

CHAPTER 5

5 DISCUSSION

Invisible Colleges: An invisible college is created when the boundaries of a collegium are stretched beyond the walls of a shared building or department. A serious problem for teaching as a profession has been the absence of opportunities to communicate what has been learned from experience through literature (Shulman, 2004 p. 328).

Contents
5.1. Introduction
5.2. Concepts Pertinent to the Current Study
5.3. The Teacher Educator's Practice
5.4. Engaging in Creating Knowledge
5.5. Modelling Professional Knowledge
5.6. Drawing Practical Professional Knowledge from Practice: The Cumulative Snowball Model
5.7. Cases on Learning to Teach Teachers
5.8. Correlating the Cases to the Teacher Educator Cumulative Snowball Model
5.9. Conclusion

5.1 Introduction

Eight teacher educators participated in the research and narrated their professionally-based stories. They opened their classrooms for the researcher to watch and document

their teaching activities. Furthermore, they shared their documented curriculum, course outlines and assessment documents.

This study has established that out of the 8 teacher educators who participated in this study only two had the opportunity to enrol in a programme that prepared them for teaching in teacher education contexts. Barmber, Walsh, Juwah and Ross (2006) have undertaken research looking into the training of academics to prepare them for the role of teaching in institutions of higher learning. They studied programmes offered for lecturer development in Scottish institutions of higher learning. These programmes known as Lecture Development Programmes (LDPs) were developed in response to the national standards for people who teach in UK Higher Education (HE) Institutions. The main modes of delivery are said to be the workshop-based model, distance learning model, enquiry-led model and hybrid model. Murray (2010) adds that in the UK, a Post Graduate Certificate (PGC) in HE programmes is offered; “a qualification that most new academics in the UK take on entering the university” (p.101) and he outlines the reason for having such programmes. Murray points out that “most of these new academics have PhDs in their subject but little experience of teaching” (p101). The PGC in Higher Education programmes is, according to Murray, designed to support the processes of learning to teach.

Although the National University of Lesotho occasionally offers training workshops for lecturers, these are neither legally binding nor do they lead to any qualification. Perhaps with the establishment of the Council on Higher Education in Lesotho, this University will acknowledge such workshops, as is the case with its counterparts in other parts of the world, (Barmber et al.,2006) and Murray (2010).

This discussion chapter focuses on three areas: sources of professional knowledge, its application and the consequences of the findings of the study. Application covers three very broad areas pertaining to professional knowledge, viz. *Enactment*, as it refers to the actual putting into practice knowledge acquired, *construction*, which refers to discovering something or generating meaning from experiences such as research, and *modelling*, or acting out professional knowledge. Although it became apparent that separating findings and subsequently the discussion into sources, application, construction and modelling of professional knowledge made it possible to analyse each area as an entity, it also became clear that in practice there is a thin line between these concepts and/or components of professional knowledge.

5.2 Concepts Pertinent to the Current Study

Although many educational concepts could be considered pertinent in the context of this study, the terms *teacher educator* and *professional knowledge* are more relevant to the interpretation of the findings. Other pertinent concepts are discussed in the relevant sections of this thesis. In the literature review I make reference to the two types of knowledge: *episteme* and *phronesis* (Korthagen et al., 2001) as very broad types of knowledge relevant in this chapter.

5.2.1 *Analysis of the Understanding of the Concept Teacher Educator*

An analysis of the teacher educators' understanding of the concept as a unit of analysis necessitated the inclusion of a section on them in this chapter. The study has revealed that the majority of teacher educators who are serving at the National University of Lesotho's Faculty of Education had not undergone training that specifically prepared them for teaching teachers. Most had trained as secondary school teachers and upon being employed as teacher educators went for further education and specialised in different academic disciplines. Therefore, all but two had not enrolled in programmes or taken courses that prepared them for the role of teacher educator. Such programmes would include courses such as the "pedagogy of teacher education".

This finding is, as fully illustrated in the introductory chapter, consistent with many studies that have been undertaken in this area. The work of Lewin and Stuart (2003) in a study undertaken in Lesotho's College of Education, illustrates the consistency referred to here. Ryan (1974) and Harris (2003), with the latter researcher having analysed teacher educators' programmes offered at PhD level, have established that some institutions have started offering such programmes. This recommendation implies that on the one hand teacher educators should attain teacher education as their educational qualification and on the other that they should also have a specialty in a particular academic discipline. Attaining appropriate educational qualifications would probably empower them to know how teachers are to be taught. McGuiness (1990), in her classic statement on thinking about thinking in which the argument is that "... teachers should be taught in the manner in which they are expected to teach" (p.305) is a crucial and powerful statement. McGuiness (1990) argues for the education of teacher educators.

As has already been alluded to, two of the participants had taken courses that the literature recommends should be taken by prospective teacher educators. Some had

specialised in what Harris (2003) recommends as fields of study or academic disciplines for teacher educators, including educational psychology and counselling, management and administration, and supervision of instruction. The teacher educators who had taken academic discipline courses were mostly in the Department of Educational Foundations. The rest of the teacher educators were those whose areas of specialisation were in the subject content areas, namely, Language Education, Mathematics Education, Science Education and Geography Education. They seemed to be well grounded in their areas of specialisation. Therefore there are two categories of teacher educators, namely those in Educational Foundations having taken courses classified as relevant to the education of teachers and those in subject content having specialised in a specific content area.

This study further established, as was the case in a study undertaken by Lewin and Stuart, (2003) that teacher educators had no clear career path. They either joined the University through applying for an advertised post or were recruited to a position because they performed well in their undergraduate degree programmes. All the teacher educators who participated in this study, with the exception of two, were identified as secondary school teachers. This finding is similar to that found in a study undertaken by Murray and Male (2005). It can be concluded that secondary teacher education programmes, although unintentionally, contribute substantially towards the production of people who end up being teacher educators. This view is based on the extent to which most of the research participants referred to their undergraduate courses more than their postgraduate courses in sharing their stories about their sources of professional knowledge.

There were other attributes about teacher educators that the current study established, including the high proportion of female teacher educators in the entire faculty from which the research participants were drawn. This might explain why even among the research participants there were only two male participants. However, although the study did not set out to establish the extent to which gender would be a factor, it did not find any differences that could be associated with gender.

Another attribute about teacher educators was teaching experience, especially in a teacher education institution. Even on this issue the study did not set out to measure the differences that could be linked to the number of years in a teacher education institution and/or teaching experience. However, only teacher educators who had been in the

service for at least 20 years had developed their philosophies. What they articulated as their professional philosophies reflected their experiences.

For example, Peditta's philosophy centres on change and she actually makes reference to time: *Modelling or actually acting it out is something that has developed **over time**. It has developed over years and is confirmed by feedback given by former students who come back to you and tell you what they did because of you which confirms that what you have been doing is valued.*

Zinzi too makes reference to time and indicates that time spent teaching in secondary schools has impacted on her philosophy. *Understanding the needs of student teachers is dependent on experience teaching at the level at which people graduating from programmes would be posted.* Masethabathaba too confirms that her philosophy of teaching teachers has developed over the time and that *it is informed by student teachers who came and went through my hands over the years ...*

Conceptualisations of the term *teacher educator* by the participants focus on equipping student teachers with knowledge and skills that prepare them for the task of teaching so that they can intervene in students' lives. It is also understood to be about helping student teachers realise their potential. While their understanding of the concept *teacher educator* may be to a large extent similar to established descriptions of this concept, their interpretation was particularly lacking in key areas, such as viewing them as researchers or as professionals of a certain calibre. This is in spite of the extensive research on teacher educators that has revealed that over and above being instructors of learning, they are researchers and professionals and/or scholars (Fisher, 2005; Smith, 2003).

Failure to make reference to research in particular suggests that the participants did not view it as a priority or an important dimension in their work. Perhaps if their descriptions of the concept *teacher educator* featured research they would do more research in their own areas and use research-based information to inform or improve their practice. It is apparent that the participants viewed their status as that of teaching teachers mainly and therefore making an impact on those who have gone through their hands.

Professional Knowledge

The current research has revealed that to the teacher educators who participated in the study, *professional knowledge* refers to knowledge of subject matter and that being

conversant with such content is vital to teaching. The dimension of professional knowledge that the participants were referring to is the episteme which is propositional knowledge or knowledge that has been scientifically derived. According to the literature, the concept *episteme* embraces issues such as knowledge of the subject, classroom organisation, teaching techniques and curriculum content (Hiebert et al., 2002, Korthagen et al., 2001, Stuart, 2002 and Eraut, 1994). However, a point that these research participants missed is the other dimension of professional knowledge underscored in the literature. The second is *phronesis* or the epistemology of practice (Korthagen et al., 2001; Schön, 1983) which is practical wisdom derived from understanding specific situations and cases. Failure to make reference to practical knowledge implies less recognition of practice as a source of professional knowledge.

However, as already illuminated in the published work (Stuart et al., 2009) formally derived professional knowledge, while it may serve as a basis upon which to build other forms of knowledge, has not been found to help teachers to immediately address their teaching practice problems. It would therefore seem that gathering knowledge through experience contributes more to the professional work of teachers and teacher educators than the scholarly study or studying scientifically proven material in teacher education programmes.

Consequently the latter type of knowledge (*phronesis/practical*) is developed and/or acquired through experience and tends to be appropriate in given situations (Loughran, 2006; Korthagen et al., 2001)). However, since none of the teacher educators who participated in this study had researched or documented their own practice or their practice of teaching experience, an analysis of their practice-based knowledge could not be undertaken. Therefore the information that these teacher educators shared as they participated in the current study could have remained tacit, never to be shared with other teacher educators or with teacher education students.

A further analysis of the teacher educators' understanding of professional knowledge has revealed a collective view. Apart from professional knowledge being received from formal education and accumulated through practice, it is regarded as complex, especially for teacher educators. Teacher educators have a dual role to play in that they have to think and act beyond themselves as providers of such knowledge to student teachers and at the same time ensure that their students are taught in a manner that will prepare them for teaching their own students in future.

Its complexity is acknowledged by education researchers such as Goodnough (2001). The complexity of teacher educators' professional knowledge is compounded by the context in which they practise. It is a context wherein experimentation of ideas features highly. This means that in practice, due to the nature of their work which requires them to act in certain ways and the fact that the context in which they operate is highly unpredictable and therefore challenging, teacher educators have to experiment with ideas all the time.

However, with the exception of one participant who explicitly articulated the complex nature of professional knowledge, especially as it pertains to educating student teachers, the others did not seem to acknowledge the complexity of their work.

5.2.2 Determining the Sources of Professional Knowledge

Determining the sources of professional knowledge for teacher educators helped address the question, "Where do teacher educators draw their professional knowledge from?" Two sources of professional knowledge were determinable with one of these being practical or experience-based knowledge, presenting a myriad of sources. The current study confirms the claims that academic education is foundational to professional knowledge. The participants consistently made reference to undergraduate and postgraduate programmes as having contributed to the knowledge and skills they use in the teaching of student teachers. Those who enrolled in a teacher education degree programme tended to point to this as core to the foundations of professional knowledge.

Acknowledging that teacher education programmes have contributed to the formal education of the research participants therefore is in line with the published work on formal education which indicates that it facilitates "knowing THAT" Eraut (1994) or acquiring propositional knowledge offered in teacher education programmes. However, in the majority of the cases studied, formal education falls into two distinct categories. The first is the undergraduate teacher education programme, which focuses on two areas, namely subject content and pedagogy content. The second is at the postgraduate level, where individuals specialised in disciplines of their choice with two actually having taken courses that prepared them for the teaching of student teachers.

While propositional knowledge is acknowledged as important, some researchers have critiqued it especially in the context of learning about teaching. Korthagen and Wubbles (2001), the Institute of Education, London (2001) and Ponte (2010) discuss learning

about teaching. Korthagen and Wubbles (2001) point out that the technical rationality model commonly used in teacher education institutions tends to create a gap between theory and practice. They suggest a teacher education model that starts from practical experiences as a better option.

Korthagen and Wubbles (2001) suggest that “starting from practical experience can be a viable avenue in teacher education to help integrate theoretical notions into teacher actions and to help take into account both types of human information processing. Such an approach to teacher education does not necessarily, guarantee success. There are views that long student teaching periods can be a socialising factor rather than offering an opportunity for professional development for student teachers. Ponte (2010) argues that it has been proved that academic knowledge cannot simply be transferred in the expectation that teachers can apply this knowledge. Therefore views differ regarding whether student teachers should be placed in the schools and do teaching practice prior to enrolling in the pre-service programme.

Still following on Eraut’s (1994) analysis of professional knowledge, “knowing HOW” is practice-based. In this study classroom practice was found to be an activity that teacher educators did more often than any other. It therefore became apparent that classroom practice is the most common source of practical knowledge for teacher educators who participated in this study. Every teacher educator teaches. However, the frequency of engaging in teaching or teaching for a certain number of years compared to other sources of professional knowledge needs to be thoroughly researched and critically analysed, using specific indicators if it is to be regarded as a significant source of professional knowledge for teacher educators.

The work of Clandinin and Connelly (1995) confirms that practice facilitates the gathering of experience and consequently experiential knowledge. These authors present practice-based knowledge metaphorically as “teachers’ professional knowledge landscapes”. The current study has brought to the fore a similar analogy as the use of the image of professional knowledge landscapes. Their analogy provides a picture of experiential knowledge or “Knowing how” as open and never ending.

Openness implies a never-ending situation in which there are ample opportunities to source, enact, construct or model professional knowledge. Therefore openness implies that teacher educators gain more experience as they get to know how to act in professional situations and in the process continue to source more knowledge.

Therefore the fact that teacher educators begin their career with a degree in teacher education implies that such an academic base has connotations of a novice, while expanding and broadening knowledge through practice suggests moving towards or becoming an expert. In essence therefore, epistemologically, theory and practice are, as observed by Clandinin and Connelly (1995), intricately linked.

Within the teacher educators' field of work, contexts or "landscapes" are components that are similar to those identified by Clandinin and Connelly. In the context of this study the research participants gathered practice-based knowledge in the actual teaching through formal relationships with other similar institutions, including student teachers they met in their teaching practice classrooms. They gathered practice-based knowledge through encounters with people ranging from professionals based in other institutions, mostly met during conferences or academic visits to similar institutions. They also had encounters with colleagues, student teachers and serving teachers, especially those teachers that they taught. Furthermore, opportunities to gather professional knowledge were through participation in the capacity-building workshops with other similar institutions and through working with government ministries on pertinent issues such as formulation of policies. This study has therefore established that within a teacher educators' "landscape" there is an array of sources of professional knowledge.

There are values attached to involving prospective teachers in the work that teacher educators undertake (Hug and Moller, 2005; Freedman, Bullock and Duque, 2005; Clarke and Erickson, 2004). The current study has established that supervision of student teachers' research work is a challenge to the majority of those who participated in this study. Some indicated that they had not had an opportunity to supervise research. This situation implies that there are fewer opportunities for supervision of research undertaken by student teachers, a situation which reduces the teacher educators' opportunities for gaining knowledge and skills likely to accrue from such an experience. It would seem that the participants are justified in pointing to the need for more opportunities to supervise student teachers' research work.

The work of Jansen, Herman and Pillay (2004) conveys the complex nature that gets played out as doctoral students engage in proposal writing. This is an issue which suggests that the process of supervising and observing postgraduate students engaging in research is in itself a learning avenue. This is an avenue which could add to professional enrichment of teacher educators. One of the challenges facing the

participants therefore was coming up with courses that require students to undertake research if they themselves want to learn how to supervise research.

It was not until the teacher educators revealed where they drew their professional knowledge from, that what had remained tacit became explicit both to me and the participants themselves. This view was confirmed by an admission on their part that they had not seriously reflected on their practice nor documented their experiences. One of the participants, after sharing her professional life story and having had the opportunity to validate the documented narrative, admitted that it was the first time she had deeply reflected on the relevance of her master's degree dissertation to her entire work. She admitted that it was during her reflection that she actually saw that she had lived the dissertation. This positive reflection is a clear indication that while some teacher educators act out their research work in their teaching of student teachers, they do so without being conscious of their influence or without relating their work to formerly acquired knowledge.

Nonetheless, it became apparent that the professional life of a teacher educator is mainly experimental, actually messy and/or haphazard, and therefore very challenging in many aspects. That it is haphazard is exemplified by the many incidents that were shared in this study. Talking about their experiences, which for some teacher educators appeared to be introspection into their professional lives, they suggested that there were times when they encountered problems and that sometimes they experienced positive and enriching encounters. While these experiences were not documented in detail they were regarded as worthwhile by the participants. Experiences that were classroom-based proved to be some of the many that were valued. Reflecting on these enabled those who did reflect to come up with strategies for handling problems encountered immediately or for using new knowledge to bear on what they were to teach. In practice teacher educators were in fact adhering to the domain of phronesis (Korthagen et al., 2001) as they learned how to teach teachers in practice.

However, that they never fully documented their experiences or shared them means that teachers' and teacher educators' experiential knowledge remains tacit, as alluded to by Connelly and Clandinin (1995). These argue that teachers do not tell their classroom stories out of class since they tend to regard these as secret events. Although the current study did not investigate the reasons for not documenting their experiences, it is highly likely that the benefits of sharing experiential knowledge were not explored.

Documenting professional-based experiences could be shared with relevant communities and therefore contribute to making public the teacher educators' professional knowledge.

5.3 The Teacher Educators' Practice

This section discusses teacher educators' enactment of professional knowledge, construction of professional knowledge and the "how" of modelling it. Teaching about teaching or enacting professional knowledge is more than just teaching as it happens at other levels of the education system; there are two layers involved. One of the layers is when teacher educators teach student teachers knowledge or impart skills that are relevant to them as students of education; the other layer is about preparing them for teaching their own students. It is my view that the nucleus of teacher education is teaching about teaching.

Therefore, enacting professional knowledge cannot be viewed simplistically as just doing teaching, since it is much more than that. In Loughran's (2007) view, teacher educators are required to make teaching in this context a site for inquiry. As has been established by various researchers, teaching about teaching has been identified as complex. Lougharn (2007) argues that it is important to understand the complex nature of teaching about teaching or enacting professional knowledge in the context of teacher education. The complexity is embedded in the very nature of teaching itself. Lougharn (2007) actually outlines what enacting professional knowledge or teaching about teaching entails. He identifies 4 aspects that include the following:

- The focus on the problematic nature of teaching;
- making the tacit explicit;
- teaching as a relationship, and
- challenging the tyranny of talk.

Therefore as Loughran (2007) argues, teacher educators have to develop the pedagogy of teacher education. The intention in developing a pedagogy of teacher education is to signify the relationship between teaching about teaching and learning about teaching. In

such a context, teaching about teaching might be purposefully examined, described, articulated and portrayed in ways that enhance an understanding of this complex interplay.

The complexity of practising the pedagogy of teacher education or in the context of this study enacting professional knowledge is described by many researchers (Ritchie and Wilson, 2000; Loughran, 2006). Loughran (2006) sees teaching about teaching as playing a complicated dual role; it requires “vigilance that is perhaps not so easily apprehended in the normal day to day expectations and experiences of teacher education programmes” (p7).

In this regard teacher educators necessarily have to engage their students in research-based activities leading to their understanding of the nature of their work. This is why the finding that teacher educators who participated in this study hardly undertake research on their own teaching came as a surprise. I agree with Loughran (2007) that it is imperative to research the practice of teaching if one wants to understand one’s perspective as a teacher educator and those of the student teachers. Presumably understanding one’s practice through research could impact on the practice itself. I am of the view that researching one’s work would add to addressing professional challenges in constructive ways.

A number of points emerged from observing the teacher educators enact professional knowledge. Firstly, they used numerous methods of teaching. These included transmissive and interactive methods. A transmissive mode of teaching, especially in the context of teaching about teaching is criticised by some researchers. Bullock (2007) argues that the reason for not using the transmissive mode of teaching should be the tendency for extensive bias toward a technical rationality approach to teaching. Additionally in pursuance of reducing the technical rationality, teacher educators should strive to make the tacit explicit which, among others, requires them to constantly “answer questions from students of teaching” (Loughran,2007 p.4). These should be questions that actually challenge teacher educators’ knowledge of practice which he argues is vital to enacting a pedagogy of teacher education. In practice teacher educators should according to Bullock (2007) and Loughran (2007) endeavour to develop ways of engaging learners in learning.

Notwithstanding that a variety of methods were used in the majority of cases, these were intended for the student teachers themselves instead of preparing them for teaching at the secondary school level, being the level at which, upon graduation, they will be

working. Therefore their conceptualisation did not seem to influence the teaching as articulated in their description of the concept *enactment of professional knowledge*

For instance, one of the interactive methods of teaching commonly used was the questioning-and-answer method. It was revealed that the types of questions asked during the use of this method did not seem to challenge the student teachers to deliberate critically on the very teaching methods that were used. Critical thinking in the context of methods of teaching was not so noticeable as only a few made reference to it. Furthermore, as research in teacher education (Loughran, 2007) indicates, student teachers should be made to explore teacher-related problems so that they appreciate or understand that teaching is complex at the very time that they are involved in their studies.

This study, except for a few incidences, did not establish the extent to which in practice teacher educators challenged student teachers to think about both the content of the course and also the methods employed in teaching. It is an idea that Loughran (2007) fully articulated as related to challenging and in the process contributing towards cognitive development of student teachers. If student teachers are not provided with opportunities to discuss consciously issues that would equip them with such skills while they are still in their teacher education programmes, the question arises as to where they will solicit such skills.

There were very few incidences where such opportunities were provided. One of the participants, Hoanghoang, constantly challenged his students to think about how they would teach their own students. More often than not he presented student teachers with hypothetical cases in which they critiqued a method of teaching that he would have explained in class. One of the hypothetical cases was whereby student teachers were to challenge the idea of using a guest speaker as a method of teaching. This was one of the moments during which student teachers had an opportunity to think deeply about and to question a particular teaching method. The questions they raised in arguing about the relevance of the method in teaching a topic that was presented in the hypothetical case indicated that, given an opportunity to critique a method of teaching, student teachers were capable of challenging the taken-for-granted situations.

Another activity that presented ample opportunities for teacher educators to challenge student teachers was in their use of a question-and-answer method of teaching. It emerged that student teachers had ample opportunities to pose questions. However,

most of the questions they asked did not illustrate an ability to ask thought-provoking questions. In a situation in which they were provided such opportunities, they probably would appreciate the complex nature of teaching and in the process develop critical thinking skills which they would in turn use with their own students.

The efforts that appeared to prepare student teachers for the work they would engage in were mainly through mentioning what is expected of them to do in practice. Therefore, the extent to which student teachers would be observing how to teach would be more on how each student interprets what he or she would have observed. They would perhaps carry that with them to their places of work once they graduated from a teacher education programme. Doing so would be propagating, consciously or unconsciously, the theory developed by Lortie, "*The apprenticeship of observation*", which has been tested by some researchers. According to Borg (2004), Lortie coined the term to point to a phenomenon "whereby student teachers arrive for their training courses having spent thousands of hours as schoolchildren observing and evaluating professional actions" (p.274). However, failure to be explicit about expectations and hoping that they are observing the teacher's actions has its own problems because, as Borg (2004) in acknowledging Lortie's (1975) work indicates, in the real practice of teaching, teachers do not invite their own students

to watch [their]/teacher's performance from the wings: they are not privy to the teacher's intentions and personal reflections on classroom events. Students rarely participate in selecting goals, making preparations, or post-mortem analyses. Thus they are not pressed to place the teacher's actions in a pedagogically-oriented framework (p.62)

Lortie's (1975) observation could apply to student teachers who indirectly participated in this study. Teacher educators who participated in this study did not involve their student teachers in planning lessons they were to teach. The challenge for teacher educators therefore is being explicit about what is expected of student teachers and at the same time providing them with opportunities to practise what they are expected to practise once they are qualified and have taken up teaching positions.

Regarding assessment practice, the current study has established consistency in the use of a variety of assessment techniques. Assessment is a common feature that transpires mainly through assignments and tests. However, generally the types of assessment or questions that students had to address were not so challenging. This

implies that teacher educators do not challenge student teachers to realise the complexity of teaching. Therefore it can be concluded that teacher educators do not fully engage their students to challenge their own work or their teaching. Therefore, it would be advantageous not only to assess students but to get them to think critically about assessment practices.

In addition to the teaching methods that the teacher educators used in practice, there were numerous activities observed during the actual enactment of professional knowledge. These included the technical language the teacher educators used during their actual teaching, communication styles, tendencies to open and close lectures, the way the actual teaching was managed or organised and the type of activities that were presented to student teachers.

The use of technical language is intended to help student teachers think like teachers. They were referred to teachers in schools and to secondary school students who were likely to be their own students. While some of the teacher educators who participated in this study used what has been referred to as technical language, Crowe and Berry (2007) suggest more can be done towards helping student teachers think like teachers. In practice they need to be engaged in activities that require them to think more like teachers as opposed to thinking routinely, like secondary school students.

In essence, just making reference to secondary school and doing so sporadically within a teacher education programme is itself inadequate for student teachers. It has to be a concerted effort by all teacher educators. They could draw from established theories such as that of Schön (1983) on reframing of practice situations to the extent that student teachers begin to move from “predominantly thinking about themselves” to thinking beyond their contexts. In this way, even as teacher educators make reference to secondary schools, serving teachers and students at this level, the reframing of practice would contribute to student teachers viewing teaching as “problematic” and not routine practices that they are probably much familiar with.

It is in talking about teaching as problematic and complex that Loughran (2007) maps this complexity as embedded in the “very nature of teaching itself”, and more so in the context in which the teaching is about teaching itself. It is in this context that the literature challenges teacher educators to make what tends to be tacit explicit. The question that Loughran (2007) argues has not been properly addressed when

discussions of professional knowledge are held, is why the “why” actions are carried out in the way they are.

These arguments tend to suggest that referring to the schools system and its related matters such as what methods to use in teaching or how to teach are far from enacting “the pedagogy” of teacher education. Instead, they can be regarded as tips on how to teach and what the school context holds for student teachers. Relevant here is Crowe and Barry’s (2007) argument that due to the complexity of teaching, young teachers should be helped to become creative through being presented with complex situations, so that they can develop strategies intended to challenge situations. The incidences in which student teachers were challenged were very few and not all the research participants practised the said skill development strategies.

Yet in a situation in which teacher educators would not only be making reference to what student teachers are likely to encounter as they enter the field of teaching, they would be encouraging them to engage in learning about teaching. In learning about teaching teacher educators would embrace what Lougharn refers to as *being a student of teaching: knowing yourself*, a point that Korthagen and Verkuyl (2007) tested in their own work as teacher educators. Teacher educators learn if they allow themselves to play the dual role of being a learner and teacher through allowing students to critique their teaching. Lougharn (2007) argues that “students of teaching are continually confronted by struggles, difficulties and dilemmas that affect their understanding of the nature of teaching as a consequence of their experience in learning about teaching” (p.8).

One of the findings is that the actual teaching followed a clear path in which lessons were introduced, the content presented and in the majority of cases lessons neatly brought to a closure. Teaching was therefore well structured and allowed student teachers to follow the pattern of teaching even in situations where they participated through giving presentations on an assigned task. However, while orderliness provides a form of structure, what was obvious was routine in the majority of cases. It was on very rare occasions, and in one particular course, that student teachers could not predict how the next lesson would be organised. In practice the majority of the teacher educators did not appear to be ‘practising what they preach’. Realistically, as pointed out in this section, complicated ways of involving student teachers should be communicated if they

are expected to learn deliberately from such experiences, and there should be more such exposures.

It also emerged that student teachers participated in actual teaching. They engaged in numerous activities, including posing questions mainly aimed at seeking clarification either from the lecturer or from colleagues who would have done a presentation. Most of the questions were on content, regardless of whether it was in the area of subject content or field of study or discipline. The style of asking questions was very similar to that of the teacher educators themselves. My interpretation is that student teachers were already imitating their teacher educators and that in practice teacher educators are indirectly demonstrating certain skills unaware of the overall impact. The observed implications of teacher educators' practice confirm Lortie's (1975) *apprenticeship of observation* theory referred to in this chapter.

Other activities that were established as enactment of professional knowledge included instructional management and the use of instructional techniques. Clearly teacher educators were consistent in ensuring that teaching areas were conducive to learning, particularly in terms of the students' involvement in activities and behaviour. In practice, therefore, teacher educators supported the learning activities, especially in cases where student teachers were assigned learning tasks either as individuals or as groups. They for example provided elaborate explanations on a given task and actually supervised the activities.

Disciplinary measures were used and the purpose was to maintain a good environment for teaching and learning. It occurred to a small number of the research participants to take advantage of destructive student behaviour to help student teachers see classroom management in practice.

One of the points that emerged in the narrative data was the value of undertaking research. However, in the actual teaching, research was mentioned in passing and student teachers were not provided with opportunities to research the pedagogy of teaching. The literature encourages teacher educators in particular to engage in a self-study type of research for its benefits in the teacher education fraternity.

Self-study research has been in the field of education for close to 20 years this year (Loughran, 2005). There are reasons for engaging in self-study research. The research findings emanating from self-study have been found to be applicable to teacher

educators as they are the ones doing research. And the growth in the field is propelled by the desire on the part of scholars to understand and to bring to the surface aspects of teaching and learning about teaching. Learning from studying one's own teaching is likely to impact on the teacher educator's understanding of the complex nature of teaching and learning (Loughran, 2005, Campbell and McNamara, 2010; Clarke, 2007, Miletta, 2010). Campbell and McNamara, (2010) add that self-study is a possible response to educational policy makers' demands regarding standards and quality. In this regard teacher educators can collaborate with teachers, own students and colleagues in an endeavour to study the practice of teacher educators. However, Lingard and Renshaw, (2010) caution that since contexts differ it is important for researchers to be study their own context first.

It is important, though, to note that there were some small scale research projects requiring student teachers to research and present their findings at the classroom level. However, none of these required student teachers to research the actual teaching itself. It was in one case where one of the research participants indicated that she has established a practice which required her students to assess her teaching. Lintle used the findings emanating from the students' assessment of her practice to improve it. The extent to which the findings were shared with student teachers and/or the extent to which students had the opportunity to interrogate these were not verified. Researching teaching therefore, although highly encouraged in teacher education programmes (Loughran, 2007), does not seem to feature much in the context in which the current study was carried out.

However, taking Lintle's case further, there emerges a situation of trust and openness to her own students. She demonstrated what Loughran (2006) refers to as promoting personal relationship with own students. Encouraging student teachers to assess her might influence her students to build such relationships with their own students. Loughran (2006) argues that building personal relationship with own students adds to shaping the nature of pedagogy of teacher education. Additionally, enacting the pedagogy of teacher education requires that teacher educators observe relationships in teacher education as a critical element (Loughran, 2006). In fact, as the proponent of this aspect of enacting the pedagogy of teacher education points out, teacher educators can promote relationships through their own actions. They can also do so through

encouraging student teachers to learn from the questions and critiques of the teaching used to teach them.

Instructional media emerged as an area that pertains to facilitating teaching in the context of this study. Although in very few instances teacher educators had the opportunity to use other forms of instructional media, a not so positive issue in this regard was the predominance of the use of the whiteboard and to a lesser extent the use of an overhead projector or modern technology. None of the participants used modern instructional technologies such as a *PowerPoint* presentations and a projector, even in situations where the class size was so large and the students would have benefited from such an instructional medium. As established in a research study undertaken in the Lesotho College of Education by Lewin and Stuart (2003), it is fair to conclude that student teachers who mainly observe their educators using traditional forms of media frequently tend to depend on their teacher educators more than would be expected at this level of education. Additionally, it is very likely that student teachers would follow this pattern in teaching their own students.

I conclude that determining the sources of teacher educators' knowledge indicates that they operate in complex and difficult circumstances. The literature (Kroll, 2007) clearly illustrates the numerous challenges facing teacher educators in various parts of the world. In particular it has been established that teacher educators are the only teaching professionals who operate within very complex situations (Loughran, 2006). As indicated above, their role extends beyond just teaching but requires them to demonstrate to their own students attitudes that are appropriate to teaching and knowledge and skills of teaching (Loughran, 2006).

The teacher educators' complex responsibility is not only to assist student teachers to be cognizant about learning their content but also to help them see the "competing agendas" whereby they learn about the content and at the same time learn about teaching. Therefore, for the teacher educators who participated in this study to constantly mention school-related activities or practices might have been an attempt to make their student teachers realise the two agendas.

However, they seem to have done so without actually making students question such issues. Therefore the teacher educators were not analytical about how to engage their students in seeing teacher education from the teacher educators' perspective.

Additionally, they were not analytical about seeing teaching about teaching from the student's perspective, an aspect that Loughran (2006, 2007) argues is critical in enacting the pedagogy of teacher education. Seeing practice through students' eyes is an aspect which Loughran (2006) believes teacher educators have to experience anew. He challenges teacher educators to think about participating in a conference in which a mass of complicated PowerPoint slides are presented. Presumably encountering problems in such a conference would help teacher educators think about their own practice and how it impacts on their student teachers.

Discussing the findings and grounding the arguments on research undertaken seem to indicate that enacting professional knowledge is an avenue for teacher educators to learn from their every-day teaching experience. Another avenue could be learning from engaging in research and constructing professional knowledge.

5.4 Engaging in Creating Knowledge

It transpired from the research participants' conceptualisation of construction of professional knowledge that formal education positively contributes to professionals' tendency to engage in the creation of professional knowledge. It emerged that the construction of professional knowledge is facilitated by numerous situations, including relationships with people, engaging in intellectual debates and being in the field with student teachers. It became clear that constructing professional knowledge can be realised where teacher educators are free and courageous enough to take initiative steps towards trying out ideas and being prepared to pursue what is being experimented with, regardless of failure or success experienced.

The study revealed that in practice professionals encounter numerous challenges. However, it was not clear whether or not in actual practice teacher educators took advantage of the challenges within their own practice to create and test new ideas. Instead, in some cases it may have been an interpretation of situations that accidentally presented themselves. 'Masethabathaba's idea that teaching about teaching begins with making blunders and learning from them implies the lack of an actual plan to research, other than trial and error, the implementation of new ideas.

However, since the literature (Kremer-Hayon and Zuzouskys, 1995) supports the idea of trial and error it would seem that the blunders referred to here, since they were made in the context of teaching, would, provided they were analysed rigorously, serve as

knowledge constructed in the actual world of teaching student teachers. The trial and error method is classified by Kremer-Hayon and Zusouskys (1995) as constituting one aspect of knowledge construction.

It also transpired that the manifestation of engaging in the construction of professional knowledge can be observed in the outputs emanating from a professional's efforts to construct knowledge. It emerged that some of the participants had created, although not documented, their professional philosophies and that their documented materials were in the form of curricular and assessment materials. For those who had created philosophies, although theoretical, to a large extent these serve as a guide in their professional activities. Although some of the research participants involved their students and challenged them to critique their course outlines it was clear that students did not have the skill to do so.

Other than the creation of professional philosophies, there were no lessons that emanated from involvement in the production of teaching and learning materials. This view is based on the fact that student teachers were minimally involved in activities that would challenge their views and the fact that they were not provided with opportunities to do so. Therefore involvement of student teachers remained technical, with teacher educators having expressed their espoused practical knowledge. In particular, the idea of being flexible with regard to sharing materials developed and accepting the critique, and reviewing them with the purpose of improving upon those, added to lessons emanating from creating own materials and being flexible about their use.

Given that only two of the teacher educators had undergone training that prepared them for the job, it would seem that all had the freedom to come up with their own philosophies, to question the style of asking questions they used and to develop their own curricular and assessment documents. Therefore, while a technical analysis of the depths of professional development could not be done in the current study it is apparent that professional development on the part of the teacher educators escalated. As alluded to above, there is a clear move from the novice level of a professional to other levels.

Research (Bullock, 2007) has established that teacher educators have to find their own ways from thinking as teachers to thinking as teacher educators. Bullock's contention is similar to some of the findings of the current study in that he has established that those who claimed to have developed their own philosophies, even if these are not documented, have moved a step towards ownership of teaching and therefore towards

thinking beyond the routine of educating student teachers. However, while the idea of developing their own philosophies and constructing their own curriculum has implications for engaging in activities that are of a constructive nature, and at the same time illustrates the capability of such creation, creating own knowledge is more complex than this. It is in the work of scholars such as Hamilton (2005) where efforts clearly aimed at creating new knowledge are articulated through research. Therefore the real challenge for the teacher educators who participated in this study, especially in the context of constructing professional knowledge, is undertaking research on their own professional activities. Doing so should provide meaningful information in the teacher educators' arena.

All the research participants had developed their curriculum in the form of course outlines. In essence they had engaged in constructing materials needed to facilitate their own teaching. Analysing their materials revealed that there was one major gap; none had included pedagogic content knowledge. In the actual teaching three consistently referred to the course outlines. Yet, making reference to this type of documentation in situations in which student teachers can engage in analysing the curriculum could serve as an opportunity to engage them in work created by teacher educators themselves. Another gap that was established was the failure on the part of the research participants to analyse these materials critically. Such an analysis would be an opportunity to establish the extent to which they challenged students' learning abilities.

Ponte (2010) illustrates the interface between the application of professional knowledge and its construction. He argues that studying one's own practice means that learning would be characterised by simultaneous construction and application of professional knowledge. Construction and the application of knowledge is in Ponte's view part of the same cyclical process in that professionals apply knowledge, gather information, interpret that information and thereby construct new knowledge which they then apply. To construct the knowledge student teachers would have to develop methodological knowledge, about how to study practice.

Construction of professional knowledge therefore implies engaging in research and producing new knowledge and in the context of teacher education researching own practice. Russell (2007) shares his experience whereby he pursued Schön's concept of reflection-in-action. Pursuing Schön's concept required him to study his own teaching to understand whether he really was changing his teaching and whether his students

perceived him as modelling new practice. In essence Russell tested the theory with the intention of constructing new knowledge in the context of teaching. Other researchers share Russell's view that constructing professional knowledge can be achieved through research among other activities. Dinkleman et al. (2001), for example, encourage teacher educators to undertake research. They see teacher education as a place where the breakthroughs and insights of knowledge and practice in teaching and learning are immediately applicable and constantly questioned and tested. Such a view confirms the value attached to teacher educators generating new knowledge through undertaking research.

There ample opportunities for teacher educators who participated in this study to explore creating professional knowledge in their teaching practice and in researching their work were not explored.

5.5 Modelling Professional Knowledge

Information on conceptualisation of modelling in the context of teacher educators revealed that teacher education should provide a sound foundation to the student teachers that will emerge from the programmes offered to them. The expectation is that they should emulate personalities that are considered representative of teacher education. In this context teacher educators should model the expected behaviour. Most importantly, teacher educators should help student teachers to love the profession through acting in ways that will provide lessons on how to teach effectively.

Furthermore, modelling professional knowledge as conceptualised by the research participants entails moving beyond the actual teaching and ensuring that student teachers are nurtured and mentored. A particular group of student teachers who needed more attention were classified as those who may have either enrolled in the education programmes because they did not qualify to be admitted in a faculty in which they would have otherwise preferred to be enrolled, and are therefore in the faculty of education by accident. This group of students were classified as a special group that would require teacher educators to work in ways that would attract them to persist in the profession. Although such a group was identified as a special group, I argue that all student teachers need to be addressed as a group or individuals so that they can graduate from a teacher education programme having been provided with similar knowledge and skills.

Other researchers who have tested the theory of modelling in the context of teacher education provide more descriptions of modelling as a concept. The descriptions help to clarify what this concept entails and help to elaborate on what the research participant thought it entailed. Kroll (2007) is of the view that modelling is inherent in all that teacher educators do in teacher education which in practice may be intended or unintended regardless of whether they are conscious of their actions or not. Therefore, in her view modelling, can be “conceptualized as teaching in the very ways we encourage our students to teach but to do so with the intention of offering them access to thoughts of, and knowledge about, such practice by explicating the underlying purpose of that teaching approach” Kroll, 2007,p.94).

Observing modelling good practice in action seemed to be a challenge for both the researcher and most teacher educators. The challenge for this researcher mainly regarded what to classify as modelling in situations where activities remained tacit. One of the participants pointed out that in modelling good behaviour teacher educators have to *walk the talk and walk it in ways that ensure that the one’s ‘walking the talk’ demonstrates the best way of doing so*. It was again in this particular teacher educator where ‘walking the walk’ was observed not only in her dynamic ways of delivering the content but in her level of involving students, her decisions to work with groups of students in a class of more than 300 which illustrated her dynamism. The type of group activities that students presented challenged them to the extent that some observers could classify her lessons as chaotic while others might view them as facilitating learning so that student teachers could adopt such strategies or model after her.

On the one hand she was consistent in acting out her Master’s Degree thesis and her philosophy, which tended to focus on challenging students to act in ways that do not take things for granted. In another example, as clearly stipulated in the data analysis and interpretation chapter, she challenged students to critique test or examination questions. On the other hand, the challenge such as the problems of teaching large classes as referred to by most participants, did not seem to affect the dynamic ways that Peditta used in delivering her content heavily.

However, even for this teacher educator, whose efforts could be classified as exceptionally good, efforts to model professional ways of teaching teachers fell short of empowering the student teachers with what research suggests is modelling professional knowledge. The literature indicates that modelling entails involving student teachers in

activities that allow them to critique or question the very teaching process. The purpose of questioning the very teaching would be to provide student teachers with opportunities of seeing the complexities of the practice (Loughran, 2006). In this regard efforts intended to facilitate “walking the talk” are not as simplistic in nature as the cliché might suggest, especially given that teacher educators operate on a number of levels. These levels include demonstrating how to “walk the talk” and help prospective teachers to, according to Guifoyle (1995), understand how theories are implemented in practice.

Observing the explicit activities and perhaps good practice that could be classified as modelling professional knowledge was mainly in the use of instructional materials. This was particularly so in the use of the whiteboard, textbooks and the development of games that could be used in teaching Mathematics Education. In this regard fewer research participants were observed acting in ways that could be classified as observable modelling of professional knowledge.

Besides the use of instructional media, a peculiar incident was in modelling time management and motivating prospective teachers to act in ways that indicated that they too respect time. Despite the value that may be attached to time in the teaching profession, students never, at least during the period of observing the concerned research participants, had the opportunity to deliberate on time as a factor or relevant concept. Such an opportunity would probably indicate to them that teaching is not just about content or pedagogy but that there are many other teaching and learning-related aspects that are equally important in their field of study.

Another explicit activity that may be regarded as similar to those not directly focusing on the actual learning and teaching was observed in the context in which student teachers were encouraged to celebrate *Teachers’ Day*. The celebration was deliberate and intended to motivate student teachers to love the profession that they were pursuing. The presentations by individual student teachers were moving, as one student talked or commented after another recited a poem. These presentations were their own creation and were meant to contribute towards celebrating international teachers’ day. The celebration may have had an impact on the attitudes and perceptions of all student teachers who participated in it, yet failure to deliberate on the issues raised in the presentations or in poems that were recited delimits the extent to which the student teachers could critique the profession itself. Thus the teacher educator who facilitated

the celebration of Teachers' Day missed the opportunity to engage student teachers in critical thinking.

While it was clear from the conceptualisation that the participants were conversant with modelling and how to model professional knowledge, there were some challenges. The dilemma is that modelling good practice for the majority mainly remained espoused rather than enacted. In their view their efforts to model were hampered by working conditions. Complaints about large class size, infrastructure and lack of equipment suggested that the context had to be conducive in order to facilitate modelling. It does not seem that this group of research participants realised, as pointed out in the literature, that the actual teaching of content and the pedagogy employed to convey that content (Loughran 2006) embrace modelling.

Therefore, as articulated in the published literature, modelling in the context of teacher education, in which teacher educators teach about teaching "something", is always being modelled, regardless of whether it is good or not so good, deliberate practice or not so deliberate (Loughran, 2006). That modelling does not have boundaries might explain why in one incident one of the participants who consistently used the words "*you are stupid or don't be stupid*", was surprised when in one of her classes she cautioned students to be careful about the language they use; for example, she reminded them that they should never call students stupid, to which they all reacted by laughing. By implication, even the language that those who teach student teachers use in their teaching could have an impact of a modelling of either good or not so good behaviour or attitudes.

Although scenarios were used to illustrate some of the modelling activities observed in undertaking this study, modelling is in itself a complex undertaking. It may remain implicit; yet those who are observing an individual act out in certain ways may choose to or not to adopt what may be transpiring in a classroom situation. The issue that was shared by the research participants regarding the students who passed through their classes indicates that student teachers may choose to model after their former teacher educators. A study undertaken in the Lesotho's College of Education confirmed that student teachers emulate or identify with their best teachers. That they emulate their teacher educators is dependent on their perception regarding what they consider as good or bad. Therefore the criteria that student teachers use to model after a particular

teacher educator is subject to further research. Additionally, the extent to which they are consciously aware of this remains unanswered.

However, as Kosnik (2007) argues, modelling, especially in the context of effective teaching, must be accompanied by an appropriate narrative that explains one's teaching. In such a context, student teachers would begin to understand the complexity and challenges of teaching. A demonstration whereby teacher educators for example model how to handle a "perplexing pedagogical situation" would reveal to student teachers that teaching is not easy even to people who are teaching *teaching*. Senese (2007) adds that teacher educators who are perceived as continuous learners of teaching tend to command respect from student teachers. He concludes by pointing out that, "making practice transparent is [as] equally important as being informed instructors" (p.57). The implication of Senese' views is that one strategy of modelling teaching practice or modelling professional knowledge is being open about lessons accruing from one's practice. Observant student teachers could draw from such situations how they would act in their own teaching.

The participants of this study, while they appeared knowledgeable of what modelling entailed, had not undertaken any research on this aspect of their work. However, some researchers have studied modelling in their own contexts. Modelling in the work undertaken by Hamilton (2005) is demonstrated by learning from an experienced colleague. She points out that in undertaking research that influenced her life as a teacher educator she was influenced by a colleague whose career was at its end while Hamilton had just joined the carder of teacher educators.

Hamilton (2005) explored researching her work using self-study as a way through which she would solicit more information about her own teaching. Her literature review revealed that extensive research on teacher knowledge had been undertaken. There were therefore a number of lessons drawn from the literature. One of the important messages that the literature portrayed was the suggestion that teacher educators must "be good models in the ways that they examine research, demonstrated knowledge, and address experience" (p.91). Engaging in research and reviewing the literature impacts on the professional development of those who embark on such literature reviews.

One other finding regards the prospects of learning from producing teaching and learning material. Although about three of the research participants for the current study claimed to have engaged in the production of teaching and learning materials other than

documented curriculum in the form of course outlines, none had in practice studied the impact of using materials that one has produced. Research, however, suggests that producing and publishing own work adds to professional knowledge (Kosnik, 2005). Presumably such an experience could add to modelling producing own materials for use by students.

Kosnik (2005) shared the research work in which researchers celebrated the publication of the *International handbook of self-study of teaching and teacher education practices*. The two volume work which addresses key issues in teacher education, in her view, seemed to have “moved [them] both symbolically and literally into a central place in the teacher education community. The handbook further formalises “much of what [had] been learned about being a teacher educator and detailed qualities of effective teacher education programmes” (p.216). Kosnik’s ideas about publishing research work and being fulfilled from the experience relates to an expression by some of the current study participants that professionals are fulfilled if their work is referred to in publications or in conference papers. Presumably the teacher educators who felt this way saw publications as contributing to their professional development.

One issue missing in discussion about research was actually engaging student teachers to undertake research themselves; yet, as the literature suggests one of the objectives of teacher education programmes as articulated by Kroll (2005) must be to help pre-service candidates develop the technical theoretical knowledge that will allow them to create their own solutions to the challenges they meet as they teach. Kroll (2005) further argues that inquiry is a powerful tool that can help teachers problematise the situation that they encounter. They can systematically examine the issues involved and subsequently find solutions that may carry over into more than one situation. Educating teacher educators on the benefits of undertaking research could help them not only to attain research skills but also to see the value of researching their own work. In this way reflecting on their practice for purposes of improving that practice would not be informed by experience only but experience would be coupled with empirical information. Most importantly, they would be modelling to student teachers how research on one’s career could contribute to professional development.

Based on the discussions presented above it is appropriate to conclude that this part of the chapter presents lessons learned by the research participants and the challenges that they are faced with. The following section of the chapter depicts, by presenting

cases of three of the participants, the numerous lessons that accrued from practice. The following section is presented as a deliberate link between the preceding section and the one that follows. The last section of the chapter focuses on learning in the context of teacher education as a possible consequence of the current study.

5.6 Drawing Practical Professional Knowledge from Practice: the Cumulative Snowball model

This study has revealed that teacher educators who participated in it draw their professional knowledge from both the programmes they enrolled in as students (propositional knowledge) at both undergraduate and postgraduate levels, and the practical knowledge (phronesis) they draw from practice. They have learned to teach teachers in the teacher education institutions and in their capacity as teacher educators. In this regard, while not downplaying the fact that in practice they still make reference to documented information and learn from it, what they have accumulated is practical knowledge. The conclusion that they have drawn from practice as I indicated earlier, does not dispute the fact that they use propositional knowledge in teaching. Hence reference to the work of Van Driel, Beijaard and Verloop (2001) in this regard.

Van Driel et al. (2001) view practical knowledge as a form of knowledge developed or constructed by teachers in their context of work. The relevance of their work in this section of Chapter 5 is the emphasis on the idea that practical knowledge integrates experiential knowledge, formal knowledge and personal beliefs and that it is often implicit in nature. As I illustrate with the 3 cases to follow, accumulating or learning from practical knowledge is an important area that this study has established.

I have also discussed various types of knowledge in the literature review chapter. However, due to the relevance of “knowledge” in this section, I revisit the concepts *episteme* and *phronesis*, especially in the context of teacher education. On the one hand, according to Loughran (2006), *episteme* is propositional knowledge, consisting of assertions of a general nature that apply to many different situations and problems. It is traditional, scientifically-derived knowledge that is often described in abstract terms and considered to be objective and timeless. On the other hand, Loughran (2006) argues, *phronesis* is a form of practical wisdom that is derived through understanding specific situations and cases. It is therefore understood as being developed through experience whereby the knowledge gained may not be immediately generalisable, but is certainly

appropriate to a given situation. This assertion about phronesis was emphasised by one of the research participants as she articulated that practically-based knowledge is not “tangible” and that it is not transferable.

Loughran’s (2006) work is more relevant in this section as he contextualises these two forms of knowledge in teacher education. In his view, to both student teachers and teacher educators, epistemic knowledge is not immediately helpful in addressing problems of practice. Instead, experiencing the tensions, dilemmas and problems of practice is necessary in order to learn through the accumulation of knowledge of practice.

The other two and equally related concepts that have been discussed in the literature chapter are *metalearning* and *metacognition*. Metalearning is described as the knowledge that enables learners to be effective as they learn about learning or take control of their learning (Jackson, 2003, Institute of Education, London, 2001, Slabbert et al., 2009). Loughran (2006) refers to metacognition as thinking about thinking and Livingston (1997) adds that metacognitive knowledge refers to general knowledge about how human beings learn and process information, including an individual’s knowledge of one’s own learning.

I elaborated in Chapter 3 what the concept *learning* as articulated in the work of Flavel (1979) entails. In the context of this study and following on Loughran’s (2006) assertions about recognising metacognition in teacher education, the extent to which teacher educators who participated in this study were able to question their own teaching would be an indication of employing these various forms of learning.

In this section of Chapter 5 I present my analogy using the “teacher educator teaching snowball experience model”. I do so to illustrate that experience has provided the teacher educators who participated in this study with a landscape from which they have drawn their practical knowledge and have therefore acquired knowledge on teaching about teaching.

As I indicate in the pages that follow the snowball cumulative model I adopt Pillay’s (2007) ideas about choice of research participants. She correlates her methodology to telling three tales of her research participants. She indicates that she does so to find the complementary values that may bring some depth to understandings of her research

participants. In the case of this study, the three cases are meant to illustrate issues pertaining to cumulative learning.

5.7 Cases on Learning to Teach Teachers

I emphasise here that while the unit of analysis for this study was eight teacher educators, I chose three research participants, mainly to illustrate that while professional knowledge is drawn from both formal education and practice, practice presents more opportunities for acquiring professional knowledge.

Put differently, and as articulated by one of the research participants, professional knowledge is not static as it expands like a “*hypothetical ball which keeps growing*” (Peditta). The study adopts the idea of a snowball to illustrate that as long as teacher educators continue to practise they at the same time are accumulating practical professional knowledge:

Description of Figure 5.1: The Snowball in Teacher Educators' "landscapes": A Cumulative Knowledge Model

The small ball of snow represents academic or formal knowledge obtained from training. It is the core of professional knowledge gained in both undergraduate and postgraduate courses including research courses.

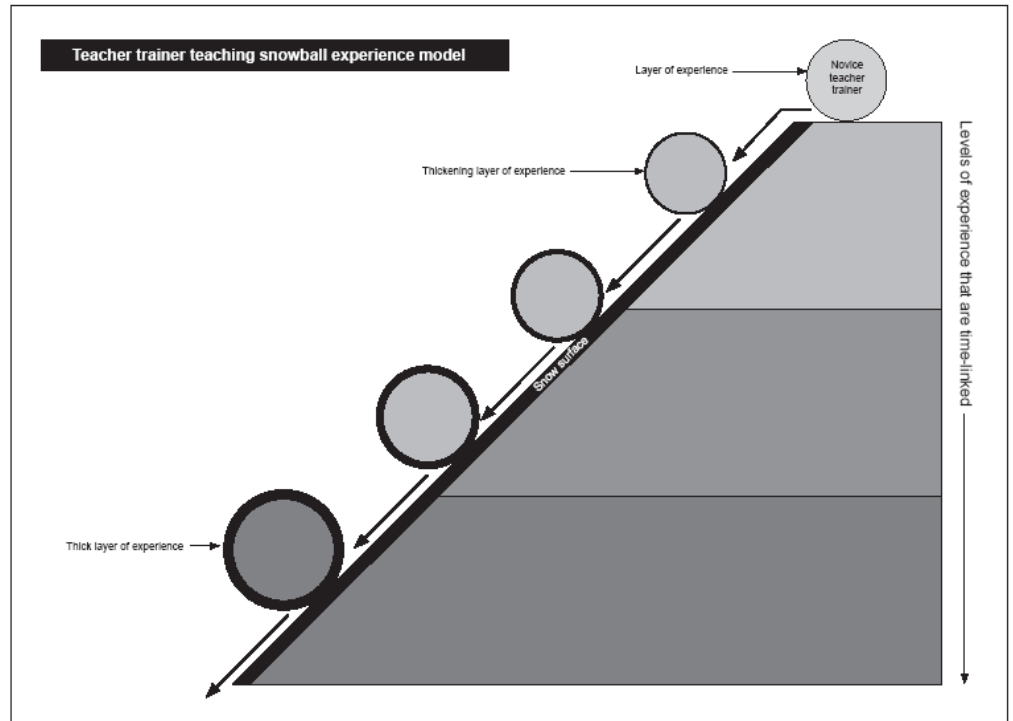
Once it starts rolling down the hill or the teacher educators' professional lives evolve, it picks up snow along the way and grows bigger and bigger.

The added snow is the person's experiential knowledge, what he gains from all the main experiences he has in a professional life, across the varied landscape. The snowball does not shrink but grows with each experience. These are the bits and pieces of snow that get gathered: experiences gathered through others including colleagues, school teachers and students; holding administrative positions and participating in meetings that reveal what may have been taken for granted; the actual teaching practice itself at the university, other levels in which one taught before taking a position of a teacher educator, using instructional media and assessing students; supervision of instruction and research; engaging in professional activities such as undergoing training and participating in conferences; opportunities provided by other avenues such as academic links, membership of professional organisations and through contribution in national education development by providing services, including undertaking research. Some parts of the landscape may be snow free, where professionals do not pick up any new professional knowledge and some may be especially snowy where professionals pick up a lot of snow.

In this snow ball analogy there are instances where teacher educators pointed to the numerous challenges in the context in which the ball rolls; these are possible situations in which they would not gather any snow.

Presumably, as the ball gains momentum and the professional moves through the varied "landscape" he/she learns from the experiences as *novice*, *advanced beginner*, *competent*, *proficient teacher* and eventually becomes more of an *expert* (Eraut, 2006). It may be that while going through the landscape and moving through the different levels the teacher educators could reach a level at which they are comfortable with bridging the gap between theory and practice. It is experiencing and moving gradually but being conscious of the movements that teacher educators could learn through experience (Loughran, 2006).

Figure 5.1: The Snowball in Teacher Educators’ “landscapes”: A Cumulative Knowledge Model



Illustrative Cases

Three cases of three research participants were chosen out of 8 for illustrative purposes. I describe the approach used in selecting these 3 elaborately in Chapter 2 being the methodology chapter. I add a few points on the approach followed in the choice in this chapter.

While it may not be common to use a “winnowing” strategy with the research participants, given that it is commonly used in analysing data, this strategy is used here to illustrate a point; the 3 research participants present a clear picture of their professional progression in teacher education and therefore help to illustrate how they

have been learning how to teach in practice; Chapter 4 shows how much of their data has been used to illustrate the various findings presented in that chapter. I cannot deny the fact that while there may be other participants with extensive data, 3 is a reasonable number to work with, especially for illustrative purposes. I therefore decided on winnowing to use a reasonable number with extensive data.

I am influenced at this level by the justification that Pillay (2007) followed in choosing her research participants. In her study the stories of the participants tended to complement each other; there were commonalities. In the case of the current study, besides the fact that the participants came from three different departments, their narratives and lessons observed were more telling. In her work Pillay argues that “if methodology is not only about gathering data but also about hearing the data, writing the data and giving form to the data, not only by the researchers but also by the participants and readers, then methodology is constantly in progress (p.24). I borrow this idea of a methodology that is constantly in progress. It was in analysing the data that I decided that three of the eight participants would help illustrate how the research participants have been experiencing teacher education in practice.

The cases chosen are those of Peditta, Zinzi and ‘Masethabathaba who were from the departments of Educational Foundations, Language and Social Education and Science Education respectfully. These cases illustrate the point being made regarding the accumulation of professional knowledge. This is a section that builds on the “snowball/cumulative” model presented above.

5.7.1 The Case of Peditta

There definitely is consistency in what Peditta believes in and her practice.

5.7.1.1 The Basis of Entry into Teacher Education

Peditta entered teacher education accidentally in that although she had not taken courses on teacher education at undergraduate level she joined it through applying to an advertised post. She admits that while she became a teacher educator by accident she had grown to like and enjoy it. Interestingly, the fact that she entered ‘through a backdoor’ propels her constantly to seek out those areas where she thinks that the needs that she has will be addressed.

The circumstances of teaching teachers without a teacher education qualification persuaded her to enrol in a programme that would prepare her for the task. It was during her work on her thesis, which required her to use a developmental approach that she learned about life skills, which included making predictions, being skills that are needed by children. Undertaking research at Master's degree level laid the foundation for the career that she was going to embrace: teacher education. She says her Master's degree dissertation helped her to see the relationship between it and a child. In teaching she sees this dissertation unfold, and it has remained a major point of reference throughout her professional life. The decision to take courses that would prepare her to teach teachers was taken with the understanding that she needed knowledge and skills that could be provided by academic institutions.

5.7.1.2 Using Propositional Knowledge as a Guide

Peditta's philosophy very clearly correlates with her dissertation. She sees herself as someone whose mandate as a teacher educator is to assist her student teachers to change. She perceives herself as a person with the ability to intervene in people's lives to promote change and help them realise their potential, even if it is lying dormant. She uses her own experience as someone who joined teacher education by accident and takes advantage of her background in psychology, which requires her to intervene in peoples' lives and to go deep into those lives to unleash the potential which may be flickering a little, and therefore try to kindle it. She therefore perceives herself as someone who has the burden of first of all showing that what she does is something worthwhile, so that student teachers can feel that they also want to do it.

5.7.1.3 The Teacher Education Context and Implications

Peditta sees the context in which one operates as a teacher educator as important; it can contribute to professional development or can make one feel stagnated. She feels that teacher educators can either choose to stay within existing contexts or create their own. She sees working within the context of the University as helping her to grow as a teacher educator. There are, however, challenges of working with students and colleagues that contribute to her tendency to reflect constantly in terms of what she actually does or what she tries to do.

She indicates that the context of the University in terms of its mandate of teacher development provides an important dimension to the training of teachers. It is through her work with teachers who are out in schools that she feels she gets to know the extent to which she has made an impact in her teaching. Working with teachers in the schools provides a rich experience in terms of how teacher education has to be conducted. She has learned that teaching teachers is very complex as it depends on individuals to do the best with what they have, because what has been taught cannot work the same for everybody else. Additionally, teachers in the field have come out with their own ways of interpreting what they have learned. They are sophisticated in their way of interpreting their environment and making use of what they have learned. Peditta says the best approach that she has adopted is to give theories, but also make things tentative so that student teachers, even after qualifying as teachers, should know that what has been taught has to remain flexible enough to use in whatever context one finds oneself.

At another level, Peditta sees the importance of teacher educators actually creating a context for themselves by identifying niche areas. It is a context where she feels as a teacher educator she has moved from the general broader view into the specific. It is at this specific level where she says as an individual she can have an impact through devoting her time to activities about which she feels passionate.

5.7.1.4 Building Professional Knowledge through Practice

Peditta says the ability to apply propositional knowledge to the extent that application actually changes this knowledge has proved crucial in her career. It is within a teacher educators' landscape that she gets the experience through the opportunities of applying the knowledge. She has discovered that more often than not plans to apply knowledge drawn from the theories do not work out as well as she expects. She feels that experience provides opportunities to keep trying since what may have proved applicable in one situation may not be transferable to other situations, given that in real life situations differ. In her view, therefore, propositional knowledge merely lays a foundation upon which one has to build, although that building never pauses at any point in one's professional career. She is able to analyse her practice basing herself on the fact that she received knowledge that prepared her for the task of teaching student teachers.

5.7.1.5 Relating Theory and Practice in the Teaching of Student Teachers

Peditta says the ability to relate one's theoretical understanding to practice has to do with the contextualisation of the theory. In her view it is crucial to present theory to the student teachers in a sophisticated manner. She admits she enjoys challenging her students so that they can think beyond their context to help them move in terms of their intellectual level from a level of simplicity to some level of sophistication of thought.

In this regard students are guided to analyse their context through creating an ideal situation for them to explore. In doing so she knows that she is saying to her student teachers that she wants to move them as far as their thought processes are concerned and expects that they will do the same to their learners, which means moving students from a certain cognitive level to the next level. She thinks cognitive development is something that she has been engaged with in her entire career as a teacher educator. In practice, therefore, she sees the relationship between theory and practice as applying professional knowledge through theory and practice and in the process helping student teachers within their context to move from the simple to the complex. Central to Peditta's professional activities is student involvement in their own learning. This may be a typical example of a teacher educator who learns jointly or together with her student teachers.

5.7.1.6 Extent to which Teaching Practice Correlates with Beliefs

I observed Peditta teach student teachers 16 times. In practice she lives her philosophy and what she truly believes in. She is outright in involving student teachers in their own learning. Students study cases from the module she produced herself. On rare occasions they may perform their tasks individually but would be expected to return to present their interpretation of what they had been assigned to do.

Peditta's common strategy is for students to work in groups. She builds communities of learners and creates a context in which students collaborate as they investigate a topic in preparation to come and share their findings. She does so also after posing a question and asking students to discuss in small groups of sometimes just two students.

Peditta did not appear to be disturbed by the almost deafening kind of noise that fills her lecture or seminar rooms when more than 300 students are in her classes. The experience of my technician who videotaped lessons and on one occasion claimed that it did not appear as though there was a lesson to record, is illustrative of the learning

environment in which Peditta operates. Her students research and analyse cases, discuss and share their interpretation of their assigned case studies. On the day on which the technician disappeared, Peditta had spoken for three minutes, during which she instructed student teachers to discuss a case. She mingled with the groups and students noisily discussed the task at hand. The technician could not regard this as an exciting part of teaching. He concluded there was no teaching and decided to walk out of a situation which I interpreted as electrifying.

There were times when she provided explanations or actually lectured. It was only in one lesson out of the 16 in which she lectured for 32 minutes. Otherwise her explanations ranged from three to seven minutes. That most of her talks are short illustrates that in the majority of cases she lets students discover things themselves and present them to the entire group. Peditta therefore mainly practises a phronesis approach. Her most common questions are thought-provoking and mainly *why* and *how* type of questions. To a far lesser extent she asks *what* questions.

It is only in the way she conducts her teaching that one sees the correlation between what she believes in and her practice. Her interest is helping student teachers to attain their highest potential and actually involves them in such a manner that they search for information, and present it so that she can detect the extent to which their interpretations reflect understanding. In summary she plays the role of facilitator in which she intends to see student teachers change and become different people from those they were before enrolling for her course.

Observing Peditta teach confirmed her claim that she upholds the theory of helping student realise their potential. She concluded her narrative by referring to what could be considered as her guiding principles: “walk the talk and walk it in ways that ensure that the ones walking the talk demonstrate the best ways of doing so”. It is Peditta who, after validating the content of her story, made a comment that the study, in particular being asked to narrate her story provided her an opportunity to reflect on her thesis. She realises that she has actually been living her thesis throughout her professional life.

5.7.2 The Case of Zinzi

This is a case of a teacher educator who believes in student creativity. Her background is in Mathematics education.

5.7.2.1 The Basis of Entry into Teacher Education

Zinzi is an invitee into the world of teacher education. She never dreamed of following this career. She says she had planned to become a secondary school teacher. Her university lecturers saw potential in her and invited her to join teacher education at the level of a teaching assistant. She says she was just lucky. She joined teacher education as a person prepared to learn from others; a situation which presented tremendous challenges. Although she was provided with a mentor from whom she would take over, she could not learn from the colleague's ways of teaching. Even though she had hoped that observing her mentor teach and taking notes on how it is done, neither the notes nor observations served as a guide, when confronted with the task alone, she would not handle it with ease. She says she grappled with the teaching of student teachers and had to learn from being immersed in it; a situation she considered messy.

5.7.2.2 Using Propositional Knowledge as a Guide

Zinzi says the courses taken at undergraduate level did not prepare her for teaching in the school system. Her Mathematics Education lecturer was too theoretical, focusing mainly on the content of the subject and not on pedagogical content. She left the university puzzled and not knowing how she would teach. Therefore the propositional knowledge acquired at the university was not immediately applicable to her world of teaching. Instead, in practice she listens more to a group of students and transfers ideas from one group to the next. She learns more from her students.

Her philosophy is that people intending to become teacher educators should start at the school level. There is value in the practice of teachers in the school system. Researching education should therefore be a priority. However, she has never seriously considered doing research on her teaching.

Her Master's degree programme did not make her a different person in the context of educating teachers. She says she came back with notes and many new ideas. She used the notes for teaching. These notes were based on her studies in a foreign country. Upon reflection she realised that they were not relevant to the Lesotho context. Her student teachers were very vocal about the claim that the notes were irrelevant. She says she was lacking in coming up with her own style of teaching and she realised student teachers were not gaining much from her teaching, as what she was teaching did not seem to relate to what they would be teaching. However, her PhD course

confirmed her belief that student teachers have to be given some ideas on how they can improve the teaching of content.

5.7.2.3 The Teacher Education Context and Implications

Zinzi operates in a context that presents numerous challenges. Two of these challenges are important to her. One is that there is a lack of collegiality in her department and therefore individuals live in isolated contexts. It is a context in which she prefers to focus more on students who present another challenge to her life as a teacher educator. Zinzi says that the problem with many of the students she teaches is that they did not choose to be teachers. They came because they had nowhere to go, given their low performance at the end of secondary education examinations. It is for her a difficult context in which she has to encourage them to like teaching. She strives to help student teachers attain the knowledge and skills they will use after completion of their studies.

Zinzi says one of the strategies she uses is doing activities as she walks around the class. She takes advantage of walking around the class to talk to students about what they want to do in teaching. She says she observes them as they engage in their teaching practice; they do many unacceptable things. Zinzi says she has to pick them up by saying positive things so that they do not become depressed, still bearing in mind that they have to do correct things. It is working with similar groups of students over the years that inspires her to encourage them to remain in teaching.

5.7.2.4 Building Professional Knowledge through Practice

Zinzi says she uses practice to guide her teaching. She is mostly guided by her intention to work towards maximising the knowledge of her students. It is in practice where she says she guides student teachers in terms of the relevant content and pedagogy they will need in their own teaching. One of her guiding principles is to solicit student teachers' backgrounds and their expectations of the syllabus they will use in teaching. In her actual teaching she relies heavily on the school Mathematics syllabus and engages students in analysing it.

5.7.2.5 Relating Theory and Practice in the Teaching of Student Teachers

Zinzi says that she learned to use games in teaching her subject content. Most of her materials were developed at the time that she did her PhD. For the PhD, they took a lot of computer programmes that have numerous strategies for and are useful in teaching

Mathematics. She teaches them to use games for teaching although her challenge is that student teachers are so dependent on her that they find it extremely difficult to construct their own games. She says they are neither able to pick up and design their own nor do they take her advice to draw from computers and adapt the games so that they can use them in their situations, often because there are no computers in their schools.

5.7.2.6 Extent to which Teaching Practice Correlates with Beliefs

I observed Zinzi teach 15 students for 20 lessons. Practical lessons are at the centre of her teaching. Students are given tasks to work either as individuals or as groups. They discuss these in class and present them to the rest of the class. Most of the lessons are guided by the use of games, some of which she has developed herself. This is the only seminar room that still uses a chalkboard. The chalkboard is mainly used by student teachers as they explain the answers they came up with. She hardly lectures and in situations where she has to use expository methods she does so in a few minutes. Her shortest explanations take a minute and her longest 11 minutes.

Her belief is that student teachers should be helped to acquire the skills and knowledge they will need for teaching students. She strongly believes that the best approach is a hands-on one. This belief is clearly displayed in the way she conducts her teaching, with very little talk but ample practical activities. Her class size made it possible to talk to individual students as she tried to encourage them to stay in a teaching career.

5.7.3 The Case of 'Masethabathaba

'Masethabathaba's orientation is that of language teaching. This orientation becomes clear from her style of teaching.

5.7.3.1 The Basis of Entry into Teacher Education

Twenty seven years ago 'Masethabathaba was invited by her former lecturers to join teacher education. She was identified by two ladies who made her realise she had the potential to join teacher education. She says she gladly accepted the invitation although she did not know what it meant to become a teaching assistant. 'Masethabathaba is an English language specialist and she was identified as someone who could contribute to the teaching of English language to student teachers. Her Master's degree therefore was

to equip her with more knowledge on English language education, especially as it relates to teaching student teachers.

5.7.3.2 Using Propositional Knowledge as a Guide

'Masethabathaba says she was taught curriculum studies in English by professionally seasoned English educationists who knew their subject. She says they emphasised the importance of being prepared when one went to teach and for some reason much of this has influenced how she approaches her own teaching. 'Masethabathaba says she was socialised for teaching by those professors who later mentored her when she joined teacher education. Her critique, however, is that it was '*easier said than done*', because even as things got emphasised they were not getting involved in the actual development of instructional materials. Nor was her postgraduate degree in a foreign country helpful. She was not understood to be seeking for a course that would prepare her for teaching teachers of the English language. She had to come up with a research topic that would help her answer her needs: training English language teachers to teach for communicative competence in English. 'Masethabathaba says this is what she has lived since then. She gives student teachers assignments that are grounded on her dissertation.

5.7.3.3 The Teacher Education Context and Implications

'Masethabathaba works in a difficult context that is without appropriate teaching materials or technical support. It is a context in which she cannot even use appropriate gadgets or infrastructure to deliver her content. She says teaching language education would benefit from a language laboratory.

She also recognises student teachers who join teacher education after having been teaching in the school system. They enter teacher education institutions with certain characteristics and she draws many lessons from this context. The recognition of the value of those characteristics has stayed with her throughout her 27 years of teaching at tertiary level. Experienced student teachers bring their experience to bear on their learning.

5.7.3.4 Building Professional Knowledge through Practice

'Masethabathaba has been involved in a number of commissioned research studies. She says she uses findings of studies undertaken when she teaches. She admits she was not trained as a teacher educator but that she took advantage of conferences whenever she could. These would be conferences where teacher educators would be sharing their views and their experiences in training people in English. It was in such a context that she acquired the idea of becoming a teacher educator. She indicated that she values real life exposures more than going to class to be taught and specialise and come out with a certificate. Some of her experiences include interactions with others, participation in conferences, sitting in large committees and commissions, and being assigned or commissioned to undertake professional work in her field of specialisation. These are meaningful to her. She concluded that if she could claim any authority or any professional knowledge at all "*it's because of acquisition more than being formally taught learning*".

5.7.3.5 Relating Theory and Practice in the Teaching of Student Teachers

In practice, 'Masethabathaba argues that her teaching is more practice-based than theoretical. She says she has learned from her mistakes; coming into the lecture room and lecturing and walking out at the end of her 50 minutes has never worked for her as it does not help much on the part of student teachers. 'Masethabathaba says she has realised that if she comes to class, presents a topic but engages her students in the presentation of that topic, she tends to reap better results. Her students tend to understand and learn more and, depending again on activities that she gives them, they are better able to be active and take responsibility for their own learning.

5.7.3.6 Extent to which Teaching Practice Correlates with Beliefs

'Masethabathaba was observed teaching 21 lessons. She is an outright expository type of lecturer capable of lecturing for 50 minutes. Her shortest explanation was 6 minutes. In practice she was observed giving 13 lectures, ranging from 6 to 15, 27, 30, and 45 minutes, with 3 being 50 minutes. In five of the observed lectures, student teachers did presentations and 3 of the lessons were a combination of her presentation and asking questions. So in practice very few of her lectures actually involved students.

5.8 Correlating the Cases to the Teacher Educator Cumulative Snowball Model

The cases exemplify how teacher educators who participated in the study have accumulated practical knowledge through learning to teach student teachers. It is very clear that the three combine their propositional knowledge with practical knowledge in their day-to-day teaching. All have encountered challenges in their work which persuaded them to reflect constantly on their practice. A challenge that Kroll (2007) says is very important is that teacher educators reflect on their practice through framing a problem and reframing it for purposes of learning from that experience.

The idea of reflecting on practice is facilitated by working with student teachers who require teacher educators to think constantly about how they can engage students in their learning. It is in the context of practice where, whether intentionally or unintentionally, enactment of professional knowledge provides opportunities for accumulating practical knowledge. It is in the same contexts of enactment of professional knowledge that learning takes place.

All three research participants whose stories are used to illustrate the accumulation of professional knowledge had the opportunity of either teaching experienced student teachers or meeting graduates who shared with them their experiences gained from teaching. The shared experiences are indicative of learning from experience encountered by the student teachers or graduates. Teacher educators do reflect on these experiences to the extent of using scenarios in their own teaching and in the process accumulate professional knowledge. Teacher educators think about how they have been conducting teaching and how that experience impacts on their own teaching. But most importantly, the depth of the experiences illustrates that theoretical or propositional knowledge gathered in teacher education institutions merely lays the ground but practice needs to be experienced as there are practical experiences to be dealt with in the real world of work.

Modelling comes out as an area in which these teacher educators have had an opportunity to accumulate knowledge. It is from the relationships that they have established with their student teachers that they realise they have in many ways contributed to their learning.

Although it is clear that practice has facilitated learning as illustrated by the research participants, the fact is that in practice teacher educators gather more snow or experience and there are situations where there is little or no snow to gather. Very clearly they make reference to research but the research being alluded to, while it provides opportunities to construct new knowledge and learn from it, does not seem to inform practice. It does not immediately enrich their practice as would be the case with research undertaken in their own context. Accumulation of knowledge in this regard is biased; it is mainly in the context of teaching and other activities such as participating in developing policies that they seem to have accumulated knowledge. The lack of snow to gather or small patches of snow are clear signs that the major challenge for these teacher educators is in undertaking research in their own teaching. The observed challenge is noted, fully cognisant of views expressed by other researchers who seem to sympathise with the situations in which teacher educators find themselves. For example, Murray (2010) is of the view that there are factors that restrict the time and opportunities for teacher educators to participate in research. One of these is declining financial support from governments.

Regardless of Murray's observations, as pointed out by several other researchers, Campbell and McNamara (2010), Groundwater-Smith and Campbell (2010), and Kessels and Korthagen (2001) teacher educators' or academics' work has to be informed by research. Campbell and McNamara (2010) point out that research is central to professional learning; it is more about assimilation of knowledge rather than its gathering. Teacher educators have to take ownership of their professional learning and manage change in their classrooms through knowledge production. Another area that is alluded to in which there is little snow being gathered is with regard to learning from colleagues. Kessels and Korthagen (2001) acknowledge that teacher educators need to collaborate and perhaps learn from colleagues.

In conclusion, the model illustrates that in practice teacher educators accumulate professional knowledge or that they learn about teaching regardless of some serious discrepancies such as a lack of undertaking research on their own work. There are situations during which learning is more significant than in others; hence the idea that they gather more snow and depend less on a situation in which they operate. Reflections or the various experiences gathered as teacher educators enact the pedagogy of teacher education discussed in the previous chapter is elaborated on in this chapter.

Reflections could provide an opportunity for teacher educators to analyse their own learning. Therefore, the concepts discussed earlier in this section, namely, learning, metalearning, metacognition, episteme and phronesis are made relevant in this study by the incidences discussed in this chapter and in Chapter 4 and concretised in Chapter 6.

5.9 Conclusion

This chapter has discussed the findings of the study. It is clear that, while the sources of professional knowledge presented in the chapter on data analysis and interpretation are numerous, these are mainly based on practice. It is practice that facilitates experimenting with ideas, constructing new knowledge and using the acquired knowledge in the context of teaching teachers. The research participants did not even realise how much they have been guided by knowledge they have accumulated over the years of teaching as teacher educators.

Based on the findings of the study, particularly that learning for most of them happened without them actually planning it, I decided to include a section on *learning* in this chapter, but direct it at moving beyond the teacher educators themselves to how the proposed new learning could guide the way in which student teachers will be helped to shape their own learning. The understanding here is that once they (student teachers) emulate learning as a construct they too will transfer this into the school system and therefore to their own students.

Based on the discussion presented in this chapter, I move to the conclusion chapter, which ends with suggestions for the future. The first suggestion is on how learning could be infused in the Lesotho teacher education programmes and the second proposes future research by teacher educators and subsequently the creation of new knowledge.