</i>) will just state the obvious like: "Ma'am I like the way you disciplined the class". And it stops there. But now mine would be: "Ma'am can you please show me Like this other time I got into my class and sang: "Dumelang" and the learners answers: "Ageng Ma'am" cause we are doing like a song thing and they (<i>students</i>) were like: "Ma'am what is this now?" Now I know these kids that... I can't sing. But I know there's kids that can sing here, and that they are just happy and they are going to want to hear what is next. That's all we want. Just catch them so that they can be into you, cause if you don't do that, don't worry. They don't know why they are here in the first place. So you need to really. I was telling the other group one time: "You know what when you come to class you just want to teach and go." "It doesn't work like that. You know when you like a boyfriend sees a girl and says: "I like that girl!". They come and want to convince</p>	T/M-14

	<p>you that you need to be on my side. “You don’t convince these learners that you want them to be on your side. And once they are not on your side, they are not going to listen to you and you are wasting your time then.</p>	
<b>H</b>	<p>I see it’s important for you in the discussion we also had earlier. There’s one question around your role as a mentor, this idea of social interaction and learning and the importance of it with students, particularly our UJ students. <i>(confirmation of statement)</i></p> <p>Now when you think of that kind of role specifically as a mentor teacher, how would you relate it to your teaching of Mathematics? How would you regard your role as mentor teacher specifically as teaching of mathematics? What to you is really an important aspect of your role as mentor?</p>	
<b>R</b>	<p>You know what I’ve picked up, that many a times it’s even with the young learners, they understand better what you doing, or saying, if it’s easy to relate to you. It, it, it doesn’t have to be like content all the time. Sometimes, you maybe teach a lesson, where you say okay fine: I want to teach a lesson on fractions, but if I want to teach a lesson on fractions I want you students, during break, look for the learner that you are tracking, during break, then after finding that learner, talk to that learner about something that they did when they, maybe like let’s say the Grade 3’s they are always going on a camp. Ask them: “What do they think is going to happen at the camp?” Because, we’ve got our listening and speaking with, so they are used to talking yah. So, after doing that, you are going to do a lesson on what they told you. Now, we are taking the lesson out of the class, and we are bringing it into real life. And the teaching aids that they came up with, were so nice. So I could see that you know what the minute you give them time to relate to each other. You get more information, and you get to know what kind of learners am I talking to. Am I talking to a learner that has never seen anyone catch a fish, or am I talking to a learner that is exposed to this thing? Cause if I am going to talk to a learner that has never seen anyone catch a fish, then I need to bring a small monitor to class to show this learner how a fish is caught. Other than that, then I’m just going to be saying something that they can only imagine; they’ve never seen it. But now with teaching especially with Maths, your learners really need to understand exactly what you are talking about. If you are saying: “This is a fraction”. Let them see the fraction there. You can’t just think or assume that they know what a fraction is. They need to see it.</p>	<b>T/M-15</b>
<b>H</b>	<p>Okay. Thank you. Just a few things around Maths. I want to focus a little bit more around the math issue and your role particularly a maths teacher and as a mentor for our students, to be able to see you teaching this subject of Mathematics.</p> <p>What is it that you want them to be able to recognize within you, as important in terms of teaching mathematics? What do you want our students to recognize, through your actions, through your role as important in teaching the subject of Mathematics?</p>	<b>T/M-16</b>
<b>R</b>	<p>What I always gun for is that the student teachers need to know that a love for maths is cultivated. We need to, like when you work in the class, you can’t be teaching maths and coming: “Ehhh learners we are...take out your DBE...” Then you don’t, you are not watering that flower. But by when you teaching math you need to be somebody who’s active, you need</p>	

	<p>to be someone who is hands on, moves stuff around, you can't just drag your feet into your maths class and expect your learners because maths is mostly about practice, practice, practice. But now, if your learners are not practicing, at the end of the day they are going to think that math is something that is difficult, or something that like somebody says and I need to write it down quickly. But now if we coming up, I always, especially the, I think the groups from your 2013, I always look at how they are going to. What they are going to use when they're doing the math. Cause many a times I have picked up, over the years that when they do math they like to come with the worksheet and say "Now look this is what I want you to do". But now I want to move them from that because, simply because our kids grow up thinking that math is something that you write down. So sometimes I'll come with a few stones, a few leaves, they can see that counting, it's everywhere. It's not just in the class. Even when I go buy bread, I</p>	
	<p>need to count something, I need to know that If I have a R20 and the breads is R13, I must have change of R7. But now by them touching and feeling the money, that this is a coin, this is note, then for them when they go outside already they know. Because what I have picked up that is funny that our kids when you give them money at home and say go buy bread, they can come with the correct change, and tell you even if they are short. But in the class, you give them the same activity, they can't do it.</p>	<b>T/M-17</b>
<b>H</b>	<p>Why? Why do you think that is ?</p>	
<b>R</b>	<p>I am looking at context. That when they get to class, I always give them a paper. But now when they get home, they give them a R20 and say here, you need to bring change and you going to bring something as well. But if it's just on a nice worksheet and it's drawn there, they're going to think: "Oh, okay maybe I can leave the change, they're leaving the change. But at shop it's a practical thing they know. So, what we need to do as teachers in the classroom is sometimes we even have to bring a bunch of maybe a loaf of bread and say: "Okay fine you've got 20 slice, now I'm cutting. If I want to make half of all the slice, come and make the half, let's count the half. Because at the end of the day if you're giving them on a piece of paper. A piece of paper can mean anything to them. It can mean language, it can mean life skills, but all those they are integrated into math. But now the fact is our kids when they don't do something practical, they think it's something else. So its school, school. So that's why some of the time when I do my 3D's, I bring a cornflake container, then you can see that: This if you look at it, this and this (<i>gestures to a piece of paper</i>) is the same thing it is just that this one is flat it can't stand on its own. So taking for, at home they know that there is a cereal box that stands on its</p>	
	<p>own but when you come to school and show you then on a piece of paper, it's something different from them.</p>	<b>T/M-18</b>
<b>H</b>	<p>And do you think it's important that our students recognize this idea of maths being practical?</p>	
<b>R</b>	<p>It is because at the end of the day if you don't make it, the main purpose of this is teaching somebody to do something, But now if you teaching this person, and this person doesn't understand and you just keep on doing it, you are just banging the wall, and nothing is</p>	



	<p>happening. We are wasting our time. Because at the end of the day, when you look at it, the learner needs to go out and say: "Ma'am this is the 2ltr that you taught me about. I can also see, this yes it's now in a cylinder shape, but I can still get a 2ltr that it's in a bottle it's cylinder but it's not shaped the same. But now if I don't bring, it, I just put it on a nice worksheet, will they see the difference? Because the purpose of us teaching here is them getting skills that they are going to use outside. So if I am skilling them, but when they get outside they can't see the difference, then why skill them?"</p>	
<b>H</b>	<p>And when you're doing your planning as a mentor again with our University X students how would you encourage them to start doing and planning with that kind of thinking in terms of mathematics?</p>	
<b>R</b>	<p>You know, what I usually do after we do explain your objectives, but now I think it's better compared to 3 years back when you do the explaining, it's like they got. So we explain all those and say you know what for your lesson to be more effective, you need to bring something that you can that will help you to explain. But bringing a picture or, it's not always</p>	
	<p>serving the purpose. Do it practically in the class. Because I remember there was a group, I can't remember which year was it, and we were talking. I said to them: "You're going for WIL, you saw what I used. Come check what you and come and tell me. Then when they came to tell me, most of them say: "Ai Ma'am I didn't see anything. I just saw DB books and this teacher was teaching measurement. But there's this lady that said you know mam what I copied: That lady took containers; the school didn't have 500mls containers but she brought her own and did it practically. Then the kids were so excited. So I can see that even if the others don't get the information one that gets will bring to the group. That's why I say it is always important to have them into groups so they can go and take a lot of ideas and come and join and then everyone comes out with something Unlike just me looking at someone with a DBE book only.</p>	<b>T/M-19</b>
<b>H</b>	<p>Are there any other kinds of ways that you would teach this mathematics as the mentor to the students?</p>	
<b>R</b>	<p>The other thing that I do, is that they get to understand that the purpose of group work is that learners are in smaller groups and you can get the chance to do individualized teaching within the group. Now what I do it's when you have your smaller groups it's easier to monitor whatever is it that you are giving them to work with because at the end sometime you see; I've been in classes where a teacher will take like the whole class they just put maybe counters, five, five, five, five each; then they go in front and they want to explain. But if you're doing it like that, that child at the back, you can't see her; then she starts, she is busy with the</p>	
	<p>other ones are falling down, now you must monitor the resources. And the purpose is not to look at: "Don't touch them! Put them down! Drop! Put! No! The purpose is for you to work to show them how to count with, not to take care that: "Na-ah you'll prick somebody with that one! We spend a lot of time doing that, but now that is not the main aim. At the end of the day you didn't finish. So if they're in nice small groups, you can give an instruction, you move to the next group. By the time you get to that group, each and every one is sorted. Why?"</p>	<b>T/M-20</b>

	<p>Because you can see from a distance...no... that one is. Cause kids have a tendency of when they see that you are not looking at them, then they do something else. I always make the students aware that you know what if you want your teaching to succeed, when you're giving them something to work with. I'm encouraging that: When you doing your maybe there's a calendar: you've got a big one to show everybody, but get the small ones for them to touch. To make their own point is but, if it's like that you can't just throw it into a class and expect everyone to do what you are saying they must do. They are different of course. Somebody will think that; How I if I hold it like this, I want to see. Then at the end you start saying: 'No I don't want you to hold it like that!' And time is running out.</p>	
<b>H</b>	<p>Would you encourage as a mentor teacher this idea of different strategies for teaching mathematics</p>	
<b>R</b>	<p>Yes, you know why I would say that because I always tell the students that you know what when you teaching maths, hence I say you need to ignite something in them. Because when you teaching maths, you can't, I can't come and say: Today, let's count, tomorrow I come, let's count, tomorrow I come let's count: It's end up being something that is okay it's a routine,</p>	
	<p>following a routine and you are not serving the purpose. Unlike yesterday if I said: Let's count. Today when I come, I just say "Okay fine, I want us to look all this windows." We looking at the windows, right come stand count the windows. It's counting on its own. Then the other day I come, Okay now I want us we counted from 1-50, can you count back for me? Make it a rhythm or something, so that at the end of the day, these learners can see: You know what there's so many ways I can do this, but it's still the same way. Because now if you're going to change this aids, it's just something; okay it's a pattern, for them it's a pattern. Then when you come, they're going to excel in patterns, but they'll know that before I get to 50, I need to pass 49. Ja, so those are the things. The other thing that I did with some groups of your students, not all of them I don't think. I've gotten them into the idea of doing rhymes especially for transition. Because when you move from, sometimes when you say: "Mam aah you're finished, now you're doing this already?" I say: "Do you remember when I was doing one two buckle my shoe? Then they say: Ja, I remember. That was the end, I am starting on something else. So the idea of let them not. And the other thing that I taught them is if you want to divide them into groups, you can't just say: "Come, come stand up, I want groups" You need to give them clear instructions. That, listen you are number one, two three, four. Now go and stand in that corner, stand that corner, stand that corner. Number one, you go in there, number two you go in there. It's grouping them, in a non-chaotic way. And the other thing it's where after as soon as I've finished, I've had them complain: "Ai mam, you know what I sometimes don't see you finishing off your lesson." But now I take them back: Did you see me doing that? I was finishing off my lesson. Then to some it will be: "Aah, ja" But to some they'll would still be lost. Cause if you're teaching</p>	<b>T/M-21</b>
	<p>maybe they're grade 3's you teaching all the subjects, where do you draw the line? Because that's what they're going to get outside. From you get into the class its 8 o'clock until 2. Where do you draw the line? You check your time, if the maths time is finished then you see</p>	<b>T/M-22</b>

	that uh-uh okay now we clearing. You just let them sing something that has to do with numbers. You finished there, you want to get into English, you give them a rhyme about the haystack. A lot of things that we used to do at college that they are not exposed to now, now they really work for me. They really work for me now.	
<b>H</b>	That's good to hear! I'm glad to hear that even you as a mentor teacher is able to bring back your past learning experiences	
<b>R</b>	That's what makes my teaching life easy	
<b>H</b>	Yes. That you are able to bring that past learning experience and use it as a springboard to teach your own learners in your class, and of course the student-teachers that you are mentoring. Any other things that you could bring in?	
<b>R</b>	You know the other thing that I think it's very important is getting the learners into a routine. I know our students only come for three days: 2 full ones and 1 half, but I think that the only way you can work in a set-up where there's more than one child, is just letting them know that you know what, when you move from the mat to your table, or from your table to the mat, we start here and we end there. Once its, a week is enough. Just make them. You what, come to the mat, then the first one will come, and that on its own will help you with discipline, cause once they get to the mat, they are still quiet, then you can spring into whatever you want to spring in. You don't have to take the time to say: "Okay, can you settle	
	down now!" Which is taking a lot of time. Ja. So I teach stuff like that when I do, like today I'm going to do groupings. I want to label my groups. There's the butterflies, there's the; but you can't be doing the butterfly all the time. Because today's kids are very clever. They will see that Mam am I really a butterfly? Why do you always put me in the butterflies? Then sometimes I'll change and say: "Okay what groups do you think?" Then they'll come up with your Tinkerbells and what. Then fine let's do it. They'll come up with the spider, but now the bottom line is I think our students as much as they get all the theory, they need to see that when we talking grouping, what are we talking about? Because if I'm just going to say okay: I'm going to group them, when they get to my class, I already call the group to come read. They don't know how the group came about. It must be a little confusing to them.	<b>T/M-23</b>
<b>H</b>	R you know we often hear the statement that good maths teachers would show you exactly how to answer a question if you are tested on it.	
<b>R</b>	(interjects)...you know	
<b>H</b>	I'd just like to know as a mentor teacher, mentoring to the 4 <sup>th</sup> year students again, what is your opinion around transferring or not transferring that kind of opinion on our students? What do you think first of all of that kind of opinion a mentor teacher? Do you think it's important or not important? How would you translate that kind of opinion onto our students?	
<b>R</b>	You know I think I said this. But I believe for somebody to know maths, they really need to love maths. So what I do in my class, and I like to teach in an environment where I don't like give everything to my learners. Now why am I doing that, is I like my learners to be like even	



	when sometimes I come up with a topic, let it be them who are leading, then I'll just bring them	
	back. But now with the students I'll always say you know what, today I want my learners to maybe let's say add at the end of the week. That is my mental maths. So what I'll do, I'll show my learners different ways of adding. I don't like to like okay its just 1+1 and that's it. Then I say, if I have 1, then I see a 2. What, what else must I get? Then obviously when I say 1, then I know that okay this one understands that I didn't just...I made an opening for them to fill in. Because now if you don't do that, once you get to lets say Friday, then I say mental, they end up with only 1 method. Unlike if I said Okay if I remove this number, then you see this number, What do you think I must add here to put that number on? I teach them that skill so that even if whatever number they can get, they can be able to manipulate it. Then I'll come and say: "Okay fine, come let's count on. I want to go to the number 5. I've got 1,2,3. What else do I need ? Then somebody will say: "4,5 ma'am". Then at the end I know, already they've got 2 methods. They can either think about if I have a 5, how many ones do I need to put in here? If I have 4, that means I'm left with 1, and 1+4 it's 5. Or if I want to go to 5 and I'm standing at 2, I'm going to count on 3, 4, 5. How many did I count? I counted 3. But now that works nicely with me especially for the small ones because when they get to grade 3, you can't still be like holding the fingers up, because at the end of the day they going to be stuck there. Ja. So, we get into practicing time with them in the week because now to get to all the, the sums right, you need to be, think fast and don't look at 1 method. Look at; if I use this method and I always teach them you know what when you teach your learners, teach them a method and teach them a method that will ensure that it's right. If I say 1+2 its 3, But if I say 3 take away 2 its 1, so I know my answer is right.	<b>T/M-24</b>
<b>H</b>	Thank you R. I just wanted to find out from you in closing: You know, you did receive some sort of training when you were initially in mentoring. Can you just talk me through what kind of training you received first of all?	<b>T/M-25</b>
<b>R</b>	You know what I remember we use to be trained in the June holidays for mentoring and we did a few assignment. But now out of that mentoring now what I learned that mentoring is not just curriculum. When you mentor somebody you mentor them holistically. But now, then I took the Finland context, that they don't get a lot of students like us. Like now we get 10 and above, and sometimes I explain that some of them will just be standing there and waiting for you to ask something then they'll respond. People like me that won't just start talking. Because people are talking. But now there will be this ones that will be very outspoken and talk about it. So hence, I'm saying in my mentoring, I don't just look at content, and I always, you know what, if you need to ask a question, as long as it's, it's within where we are, you are not going to ask me: "Where's your husband its fine. As long as we are talking TS stuff, we can talk about anything. And to many of them it, it becomes something it's like we taking a heavy bag from their shoulders. Because they've got. They'll, they'll come up with questions like: "Okay mam, mam taught us to do handwriting but you know what how was it, we were just practicing. And I say: "When it is handwriting, you have to practice on the flour first, you	

	practice on the air. You can't just, because that's how we teach the learners as well. So as a teacher you need to do the same. So some of them, especially when we do are just talking after we did everything, and they are like: "Hey mam you know what, this is what we discussed, but when she got there, then we joke about it, oh she forgot!" That's how it is. It's just unfortunate that as most teachers	
	we don't use cue cards, but now I put something on my table and go and check or I said the second ones is I'm going to do. Otherwise you get home and you look at this and...I didn't do this one. Now, I need to create more time to do that one.	<b>T/M-26</b>
<b>H</b>	So how did your mentor training equip you to actually become a better mentor?	
<b>R</b>	It really molded me in a way that I always used to think that you know what when you mentoring somebody, that person must like, be like you, but now, sometimes when you are mentoring somebody there's going to be a situation where you find yourself having to say: You know what you did this right you did this wrong, or look at this, and this one is fine. But now if it's like that, I've got my flaws as well. Now, I need to give them a time where they'll say: "Mam, but we saw this". Let me explain why I do that, because it's not all the time that we are going to talk to people and people they are just in the same bus with you. Sometimes you have to deliberate on why I did this like this. Of course, with me it's just not theory anymore. There's experience at work. But now, this experience, why do I do it like that? So that they can understand as well. But what I've picked up from the mentoring is that yes, we do it at TS, as much as we are not doing it like, let me then say full time, because a learner a student comes today, tomorrow, tomorrow then they cut. Then they go and look at somebody else mentoring something else. Some of us them they are not even aware that I am mentoring. 'Cause when I first saw that I said I've been doing this, I wasn't, I just wasn't aware that I'm mentoring someone. So but from then, I made sure that you know what I need to polish, because now there's somebody that's watching me. And they might, I might	
	do something wrong, and they think its right, and then they are just going to spread it, spread the wrong thing. That's what the course did for me.	<b>T/M-27</b>
<b>H</b>	What do think, any other kind of training that you can suggest to develop you even further as a mentor?	
<b>R</b>	As an individual?	
<b>H</b>	As a mentor.	
<b>R</b>	You know what I'm thinking, from where I'm standing there might just I've seen this, I've seen quite a lot of things. But I'm thinking my, more being on the computer that will work for me because now, if I want to make a question paper, I need to like check a site. Will they give me nice pictures where they can draw in? And I really take time. I must still go to google and check. Oh this one okay here's a www that I must write it down and come back and it's a waste of time for me. I know it won't be like spontaneous like your XXXXs and them, but I think I need to polish on that area	
<b>H</b>	And is that your biggest challenge as a mentor teacher or are there other challenges?	

R	<p>You know what as a mentor teacher, I'm thinking that if I can....not really do it again, but get more exposure which I'm trying to do with, just take out an article and just go through it and see how other people are doing it cause most of the time what's really, not really bugging me, 'cause I picked up that teaching doesn't change. You talk about Piaget now, and you just say, I'm just going to cram and pass Piaget and get my diploma and go teach. I get to teaching I say: "Ai ai ah I want my degree now". Here is Piaget again. I want my honours</p>	
	<p>now, and here is Piaget again. So that I've seen, this one doesn't change but now what I think would really work for me is getting to understand how other people do other stuff. Like maybe ask teachers in one big room, then we discuss: Today we're going to talk about how we teach maths. Get ideas from other people because now once you here, and you, you stagnant here. Then you are just going to repeat the same idea over and over and over. Which is not 5 years of teaching, it's 1 year of repeating 5 mistakes. You see.</p>	T/M-28
H	<p>So the idea of sharing, or interacting/sharing? Not just with your own mentor teachers but also with others?</p>	
R	<p>Ja! Yes with other teachers from you know...because you know what we're teaching, you can't say: "This one is 2 years in teaching then I've got 18, so I can't listen to her." 'Cause she might teach you something that you don't know. So now I'm thinking, maybe the idea of us, being maybe not really sitting, okay we are in a workshop somebody is let the teachers talk themselves. There's a lot of information in the teachers. It's just that they are not given the platform to express themselves.</p>	
H	<p>If you look at mentors and the specific roles that they actually fulfill (<i>I'm thinking back to what you said was important for you, of the many important roles for you as a mentor</i>), do you think anybody can be a mentor? What is your opinion around that?</p>	
R	<p>You know what when looking at it, it's like you teach every day. The only thing that you need is just to polish. 'Cause when you get to an ordinary school, you like take for granted the school like where I come from. I would get into a class and know that, you know what my</p>	
	<p>lesson start at 8 it must stop at 9:10. Now what will happen is when it stops at 9:10, I'll say: "Okay, now I'll need to get to language but now this language, I think I'm fine, let me stay another 10 mins here." Which at its own, it's what? It's not working better for my management of time. Because if they say the periods run from 9-10, why must I drag it 15more minutes thinking that the learners haven't understand. If they didn't understand then now, what I'm doing, when I get home I look at the other way. How else do I convince them that is what I want them to, to, know. Because at the end, sitting on one thing and, is just like wasting time. Because the fact that I added 15min there which I didn't obviously prepare for, thinking that let me give them 15 min to work on 'cause they are not finished. It's, I took 15 mins from somewhere that I must replace. Then I, I end up having to sit and thinking; now where do I rob to get here? Now, I'm thinking as a mentor, I can't. I can't be doing that cause what am I doing? I'm showing somebody that: you know what you can skip a week's work and come and say: "Okay, now let's write, today it's Monday the 15<sup>th</sup> and the learners say: "Ai mam its</p>	T/M-29

<p>Monday the 28<sup>th</sup>.” “ Huhuh write the 15<sup>th</sup>.” Then what am I? I’m translating the wrong thing to the students. And if I, I didn’t cover the syllabus, then I need to explain that you know what I didn’t cover here, but I’m going to take this week and use it to cover. At least then you can see, because at the end of the day you end up confusing learners that: “Mam you say: “No, no it’s not the 15<sup>th</sup> it’s the 28<sup>th</sup>.” “Write the 15<sup>th</sup>!” Why? Because I want when somebody comes in my class, they must see that on the 15<sup>th</sup>. I wrote something. Even when sometimes when I forget that I wasn’t there. You see. So that’s what I think many of us, that I when I go to other schools, I see, I see it happening. That we really need to work on this. If people are going to</p>	
<p>come to our classes and observe us; that I haven’t really picked it up here at TS, I picked it up somewhere outside. But then I’m saying, because our students are not just in TS, they’re outside. Your mam might be preaching that you do today’s work today. When they go outside that is something else. There was once, a student once came to me, if I find myself in this situation, what do I do? Then I just said to the student: “You know what, it’s not your class, but when you get to your class, you know what you saw here. Go and practise it’s not going to be easy. And come and tell us if it doesn’t work. Mam will tell you that we look at time. And the fact that a learner doesn’t understand now, I can’t sit there and entertain then what’s going to happen to the rest of them that are finished?”</p>	<b>T/M-30</b>
<p><b>H</b> Do you think your mentor training has in ways firmly rooted that role in your head for you and in your actions?</p>	
<p><b>R</b> Yes. Hence I’m saying it shaped me into like really introspecting and looking at myself, and okay what is it that I’m doing as an individual because you know teaching is one lonely career. You look for a post, you get into a class you close the door and nobody comes in says you doing wrong you doing right that’s up to you. But now, I think we’re fortunate because we find ourselves in an environment where somebody will come and say R let’s talk about as we talking now there’s something that I’m saying I’m learning, I’m Oh this one maybe I should treat it like this.</p>	
<p><b>H</b> Yes.</p>	
<p><b>R</b> Or maybe. Or if you just taking out and not getting in then you end up like you don’t even know whether you are right or wrong and that’s one feeling the most frustrating thing that</p>	
<p>maybe made me look at the post that you know I’m in. This class, I’m doing this I don’t know if it’s wrong or right. Yes, in that school there were senior teachers that used to like guide us here and there but it wasn’t intense like this one. Because now, even if you do a mistake, they don’t come and say: “Eh we went to Mam R’s class and we saw this”. But when they say this that must be me. I really need to look at that. I think from us as teachers from TS we can, especially your practicum they don’t exactly say R you didn’t pick up the papers by the they say we went to some classes to pick up the papers and when and then you remember; Aaah, the papers, come quick, quick, quick and then it’s something that you get. Then after a few weeks, the learners will come: “Mam we didn’t pick!” “Ja pick!” You see so for me this mentoring thing took me from one level to the next. I would, I don’t even do it at the end of the</p>	<b>T/M-31</b>

	<p>week when I get home I take it, I before I sleep; Aah today what happened, reflecting now this is what but this one this child I don't think. Tomorrow when I go, first thing I look at this child, then I can look at other things. Because now if you don't reflect, you can repeat one mistake more than 5 times without being aware. By now where do we get that time. The other thing that mentoring taught me, is be time conscious. Because once you lose time, it's very, very difficult to like, go back and say: "I've got these 2 weeks." Where do you say you going to get the 2weeks because it's gone? It's better gone with me having developed 20 learners, unlike gone with me having developed 2 learners. At least that one I can catch up on.</p>	
<b>H</b>	<p>And do you think there's a place for it in teaching training, this idea of mentoring roles and student teachers looking at successful mentors and learning from them. Do you think there's a place for this kind of thing?</p>	
<b>R</b>	<p>You know what I think it will work, especially now. We worked in a time when it was just me and, and, an old lady that would show me; "No my baby we don't do it like this we do it like this". When I got to teaching, that's what I got into. But if maybe there's a slotting in where the very same teachers are taught that when you get out of here, it's not just about you teaching, it's about us. So from here, you're going to get somebody to mentor you, but after a few years, you're going to be the mentors yourselves. Now if I have a background on where to start, I think I'm just going to run with it. Unlike having to start with; they saying mentoring? What is this thing now? Okay that mentoring, in the private sector, this is what they do, this is what they do; but how do you do it in teaching? You know, so I'm thinking, it's just going to work like a bomb because if somebody knows what is expected of her as a mentee, when they come to the mentor they'll come with relevant questions. That you know what I've seen you teach this method last week. I'm coming again, you teaching it again. Then I'm like; "Oh okay". Then when I get home, let me look for something else. Oh ja that method! Then I can, because sometimes you can...there was once one time, it was posed in there: How do make sure that you change your methods? Sometimes, I agree that if you're comfortable with the method, you'll just, okay it works for me. But now, forgetting that there's somebody that might not be understanding. It's just something else, that's why I say when we come together and talk about stuff, we might remind others of; this is what I did, I did this and it worked like this, I did this and it's not just me, it's a group.</p>	<b>T/M-32</b>
<b>H</b>	<p>And you think that this image, persona, actions, duties, responsibilities of mentors has changed from your past experience with your own mentor, to what you are actually doing now?</p>	<b>T/M-33</b>
<b>R</b>	<p>Ja</p>	
<b>H</b>	<p>Do you think there's a big difference?</p>	
<b>R</b>	<p>Ja.</p>	
<b>H</b>	<p>Can you just talk about these differences a little bit?</p>	
<b>R</b>	<p>Let's say I just get out of college, I don't know what a mentor is. I meet this lady when I get to school. They say; "Oh she'll show you around." She shows me around, sometimes she comes and visit me. The one that I had it was a middle aged lady that would come knock at</p>	

	<p>my door when I am teaching and check, check. Then she'd say: "Oh you know what you can do it like this as well." For me, I just took her as a sister that wanted to see me develop into a better teacher. And sometimes, I didn't engage in a sense that I ask questions, Why do you think I must do that? But if I was out of college with that, I would know that it's my right to know 'why'. But some, sometimes, you, you keep to yourself because you thinking: "She's just helping me, and if she is helping me, why must I bombard her with questions? But if you know that if you are a teacher, be you senior or what, you need to bring somebody along with you. And it's not just, you're not just going to you can even mentor other teachers. Ja, and you know you'll be surprised what happened out there. When we go like they say we're usually cluster leaders here. They choose. Then they give you maybe 40 teachers from different schools and say teach them measurement in maths. The answers that we get there. You'll ask yourself:</p>	
	<p>"Are we still like in Gauteng, or are we in another province?" So I think that that will work. It will really work ja. And sitting in there, we remind ourselves of your rights. Oh ja, this one I forgot. Then you come and go practice in the class and when you get to school on Monday, you like, I want to try this, I want to try that.</p>	<b>T/M-34</b>
<b>H</b>	<p>I just want to quickly reflect with you R, in terms of your mentoring role, and how has your own mentoring role affected your own practice, in terms of your mathematics? In other words, if you look at your role as a mentor to our students, and your own actions and practice in your class and what they (students) are viewing and looking at you in practice, how has your role as a mentor affected your teaching particularly of mathematics?</p>	
<b>R</b>	<p>You know what of late I am conscious of. If you know when you start teaching, when you come into your class and you teach, and you see that hey, they didn't understand. Okay, I'll try it. But if I come walk into a class and I teach and I see that huhuh my kids are confused I get more like: How do I get them to understand, because that's the main aim why I'm here. Then, when it comes to, sometimes students will say: "Aah, Mam, I saw this but I didn't understand it". If I don't, if I like, I feel like: Uhuh man, I really need to go back, and sit and understand what really went on. When I come, we come let's talk about it. I don't leave it hanging because maybe, that's mistakes that they can do and leave hanging, because I'm not saying. When you are a mentor teacher it doesn't mean that you know it all. But I think, most of all, what keeps me grounded, is me finding my faults and working on my faults before I pass them onto the next person.</p>	
<b>H</b>	<p>I'm glad to hear that. That's quite a responsible thing to be able to do R. I just want to very quickly go back to our last question... You know when during your lesson recordings, mentor session at the end of the lesson evaluation, what for you as a mentor is very important d to bring across to your student teachers that's in your class? What is for you the most important thing that they should be learning from you as a teacher?</p>	<b>T/M-35</b>
<b>R</b>	<p>You know what many a times, when they're working, they hide themselves within their group. And when they go to schools, the group won't be there. So, when I'm talking to them, there will be those ones that are just quiet and I'm like: Mam let's hear what you're saying. Not that</p>	



	<p>I want to expose you, but I want you to understand this, that you are given a platform, to refine your skills. But now, if you are not refining and hiding, behind others, you're going to walk out of UJ the same as you came in, and you're not going to make a difference in other people's lives. 'Cause the main aim of teaching is that you make a difference in somebody's life. So if you, yourself is not developed, how else do you develop somebody else? Because the students have the tendency of saying: Hey Mam, I won't teach because this one did this, and this one brought this, and I say to them: You know what you are in a group, but you are an individual. The group is just there to assist you. Not that you need to relax on the group, so that when you go out you can't do it yourself. And the same thing I think it's what triggered my study. That the students will come; you'll explain to them this is the lesson, do the lesson, come up with a very nice resource. They'll come up with very nice resources that you</p>	
	<p>like: Oh wow! They do the presentation, it's nice, they get a nice mark, they go to WIL. After school they run and come say: Mam can you borrow me this I want to use it again? Then I say no, it's the group, go do yours. You saw how the group did it. That is the aim of you being in the group. So that you get more ideas, and you can do it on your own. But if you are going to come here and rely on the group totally rely on the group for everything, then that means you are not learning anything, and we are wasting our time. Because we are here to help you and wena, you don't want to help yourself. Because if you can sit in a group and expect the group to do the same for you and you just get a mark and go. What are you doing where you are going?</p>	<b>T/M-36</b>
<b>H</b>	<p>Thank you R. I'm going to conclude the interview. I'd just like to say thank you for your interaction, thank you for sharing some of your opinions around what you regard as your role as mentor. Thank you for sharing your opinion around your view of a mentor teacher particularly with regards to mathematics also.</p>	