

DEVELOPING TEACHING AND LEARNING SKILLS AT A HIGHER  
EDUCATION INSTITUTION: A COLLABORATIVE ACTION  
RESEARCH STUDY

by

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## **ABSTRACT**

The thesis which was originally undertaken to improve my teaching skills and determine ways of allowing me space to live my academic values also turned out to become the enquiry to investigate students' learning and study skills. Students and I collaborated in a year-long self-study action research where we were trying different teaching-learning strategies in order to improve our practice(s). Throughout the study I kept a reflective journal and students also reflected in a portfolio of learning their impressions about the new teaching-learning strategies. In addition to these data gathering methods data from students were gathered using chats, observation, and open-ended questionnaire. Data was analysed using a narrative method, reflexivity principle, and grounded theory.

There are two major steps I followed in this study which are aimed at improving students' basic study and learning skills, and my teaching skills. The first relates to action research into student learning at the school of Mathematics Science and Technology (MSTE) at a rural university. The study reveals that: Students have their own different and unique styles of learning, implementing various learning styles afford students an opportunity to find a style that matches their own. The second action step relates to my own self-study research trying different teaching methods based on my academic and personal values. Here, the study reveals that: The best teaching-learning practice is the one developed and agreed upon between the teacher educator and his or her students. These 'action' steps were not mutually exclusive – they were conducted in parallel. After the description of developing student learning skills at undergraduate level my reflections on the study followed in relation to theories and methods of teaching-learning and further revealed that what works with one group of students will not necessarily work with another group. The best teacher educator is constantly seeking ways of improving the learning experience of his or her students. The recommendations that teacher educators should become self reflective practitioners and improve their professions using self-study collaborative approach will benefit other teacher educators who are keen to study and improve their practice.

## **DECLARATION**

I, Paul Rampaola Mokhele, student number 211122122, solemnly declare that this thesis entitled 'Developing teaching and learning skills at a higher education institution: a collaborative action research study' is my original work. I have not registered for any other academic award during the period of registration for this study.

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## **DEDICATION**

To my parents (Leah Mokhele and the late Joseph Mokhele): thank you for encouraging me to forge ahead with schooling during those difficult times in our country.

Mokhele R.P

Butterworth

RSA

February 14, 2013

## **I WILL ACT NOW**

Tomorrow is the day when the weak become strong

I am not weak

Tomorrow is the day when the failure will succeed

I am not a failure

I will say it is done before the failure says it is too late

I will act now

Success will not wait

This is the time

This is the place

I will act now

[Og Mandino - 1968]

Yes, I acted, laboured, persisted for I knew where dry deserts ends, green grass grows.

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## **CHAPTER ONE**

### **INTRODUCING MY CONCERN AND WHAT I WANTED TO IMPROVE**

#### **1 BACKGROUND TO THE STUDY**

The idea that teachers should become 'reflective practitioners', has gained popularity in recent years. For example, one of the teacher roles as determined by the then South African Department of Education (Department of Education, 2000, pp.27-28) – now the Department of Basic Education (DBE), requires the teacher to be a scholar, researcher and life-long learner. As reflective practitioners they should: (1) engage in the study of their own practice; and (2) develop their own educational theories deriving from that practice (Costello, 2003). The importance of being a reflective-practitioner as part of professional development has been strongly argued by Koshy (2005). He is of the opinion that "teaching is concerned with developing young people's minds and this can only be done effectively if the teacher takes time to internalize ideas and this internalization is more likely to be more effective if it is accompanied by reflection" (p.25). He cited Hargreaves (1996) emphasizing the concept of teaching as a research-based profession and the importance of evidence-based practice.

It is the policy of Walter Sisulu University (WSU) to create a new generation of highly skilled graduates capable of understanding and addressing complex societal challenges, with critical scholarly and entrepreneurial attributes grounded on morally sound ethics and responsible leadership. The university states in its publicity brochures and on the website, (cited in Meyiwa, 2010, p.190) that one of its purposes is to conduct research that actively engages community, provides opportunities for life-long learning by using sound problem-solving strategies. The purpose is further articulated in the faculty of education values that through the study of social scientific and developmental knowledge and research skills, lecturers should nurture innovative, creative and critical skills required to improve the quality of life of society (WSU Prospectus, 2009). Self-evaluation is encouraged as a way of practicing self-reflection in a handbook developed by the Continuous Professional Development Unit (CPDU) which is a unit in the Centre for Learning and Teaching

Development (CLTD), offering courses that are aimed at developing the capacity of academic staff in teaching and assessment (CPDU Handbook, 2010).

It is the requirement of the Department of Higher Education and Training (DoHET) of South Africa that the designers of programmes such as the Initial Professional Education of Teacher (IPET) curricula, ensure a 'fit' between these programmes and the new National Curriculum Statement (NCS) policy regulating the school curriculum. For example the Norms and Standards for Educators (NSE) which is amongst educators, a relatively well-known legislative benchmark, encouraged IPET designers to consider that the development of a teacher involved both "within classroom roles" as well as "outside-of-classroom roles" (Samuel & Van Wyk, 2008, p.2). That is, attempts have been made to link professional development of teachers to raising the level of effectiveness in all aspects of their practice and performance. For example, the Higher Education Learning and Teaching Association of Southern Africa (HELTASA) set the following as the criteria for the awarding of excellence in teaching and learning practice at higher education (HE) institutions for 2011: (1) critical reflection to develop, and (2) effort to enhance own development, via participation in professional development workshops, or courses, or own reading or reflective practice (Council on Higher Education)(CHE, 2006). I feel that it is time for educators to build their skills so that they may take advantage of these and other opportunities. I believe that the responsibility rests on the lecturers for the student teachers with whom I work to become facilitators of learning. As Meyers and Jones (1993, p.6) would contend: "One fundamental change has to do with teachers serving not only as sources of discipline expertise but as facilitators of learning". The effective lecturer educator – that I aspire to become, should be someone who is constantly seeking ways of improving the learning experience of his or her learners. Swart and Webb (1993, p.12) submit: "As teachers in higher education (HE), we are faced everyday with decisions to make concerning the ways in which we teach and our relationships with students and colleagues".

## **1.1 DESCRIBING MY CONCERN**

As a beginner lecturer who started lecturing in 2009, I felt the need to revisit my twelve-year teaching skills at technical high schools and further education and training (FET) college. The education world is changing so fast that the skills that were good enough yesterday, need to be better today. After all, I was now a university teacher. I wanted to find out whether there were improvements that needed to be made to my teaching-learning practice. Therefore, my concern includes my teaching procedures, and my students' learning and study skills. I agree with Socrates that: *unexamined life is not worth living*. I think I have reached a point at which I must examine my academic life.

### **1.1.1 Digging deeper into my concern**

My Theory of Education lecturer at a tertiary institution used to tell me that I was expert in my subjects, therefore I had to be in charge in the classroom. I believed that the only way to be in charge was to dominate while delivering classroom instruction, something I believe I did well during my first years of teaching. The following extract from one of the poems by Umberto Maturana made me change my belief:

*"The world of your truth can be my limitation*

*Your wisdom my negation*

*Don't instruct me*

*Let's walk together*

*Let my richness begin where yours ends*

*Your failure is that I be identical to you"*

(Umberto Maturana, cited in Cripps, 2007, p.11).

To me the poem – ‘*Student Prayer*’ was a cry for ‘freedom’ from a student who wanted to be given an opportunity to take responsibility for his or her education. It is important for higher education (HE) teachers to realize this; therefore to be facilitators of learning and not merely transmitters of knowledge. My concern is that, just as I realize the importance of teaching methods and learning skills, so I wish to know how to improve them, so that I may be as effective as possible both as lecturer and learner. I believe the answer to my concern lies in my professional values developed over my twelve-year teaching career. “There is a genius in every one of us and whatever is highest on our list of values is where we awaken our genius. Our greatest potential is there” (Demartini 2011a, p.4). According to Gary (2009, p.320), in aiming to attain the focus of the research project, sometimes we need to make “our own personal values explicit, so that we can explore the relationship between these values and our own behaviour”.

I espouse an academic life shaped by the values of open-mindedness, fairness, and responsibility. These values have emerged through the experiences with others and their influences on me throughout my teaching career. Fairness should be visible in my assessment; responsibility in my creation of the space for my students to become creative; and open-mindedness is concerned with how I handle criticism and respond to questions. I experience a concern because I feel that my values are hidden – I do not practice what I preach with regard to these values. My values are ontological in the sense that I use them to give meaning and purpose to my educational life (Whitehead, 2010). I hate the thought that I espouse values “without living them fully” (Schon, 1995 cited in McNiff & Whitehead, 2009, p.147), therefore I must test my claims to knowledge against these values. McNiff and Whitehead (2002, p.102) observe that, “we raise our deep tacit knowledge which contains our values base to an explicit surface level where we try to live our values in our practice”. The struggle is to find a way to live my values in my practice. This struggle has stimulating concern further. My concern is therefore about my teaching methods and the learning skills of my students and whether I allow myself space to ‘live’ my values. Differently stated, my concern is about my contribution to teaching

and learning at higher institutions of learning. This has been my concern since I started teaching at the university.

## **1.2 MY PRACTICE CONTEXT**

My full-time academic work includes coordinating an Advanced Certificate (ACE) programme and teaching in the Bachelor of Education (B.Ed.) programme. My students have registered for a (B.Ed.) programme – level 6 on the National Qualifications Framework (NQF). The B.Ed. programme is thus an initial qualification for teachers. According to Higher Education Quality Committee (HEQC), in order to prepare prospective teachers for this comprehensive role, a B.Ed. programme should foster self-reflexivity and self-understanding among prospective teachers (CHE, 2006).

My practice refers to my work as a lecturer-educator acquainting students with university academic learning and preparing future teachers. The main practical idea about my work is the creating of opportunities for students to practice and learn the best teaching and learning methods. These methods can contribute to a transformation of education, by encouraging students, upon their qualifying, to become facilitators of learning. In the programme, students are required to visit schools to observe, practice some basic teaching skills, and learn the skills of how to manage their classrooms. I normally visit students during this time to critique their teaching skills and offer advice on how they may improve these skills. This thesis is an account of my action enquiry, in which I collaborate with my students, to identify a plan of action for improving our practices – students' study and learning skills and consequently the improving of my teaching skills.

### **1.2.1 Research question(s)**

While I accept my faculty of education values as propounded in the faculty vision statement – of improving the quality of life of the students predominantly from rural communities, I developed the main research question(s) by looking at my personal

academic and professional values. As I have indicated earlier I am experiencing a tension between my commitment to the values of fairness, open-mindedness and responsibility within my practice context. I experience a great tension because these values that I uphold seem to be negated every-time I enter my lecture-room. Whitehead (1989, p.5) asks: "Is it not such tension, caused by this contradiction, which moves us to imagine alternative ways of improving our situation". I see myself as a contradiction – "holding educational values whilst at the same time negating them" (p.5). The research question that guides this thesis is:

*How do I improve my practice in such a way that my academic values and practice concur?*

By practice improvement I refer to the betterment of instruction (teaching and learning at HE institution). As McNiff (2002, p.9) would contend, the question "How do I improve my work?" contains a social intent. The intention is that one person improves his work (teaching skills) for his own benefit as well as the benefit of others (students' learning skills). In trying to answer this question, I shall critically search for answers to the following sub-questions:

- *How can I adapt my teaching so as to encourage students to ask questions as I am striving towards improving my practice?*
- *How do I help my students improve their learning and studying skills?*

The sub-questions will be explored using a spiral of action-research cycle questions. In this way I will be able to reconcile my concerns with my contradictions. Action-research cycles form part of the basic steps for practitioners reflecting on their own practice.

### **1.2.2 Values – based problem statement**

The entire education practice is determined by the manner in which the student is guided into accepting what is existentially valuable. As Criessell, Louw and Swart, (1991, p.14) would contend, the pedagogic action "is founded on values and norms and controlled and directed by them..." I have already mentioned that my academic

life is shaped by values such as open-mindedness, fairness, and responsibility. I must test my claims to knowledge against these values in order for me to open a dialogue with my students and myself, on whether I am living my values fully in my practice. McNiff and Whitehead (2009, p.147) argue that "... the challenge is to turn these into social practices (living values), so that talk becomes political talk, and to explain the processes involved". To turn my values into living values I should allow them to be questioned, modified, and changed as the research proceeds. Briggs and Coleman (2007, p.162) argue strongly that "where this kind of critical engagement with values is not possible for personal or cultural reasons, action research is pointless..."

According to Briggs and Coleman (2007, p.162) it is the task of the action researcher to clarify these educational values so that they may be used as "a clear yardstick for measuring the success of the action". The Chambers-MacMillan Dictionary (1996) describes open-mindedness as willingness to accept new ideas – "an open-minded attitude to education", and responsibility as "acting in a sensible way" – providing space for students to be responsible. According to the FET Institute (2010) fairness in assessment means that assessment must not in any way either hinder or advantage a student. There is no doubt that these values are admired and necessary in the realization of effective instruction at higher education institutions. I agree with Whitehead (2010, p.6) when he says that we are a "living contradiction". Being an 'autocratic' lecturer – providing direction all the time to students, bears testimony to my having a set of values I deny myself in my practice; I am not doing things according to the educational values that I hold. My values are my standards of living in my educational life. The problem is that I do not know whether I am living my values fully in my practice. Whitehead, (2011b) during his visit to South Africa in July, responding to the question at the Transformative Education/al Studies workshop (TES): "What are living theory methods and living standards of judgement?" writes: "Standards of judgement are used to evaluate the validity of contributions to knowledge. Living standards of judgement are values-laden and flow with energy".

### **1.2.3 Generating a reliable and valid 'living' educational theory**

Whitehead (2011a) views educational theories as explanations that are created in the course of enquiries. Cohen, Manion and Morrison (2000) discover that theory derives from the data – it is grounded in the data and emerges from it. Through self-study research inquiry, speaking with my own voice and drawing conclusions from different levels of my actions, I was able to generate a valid and reliable theory ('living theory') of my teaching practice. McNiff and Whitehead (2009, p.21) have this to say about action-research 'living theories': "Because you are alive, and your practice is living, this becomes your living theory of practice. You are a living theory in action". Generation of a valid and reliable 'living theory' was realized through a search in the data for confirming or negative and discrepant cases. As Lincoln and Guba (1985, cited in Cohen et al., 2000, p.150) argue, the theory with the greatest incidence of confirming cases and the lowest incidence of negative and discrepant cases is the most robust.

The study shows a developing consciousness of the interaction of my own living educational theory which requires a synthesis between my values and my practice. I am adopting Whitehead's (2002) idea that educational theory is constituted of the descriptions and explanations of individual practitioners as they ask questions of the kind, 'How can I improve my practice?'. As Whitehead and McNiff (2006, p.44) would contend, "the generation of living educational theories is not a solitary exercise. Because critique is a core assumption of action research, practitioners produce their progress reports as their first attempts at theorizing, and make them available to wider critical audiences, in the form of critical friends and validation groups, in order to receive the kind of critical feedback that will help strengthen their claims and their evidential base". According to Whitehead (2011a, p.4) a living educational theory is an "individual's explanation", of his or her real world. In summary, a reliable theory should be firmly grounded in practice, so that theoretical insights may lead to improvements in practice. Here my intention is that my engagement with lived experiences of learning and teaching through telling my story would help me better understand who I am as an educational practitioner and lecturer-educator.



I am guided by the social constructionist theory and perspective in developing my living educational theory. The theory focuses on uncovering the ways in which individuals participate in their natural reality. Hawkins (1994, p.9) mention one source of constructivism as “the experience of reflective practitioners, teachers and those who seek to help and learn from them” From an educational point of view, there should be an activity following a teacher input. As Watkinson (2006, p.61) would contend, there is no use for the learners to know their tables or to spell if they cannot use these skills. The constructivism learning intervention speaks directly to my values of considering new ideas (open-mindedness) and of sharing some power with students to allow maximum participation (responsibility); this being associated with pedagogic approaches that promote active learning and maximum participation in assessment (fairness).

#### **1.2.4 Ontological and epistemological commitment**

It is my desire to account to myself and others for living as fully as possible the ontological values I use to give meaning and purpose to my life in my educational practice. Values such as open-mindedness, fairness, and responsibility are, for me, ontological values. I refer to them as ontological values because I use them to give meaning and purpose to my academic life. Wood, Morar, and Mostert (n.d., pp.67-80) write “how we understand ourselves in relation to one another and to our environment (our ontology) determines how we interact with others. The ontological value underlying action research is that, although we see ourselves as individuals, we recognize that we live with others in a shared environment”. According to Kincheloe (2003) a critical ontology concept understands the need (1) to appreciate the auto-poietic (self-producing) aspect of the ‘self’ in order to gain more sophisticated capacity to reshape our lives, and (2) to see that the self is not preformed as it enters the world – that it emerges in its relationships to other selves and other items in the world. A critical ontology vision helps us in the effort to gain new understandings and insights as to who we can become. This view has been supported in the work of Kincheloe (2003). He goes further to say that as we employ the ontological vision we ask questions about ethics, morality, politics, emotion, and

gut feelings, seeking not precise steps to reshape our subjectivity but a framework of principles with which we can negotiate. Ontology encourages me not to separate myself from my surroundings, as this can lead to a loss of a sense of belonging to both the world and my students. Conducting this study led to consciously adopting a value where I refuse to treat my students as objects, empty vessels waiting to be filled. Becoming a reflective practitioner as life-long scholar necessitates personal transformation based on ontology and epistemology concepts.

Epistemology refers to the way in which we acquire knowledge. Action researchers see knowledge as something they do, a living process (Whitehead, 1988) 'living educational theory'. Criessell et al. (1991, p.18) write that, "epistemology is the name given to the study of what and how we come to know it". Epistemological theory encourages us to explain what knowledge consists of and how it may be obtained. Moser, Mulder, and Trout (1998, p.14) concur: "Epistemologists typically focus on propositional knowledge - knowledge that something is the case, as opposed to knowledge of how to do something". By developing propositional knowledge (Whitehead, 1988), I have learned how to articulate my living educational theory. My propositional knowledge came solely from my practical knowledge as I immersed myself in the live experience. I also monitored the learning of students with whom I daily collaborate in my practice. Through my thesis I attempted to demonstrate how the relationships I have with my colleagues and my students have enhanced and improved my own practice. As Thayer-Bacon (1995) would contend that the generation of knowledge is socially constructed by people who are in a relationship with each other.

### **1.3 METHODOLOGICAL INVENTIVENESS AS A STRUCTURE FOR THE STUDY**

My methodological choice has been greatly influenced by questions, ideas and actions that distinguish an action-reflection cycle (Whitehead, 1988; Whitehead, 1993; McNiff & Whitehead, 2002; Samaras, 2011). Their ideas, questions, and actions became the design of my chapters – taking the thesis to seven chapters. They are as follows:

- What did I want to improve? What was my concern?
- Imagining possibilities and choosing one of them to act on in my action plan.
- As I am acting, what data will I collect to enable me to judge my educational influence in my professional context as I answer my question?
- Evaluating the influence of the actions in terms of values and understanding.
- Modifying concerns, ideas and actions in the light of evaluations.
- Creating a living educational theory.
- Making public a validated explanation of educational influences.

These informed my action-research design. In this way I was able to align the methodology with what is being asked. As Ross-Fisher (2008, p.4) would contend, "... the 'how' must fit with the 'what' in the design of the action research study". Perhaps the following methodological question may assist in putting things into perspective: "How can the inquirer go about finding out whatever he or she believes can be known?" (Guba & Lincoln, 1994, p.8).

If anyone asks me why my research study is organized and conducted in this way, I would refer to the work by Dadds and Hart (2001 cited in Whitehead, 2009, p.1) in which they argued: "But we had understood far less well how practitioners chose to research, and their sense of identity within the research and their research outcomes". Perhaps persuaded by this work, Whitehead (2009) encourages practitioners both action-researchers and conventional enquiry researchers to invent their own methodologies. He writes: "If you are conducting an enquiry of the kind, 'How do I improve what I am doing?', with the intention of improving your practice and generating knowledge in your living educational theory, I think you will need to embrace the idea of methodological inventiveness (Dadds and Hart, 2001) in the creation of both your living educational theory and your living educational methodology" (2009, p.1). Living educational theories simply mean that explanations are created in the course of enquiries, unlike traditional propositional theories, where explanations are declared from the general conceptual framework, argues Whitehead (2011a). The methodology enabled me to create a unique enquiry

approach that led to the development of understandings of the problem statement. It also enabled me to dig deeper into my concern. Dadds and Hart (2001 cited in Whitehead, 2009, p.2) submit "... what genuinely matters are the purposes of practice which the research seeks to serve, and the integrity with which the practitioner-researcher makes methodological choices about ways of achieving those purposes". I explain my methodology in Chapter Three.

### **1.3.1 Self-Study research guiding my enquiry**

The focus of my enquiry is on 'the self' but it aims on improving my students' practice (study and learning skills) and my teaching. According to Fox (2008, p.3) "self-study helps us understand our pedagogical and research choices more fully". In support of this, Samaras (2011, p.10) argues that self-study draws directly from teachers' personal experiences, "which is situated within their classroom". I fully agree with her when she says that self-study teachers question the status quo of their teaching in order to improve and impact on the learning of their students, and the education field. My approach is a self-study, being a "study of one's ideas, as well as the 'not' self..." (Pithouse, Mitchell & Weber, 2009, p.44). This is a self-study research of a lecturer committed to taking 'action' to improve practice and to create opportunities for students to improve theirs. The word 'action' brings me to an approach known as 'action-research approach'. Action-research is always done by, or with insiders within an organization or community with the aim of changing or improving the situations (Wilson, 2009). Action-research seeks to bring together practice and theory in participation with others. Meyiwa (2010) in her quest to bring the power of self-study and action research enquiries to produce research products at WSU as required by the Department of Higher Education and Training, refers to the two enquiries as self-study action research. My main research question: 'How can I improve my practice in such a way that my academic values and practice concur', calls for action. My enquiry adopted a collaborative action-research as an approach to practice improvement. I write more about this approach in Chapter Three when I give a brief analysis of my methodology.

## **1.4 INTRODUCING MY PURPOSE**

My purpose emerged out of my concern for making myself a better lecturer – by improving my teaching skills and by being able to create situations wherein my students could flourish. As a result, my research study is a collaborative, action-research enquiry. The aim of this research study is to analyze and improve two aspects of my teaching style, namely: (1) shift from lecture-centred and content-oriented approach to student-centred and process-oriented (instruction dominance), and (2) posing and handling questions efficiently, and encouraging students to ask questions (lack of questioning), while at the same time I become familiar with the self-study research paradigm (or action research) within the lecture-room. It is not the aim either to test or to disprove any theory about teaching-learning practice in technology education, but rather to develop myself to become the best I may be. This is the ultimate goal. As McNiff and Whitehead (2002, p.56) put it: “We have the potential to recreate ourselves”. In the next two paragraphs I offer an orientation of my purpose.

### **1.4.1 Lack of questioning**

I believe that teachers, who are aware that students do not ask questions, tend not to prepare enough for their teaching practice. I believe another way to improve one’s practice is to expect questions from students and thus to prepare for them (questions). Questions from students instill discipline into the teachers as they have to prepare for them (questions from students). Questions keep teachers on their toes. Teachers should develop a technique for asking questions – such as when and how to ask questions. One of the ways of improving students’ learning skills is through the development of questioning behaviour. Students should not accept any information without questioning the validity and the truthfulness of the sources of the particular information. This is the way in which I learned during my years as a student. I also believe that questioning skills come with listening skills. A good student listens and asks ‘appropriate’ questions. Appropriate, in my view, implies that the questions are within the topic under discussion only. This is perhaps

because as a student I have seen some lecturers being angered by both forward-thinking questions and general questions. As a result, the situation in which students will ask anything outside the parameters of lesson content became imaginable for me. Even then I noticed that my students seemed happy with anything and everything I presented to them; they did not ask questions of the kind: Why must they learn what they are being taught? Or why must we learn it in that way and not another way round. I became worried by this lack of questioning aptitude. Lack of questioning will eventually lead to poor communication. I expect my students to seek clarity on my instructions and new concepts. I attribute this behavior to cultural background – if young people do not ask questions, black culture views it as polite or humble. Asking an elderly person too many questions may be viewed as talking back. There is also an unwillingness to challenge my expert power and status.

#### **1.4.2 Instruction dominance**

The reason(s) teaching-learning practice should not be a one-way process is well captured by Petty (1993, p.26): "If teaching were a one-way process, we would learn perfectly satisfactorily from books and videos, and teachers would just be unnecessary irritation". For me, dominating classroom or lecture-room proceedings is a way of establishing teacher's authority. Teachers know the syllabus and the subject matter; as a result they should be in control of their classrooms. Students who tell a teacher what to learn and how to learn it have never gone down well with me. However, I later realized that my students had become frustrated by not having a say in matters that impact on their learning. Meyers and Jones (1993) observe that students often feel frustrated and discouraged when they are lectured to and are denied opportunities to share their experiences. The reason(s) we as teachers tend to deny students opportunities to share their experiences has been captured by Cripps (2007, p.2), "... as leaders we are always self-sufficient, we leave no room for others to lead the learning. We deny others the opportunity to learn what they are capable of". I aim to involve my students in their own learning by adapting my teaching practice.

## 1.5 SIGNIFICANCE OF THE STUDY

Action-researchers hold a vision of a future which is better than the present, characterized by creative, life-affirming ways of living, note McNiff and Whitehead (2002). That is, through the creation of living educational theory the study will contribute to the development of teaching and learning skills at a HE institution.

**For me:** "Self-study action research is an approach that encourages people in various situations to reflect on what they do, learn from it, and thus be in full control of their own lives" writes Meyiwa (2010, p.190).

- My educational knowledge will deepen, extend and transform as I research my practice and generate my living theory;
- I must learn the best teaching(facilitative) skills suitable for the university; and
- I must learn the skills of participatory enquiry – researching with other practitioners.

**For my students:** "A self-study research allows the teacher to consider the impact he or she makes on students' learning" observes Samaras (2011, p.15).

- The study will help students to guide and monitor their own learning; and
- It is envisaged that students will develop appropriate learning and study skills that will reduce the time they take to complete their studies.

**For other teachers:** Samaras (2011) found that a self-study teacher researcher "can generate and share knowledge that can be useful to other teachers and educators" (p.4).

- Teacher-educators will be encouraged to reflect on their classroom practice and learn from it;
- The study will result in some recommendations that may be adopted by other lecturer-educators who are keen to study and improve their practice –to conduct self-study; and

- Learn from my theory an appropriate approach to teaching university students and to develop a positive attitude towards their own practical knowledge.

## **1.6 VALIDITY IN SELF-STUDY**

Validation has to do with people agreeing that what you say is believable. As a reflective beginner doing action research for the first time, I was aware of the controversy surrounding validation of action-research reports by academics. The uncertainty is whether action research should be understood as an item to be studied and spoken about, or a practice to be lived and experienced. As observed by McNiff and Whitehead (2002, p.107) "...this issue of how action research reports are judged has itself now become highly contested territory". However, Whitehead (2000 cited in McNiff and Whitehead, 2002, p.108) believes that action-research reports may be judged in terms of whether the authors show that they are offering explanations rather than only observations and descriptions of practice by living out their declared values.

In this thesis, I present my world of experience in such a way that I believe is consistent with the ways conveyed within what it means to me to learn to develop quality teaching-learning methods within my 'action' enquiries. Snow (2001) on 'Knowing What We Know' writes in Cripps (2007, p.2): "If we agreed upon procedures for transforming knowledge based on personal experiences of practice into 'public' knowledge, analogous to the way a researcher's private knowledge is made public through peer-review and publication, the advantages would be great for one, such knowledge might help us avoid drawing far-reaching conclusions about institutional practices from experimental studies carried out in rarefied settings".

To help in judging my study, I feel that I should leave the wider critical audience with these words from McNiff and Whitehead (2002, p.104) regarding exactly what it is that is validated, "what is validated are the 'I' – enquiries of people as they generate knowledge about their own work in company of others". Action-researchers explain how they are generating their own theories of practice from within their



practice. However, that process of theorising should be accepted as an ongoing dialectical engagement which is inherently volatile (McNiff & Whitehead, 2002).

### **1.7 RATIONALITY IN SELF-STUDY**

I should like one of the ways in which the critical audience judges the validity of the thesis as an original contribution to educational knowledge, to be determined through my ability to convey to the critical audience the rationality of what I am doing. The whole of my first claim in the study, the best teaching-learning practice is the one agreed upon and developed by the teacher and his or her students; it is predicated upon the belief that bringing the power of reflection to my 'actions' will improve the educational quality of my practice.

I can only hope to influence the best learning skills of my students, because it is not easily recognizable how they are learning; not even end-of-year results may be regarded as a true reflection of how students learn. I would contend therefore, that the degree of rationality runs parallel to the quality of my educational development. I am prepared to search wherever the search leads me, until I am able to produce evidence to show that I have developed and improved my practice.

### **1.8 THE DESIGN OF MY ENQUIRY**

My research design is influenced by the processes (methodology) I followed in answering the research question(s). It includes issues such as: audiences, research methodology, general aims and purpose(s), research question(s), data sources, related theories, and context. My design is not bound by a certain theory; instead it is more of a basic plan (design) "for obtaining reliable and valid answers" to my research question(s) (Suter, 2006, p.286). I needed a feasible design that would work best for me. Samaras (2011), referred to a research design as a self-study research project planner. She writes, "a self-study research-project planner helps you envision where you are headed" (p.24). A warning from her, however, is that a

planner should only be used as a guideline, because a self-study research is not a linear process.

**Table 1.1 My self-study research-project planner**

Research Question	Self-study Method	Participants	Data Sources	Implications So what?	Related theories
How do I improve my practice in such a way that my academic values and practice concur?	Collaborative action research, Narrative enquiry	Self, Students	Self's ongoing reflective journal, Students' portfolio of learning, Chats, Video tape recordings, Questionnaire, Observation checklists.	Development of teaching and learning method at a Higher Institution of Learning	Constructivism theory (De Villiers & Cronje, 2005, Good & Brophy, 2008); Grounded theory (Wilson, 2009); Living educational theory (Whitehead, 2004)

(Adapted from Samaras, 2011, p.107)

I established a reflective journal for myself as advocated by Koshy (2005, p.97) which was to keep a record of events as they happened, in order to remain truthful to my account. My students initiated a portfolio of learning in which they kept a record of their impressions of the course. They reflected every week and/or every time they had read any material related to what we were doing in the lecture-room. My enquiry was collaborative on a smaller scale. I did not rope in other colleagues from WSU and/or other universities who were also engaged in improving their teaching-learning practices. I worked with my students and one colleague as a critical friend. This is a colleague whom I trust as we work in the same department and hold the same qualifications (Magister Technologiae Degree in Education –

M.Tech Degree) in technology education. In our discussion, we agreed to meet regularly to discuss and support each other's work; he was also busy with his Ph.D. thesis (although using traditional research approach). I explain my project planner as moving between my reflexive cycles of action as I enquire into a particular event with my students, reflect on it, and come to conclusions.

Lastly, I need to mention that my design is a qualitative design as it focuses on the collection of non-numerical data. Hiles (1999) puts forward the following approaches: lived enquiry, narrative analysis, grounded theory, and participative enquiry as some of qualitative research design approaches. Table 1.2 is his summary of some qualitative approaches to research.

**Table 1.2 Some qualitative approaches to research**

Interviewing	<u>Grounded theory</u>
Semi-structured	Phenomenological
<u>Narrative</u>	inquiry
Single-case study	Heuristic inquiry
<u>Action research</u>	Diary
<u>Conversation analysis</u>	Diary-in-group
Discourse analysis	Ethno-methodology
<u>Narrative analysis</u>	Naturalistic/Field study
Protocol analysis	Lived inquiry
Interpersonal process recall	Integral inquiry
Interpretative analysis	Intuitive inquiry
IPA	Organic inquiry
Hermeneutic	Transpersonal-phenomenological
Biographical methods	inquiry
Q Methodology	Exceptional
Feminist research	experience
Cooperative inquiry	
<u>Participative inquiry</u>	
Human-inquiry groups	
Focus groups	

(Adopted from Hiles, 1999, p.3)

The underlined qualitative approaches in the table form the backbone of my thesis as can be seen in my paradigmatic theoretical framework. These are the approaches I find relevant to the context of the study.

### **1.9 PARADIGMATIC THEORETICAL FRAMEWORK OF THE ENQUIRY**

In this section, I set out the theories and paradigms that frame my enquiry. I agree with Cohen et al. (2000, p.74) when they say that a framework for planning research must be interpreted differently for different styles of research. At the start of my Ph.D., I had only a hazy view of the ontology, epistemology, and methodology of my enquiry. After much reading and studying, I managed to get to grips with these concepts, but no closer to understanding their relations to the theories that inform my practice. The work of Guba and Lincoln (1994) put things into perspective for me. They break down paradigms into three aspects: ontology, epistemology, and methodology. Paradigms are the assumptions adopted towards truth, reality, knowledge, and the way in which knowledge is to be used. According to Hiles (1999), research studies are frequently criticized for their methodology, without any consideration of the paradigm within which they fall. His point of view is that all human knowledge should follow a set of procedures that must begin with a group of assumptions, a set of beliefs, a paradigm. The next table (table 1.2) is a summary of some alternative enquiry paradigms which I adopted as my paradigmatic theoretical framework. The chart (table 1.3) is created from the work of Guba and Lincoln (1994), and Cresswell (2007). The reason I refer to it as a 'paradigmatic' theoretical framework is that I could change it based on my research topic and methodology as my enquiry unfolded (Guba & Lincoln, 1994). My paradigmatic theoretical framework enabled me (in Chapter Seven) to account for the way in which I understand knowledge by matching my chosen theories to my phenomena of interest. As Whitehead (2009b) would argue, the coherence of the theoretical framework is grounded in the idea that each individual can produce a valid explanation of their educational influence. McNiff (2002, p.16) puts it succinctly when she says, "The idea of action research refers to the theoretical framework which guides practice". I

offer a rationale in the last two chapters for the way in which these theories informed my study.

**Table 1.3 My Paradigmatic theoretical framework**

Item	Grounded theory/ Participatory paradigm	Constructivist/ Interpretive paradigm	Critical theory/ Emancipatory paradigm
Ontology: What is the nature of reality? Theory of existence	Varied. moves beyond description to generate or discover theory	Multiple constructed reality through human interaction, subjective reality	Reality is shaped by social, historical, power, economic values, persons in society
Epistemology: How do we know the world? Theory of knowledge and learning; nature of truth	The distinction between researcher and researched breaks down. Insider knowledge highly valued, the theory is generated or grounded in data	Events are understood mental process of interpretation. findings are 'created' construct meaning; personal knowledge	Findings are value-mediated; socially constructed
Methodology: how do we gain knowledge about the world; theory of method	Works with individuals on empowerment and issues that matter to them, construction of knowledge is a collaborative exercise	Hermeneutical/qualitative case studies of particular contexts; understand and interpret	Dialogic = discourse dialectic = argumentative and controversial; critical action research

(Mokhele 2011 paradigmatic theoretical framework)

My paradigmatic theoretical framework is divided into (1) teaching-learning theories (grounded, constructivist, critical) that influences the study and (2) contextualization

(methodology, ontology, epistemology) explaining how I viewed and use the theories to modify my beliefs and assumptions about teaching university students.

### **1.10 LIMITATIONS OF THE STUDY**

The study was limited by the following:

- The researcher is a lecturer at the university selected and is thus not free from subjectivity in the selection of students with whom to chat.
- The problems regarding educational research are complex in nature. That is, educational research studies complex living organisms (people in their own environment) who can actively select the environmental stimuli to which to respond.
- Human subjects are used, which means that there are legal and ethical considerations. As Cavan (1977 cited in Cohen et al., 2000, p.58) argues, "Being ethical limits the choices we can make in the pursuit of truth. Ethics say that while truth is good, respect for human dignity is better, even if, in the extreme case, the respect for human nature leaves one ignorant of human nature".
- Another problem is that of generalizability. "Many action-research approach projects are fairly unique or idiosyncratic in nature" writes (Gray, 2009, p.331).

### **1.11 DELIMITATION OF MY STUDY**

This study is based on the action research paradigm that insists on researchers being personal and reflexive in their writing in order significantly to transform their on-the-job practices. This study is therefore grounded within the practical realities of one lecturer and his students, at one campus of WSU in the school of Mathematics, Science and Technology Education (MSTE). I therefore, delimit the scope of my

inquiry by presenting my own thoughts, based on my own experiences and perceptions of teaching-learning practice.

The study is also based on the claim that, the best teaching-learning practice is the one agreed upon and developed by the teacher and his or her students. This claim is predicated upon the belief that, bringing the power of reflection to my actions will improve the educational quality of my practice and enhance the learning skills of my students. I write more about my claim to knowledge in Chapter Seven.

### **1.12 ORGANIZATION OF THE STUDY**

The ideas and questions forming the backbone of my chapter outline lead to my study, comprising seven chapters. This is how I have ordered my own enquiry – adopting the ideas and questions from (Whitehead, 1988; Whitehead, 1993; McNiff & Whitehead, 2002) as my methodological values against which to judge my methodology. According to Whitehead and McNiff (2006, p.89), researchers do this to contextualize the subject matter in each chapter.

#### **Chapter One: What did I want to improve? What was my concern?**

In this chapter I outline an introduction to the study; a statement of the problem; the objectives and significance of the study, the limitations, delimitations, theoretical influence and my context. I describe my methodology and outline my research question and aims of the study. I present my academic values as my standard of living. Lastly, I dig deeper into my concern by looking at the initial situation before my study commenced. This introductory chapter addresses the following question: Why do I do what I am doing?

## **Chapter Two: Making public a validated explanation of my educational influences**

In this chapter I give a detailed account of my educational experiences, from my secondary school teaching and learning experiences through to my experiences as a facilitator, cluster leader, and as a lecturer-educator at a FET college. I write an autobiography of learning that explains why I am committed to the values that I hold.

## **Chapter Three: Positioning my study in other educational practitioners' lived experiences**

This chapter presents literature review in line with the sub-questions. It also discusses operational definitions. I write about theories of teaching and learning that have influenced me in my professional context. Lastly, I examine the learning of past students and the reasons for this assisting in preparing lecture-room activities beneficial to both the students and the lecturer. I explain how studies conducted by other scholars on 'practice improvement' will assist me in searching for the answer(s) to the sub-question: *How can I adapt my teaching and encourage students to ask questions as I am striving towards improving my practice?*

## **Chapter Four: My collaborative action research process**

This chapter answers the question: 'Why did I choose collaborative action research?' I talk about the advantages of collaborative studies and limitations of action research, and the planning and preparations that preceded the study. I discuss the evolution of action research. I also make my methodology and ethics explicit. Lastly, I view the sample and population of the study.



## **Chapter Five: Evaluating the influence of the actions in terms of values and understandings**

Chapter Five answers the questions: 'What did I do?'; 'Why did I do this?' This chapter outlines my strategies for helping students to learn. I also talk about the way in which I addressed issues of reliability and validity, and provide a detailed explanation of the way in which my data-gathering methods enabled me to gather data in the most appropriate way.

## **Chapter Six: Modifying concerns, ideas and actions in the light of evaluations**

Chapter Six presents data analysis, and discusses the method used in making a paradigm shift from making my teaching-learning practice over-directive, to it's becoming a two-way process. I offer descriptions of how I managed to achieve this. I also provide a step-by-step explanation of the method used to improve my practice.

## **Chapter Seven: Creating my living educational theory**

In Chapter Seven, the final chapter of the study, I present my claim to knowledge; and show how my methodology contributed to practice improvement. I look back and explain step by step how I influenced or at least tried to influence my students and colleagues in a positive way. The chapter answered the question: 'How did I influence my own learning and the learning of others?' That is, I show how the quality of my work has improved, as evidence to support my claim to new knowledge. I give reasons supporting belief in my claim to knowledge.

### **1.13 DEFINITIONS OF PERTINENT TERMS AND CONCEPTS**

These are the definitions I find relevant to the context of the study:

Self-study research – this allows teachers to enact research inside their classrooms while they receive support and direction from their peers (Samaras, 2011).

“Action research” – this is an enquiry by the self into the self, undertaken in company with others acting as research participants and critical-learning partners (McNiff & Whitehead, 2002). It involves, therefore, a process of planning, acting, observing and reflecting by individuals, to solve a problematic situation.

Educational technology –this is concerned with the design and evaluation of curricula and learning experiences and with the problems of their implementation and renovation (Rowntree, 1982).

Feedback – this is the type of follow-up information given to learners after they have been engaged in a learning behaviour (Mwamwenda, 2004).

Self – evaluation - this is a set of processes which involve one in monitoring and evaluating the success and failure of one’s actions (Buchanan & Jackson, 1997).

Values – these are qualities that provide meaning and purpose. They may be used as explanatory principles for why people make the judgements they do (Briggs & Coleman, 2007).

Learning – this may be defined as the process which changes the individual’s way of responding, as a result of environmental experience (Stephens & Roderick 1971).

Theory – this is merely a research tool; it can be neither right nor wrong; it is either useful or it is not useful (Hergenhahn & Olson, 2005).

Ontology – this is the philosophical study of the nature of being, existence or reality in general, as well as the basic categories of being and their relations.

Reflective teaching – this is exemplified by teachers thinking critically about the art and science of teaching, collecting data to test ideas, and revising their practice to solve classroom problems or to improve learning (Suter, 2006).

Progressive education – this is an approach to education which encourages hands-on learning, multi-age classrooms, and mentor-apprentice relationships (Kohn, 2008).

Phenomenology – the purpose of phenomenology is to reduce individual experiences within a phenomenon to a description of the universal essence (Whitehead, 2009).

Epistemology a relational epistemology views knowledge as something that is socially constructed by embedded, embodied people who are in a relationship with each other, contend (Thayer-Bacon, 1995).

Epiphanies – these are illuminative moments of crisis or turning-point experiences (Stringer, 2004).

Interactive lecturing – this involves an increased interchange between teachers, students and the lecture content (Steinert, 1999).

#### **1.14 SUMMARY OF BACKGROUND TO THE STUDY**

This chapter attempts to answer the two questions: What do I want to improve? and What is my concern? (McNiff & Whitehead, 2002). In an effort to enhance my own development as lecturer-educator I shall work with my students and a colleague in a year-long study journey I called 'learning how to learn'. I am concerned about practicing what I preach regarding my values, in order to improve my practice and to create opportunities for my students to improve their practice. By practice improvement I refer to the betterment of teaching and learning skills at a higher institution of learning. The study is epistemologically and methodologically distinct in that it is based on my values as an educator-lecturer and ideas about what constitutes teaching-learning educational practice. I shall use my values as standards of judgement by which to judge my 'actions' (lived experiences) and to monitor our progress.

Through descriptions and explanations of my educational practice, this chapter has outlined the way in which a process of action and reflection will be conducted. I discussed several methods of establishing control in action research, such as: validation, rationality, self-study research as a technique for collecting data, and methodological inventiveness. I also described the experiences that led to my concern, and the possibilities that I imagined to be holding the key to practice

improvement. In the next chapter I write an autobiography of learning that explains why I am committed to the values that I hold.

## **CHAPTER TWO**

### **MAKING PUBLIC A VALIDATED EXPLANATION OF MY EDUCATIONAL INFLUENCES**

#### **2 INTROUDCTION**

The main idea of this chapter was to look back and reflect on my becoming. I am talking about improving my practice to become a better lecturer-educator, but who am I? In this chapter I attempted to answer this question by looking at how I tried to get in touch with myself and to be positive towards myself. Self-study research is personal situated inquiry (Samaras, 2011); we are encouraged as self-study teacher-researchers to explore who we are as educator-lecturers. I have done this by looking at the role other people (previous colleagues and learners) have played in my 'upbringing' as a teacher. According to Samaras (2011) "when teachers begin to look at their education-related life history experiences it helps them gain insight into their thinking about learning" (p.96). I look at the role played by my previous colleagues and learners in influencing my learning. I have done this by telling my story – the story that began during my first years of teaching. I believe that, unless I tell my story about how I developed my academic values, my thesis shall not "represent a truthful and sincere account" (Whitehead & McNiff, 2006, p.105).

Through the dialogue with TES members, I was encouraged to 'tap' into my story and to search for the defining moments of my teaching career; that is, to revisit a series of events that led to the development of my beliefs and academic values.

#### **2.1 MY EARLIER THOUGHTS ABOUT PERSONAL DEVELOPMENT**

My earlier thoughts about personal development are as follows: I thought, if I have reflected on my being among others and if my goal is to assist others to learn, then I would be on my way to becoming a good teacher. This is how I reflected on my own development as a teacher: I should open myself to 'change', so that I would be able to 'learn', and in the process I would experience 'development'. Put differently, I would not develop and learn if I denied myself the opportunity to become an agent

for change. I believe the three concepts: change, develop, and learn are keys to answering the question: How will I explain my educational influences in learning? (Whitehead & McNiff, 2006, p.89). I deny myself the opportunity to become an agent of change when I do not offer suggestions and allow others to do their own problem-solving. This means, showing my learners how to acquire relevant learning resources, and my colleagues how to recognize and define our common goals. I need to help them to believe in me and vice versa. I argue that only in a relationship of mutual understanding are common goals shared and realized.

## **2.2 MY STORY – WHO I AM?**

Here, I look at the way in which my academic values developed, because they form the basis of the question: 'Who am I?', rephrased slightly as: 'Who I am?' so that it can make sense to me. I understand the question as meaning: 'How do I come to be here today?' I answer the question by telling my story. The significance of stories and values is perhaps well captured in the poem by Okri (1996):

...Stories are the secret reservoir of values:

Change stories individuals or nations live by

And tell them, and you change the individuals

and nations. (p.21)

Behind my story lies a rich history about my values; in turn, my values form the backbone of my being. I carry my values to work, to church, to the sports-field, and other social places. However, the question that has been bothering me since I started putting pen to paper is: how did I develop these values? My values are ontological (see 1.2.5). According to Whitehead and McNiff (2006), ontology not only influences the way in which action-researchers perceive themselves in relation to their environment, but also influences how they perceive themselves in relation to other people. What this means is that I should offer "descriptions and explanations" (Whitehead & McNiff, 2006, p.23) for how my earlier colleagues and I, including my

learners, were involved in mutual relationships of influence. Therefore, I say something about people who were there during my developmental stage – people who shaped my career and helped me endure. As with Riding (2008), I am exploring the way in which the 'I' has been influenced by the 'We'. 'I' cannot exist without 'We' in educational relationship.

I found it more appropriate to view the question 'Who I am?' from the angle of my values, experiences, beliefs, and ways of working and living with others, as opposed to self-identity. Focusing too much on self-identity could have derailed me from writing my story, being guided by Ubuntu values (humanity). In my writing of my story I chose to be guided by the distinguishing quality of Ubuntu – "I am because we are" (Phillips, 2011, p.38). What this means to me is that I should always embrace the significant influence others have had on me. This is evident in my narratives which included their 'voices'. I further responded to the question by remembering the journey of my educational life from the time I started teaching up to my present employment as lecturer-educator. In one of our correspondences with Jack Whitehead on 11<sup>th</sup> November 2012, he encouraged me to include in my thesis the narratives of my educational life. He wrote:

*'These narratives of learning almost always include early and more recent experiences that explain why the researcher is so committed to the values they hold'.*

Engaging with this question helped me to understand who I am as a lecturer-educator and the way in which my past teaching and learning experiences might have influenced what I am doing with my university students. I am now teaching student teachers at the university. The main practical idea about my work is to create opportunities for the student teachers to practice and learn the best teaching and learning methods.

## **2.3 MY EDUCATION-RELATED LIFE HISTORY**

My education-related life history involves my work as a cluster leader, educator, and a facilitator. All these roles identify how I live my personal and academic life. In the next section I discuss some of the significant events in my past that led to my becoming the lecturer-educator I am today. I used photos and narratives from my diaries to make connections with both the past and the present. I started writing and keeping diaries from as far back as I could remember. At first I wrote on the calendar and later realized that the space on the calendar was too small to write sufficient information. I then decided to keep a diary and read it at the end of the year. It was really gratifying to look back and laugh or frown at my successes and failures of the past year. The significance of the diaries is that they give one the exact date; I still keep diaries. The photos were taken every-time I arrived at a new school, and whenever there was an important function taking place in the school. The significance of photos is best captured by Riding (2008, p.8) "I think it is important for the reader to be able to picture the writer so that they can begin to connect with him or her". I used images solely to offer explanations and guidance on the way in which I arrived at my interpretations. Images also authenticate my work.

### **2.3.1 My role as a novice teacher**

Here, my story involves the three schools that had dominated my career to date. I am not allowed to mention their names and therefore refer to them in this text only as School A, School B, and School C. The names of teachers and learners have also been altered to protect their identities.

#### **School A**

School A was situated in the affluent suburb of Laudium in Pretoria. It was a multi-racial high school. As a novice teacher I was allocated lower grades (Grades 8 and 9) at that time standards 6 and 7. Unfortunately, an Electronics subject teacher left within two months of my appointment; with my technical education qualification I was required to take over his Grade 12 class – formerly standard 10. Immediately,



my educational life became a nightmare – those big boys (only one learner was a girl) found it difficult to accept me. My self-image and self-confidence were significantly affected during my first year of teaching. I experienced the fullness of life in a multi-racial school; my higher institution never prepared me for that kind of a teaching situation. I learned that I, as a stranger to many of my learners (70% were Asians, and 30% Blacks and Coloureds), had to be robust – not shaken and despairing.



(Figure 2.1: Image of me and the grade 8 class of 1997: Photo, Paul Mokhele)

I really liked to take charge of my classroom proceedings. It was hard for me to let learners move around and share ideas with me or among themselves; ideas that would guide their learning. In my first year of teaching I met a group of innovative grade 8 learners. One day, Natasha (a girl learner) during the announcement of a General Science subject project requested to be given a chance to do her own project – meaning that I should not suggest to them the name of the project. I allowed the whole class to follow suit, although I was not happy. I guess I felt powerless – my expert power was taken away from me. The results were wonderful

pieces of work from the learners. I soon learned that learners need to be given the opportunity to be 'responsible' for certain areas of their learning. True learning should be a shared responsibility.

I believe that the treatment from my Asian colleagues and learners influenced who I am, my beliefs, values and ways of living and working. For instance, I felt isolated, something that impacted on my performance. I could not perform at my peak in a depressed frame of mind. My head of Physical Science department, Mr Ismail, bade me farewell at the end of my one-year contract with these words: 'You are going to make a good teacher'. These words encouraged me to remain in my chosen career no matter that I was temporarily unemployed.

### **School B**

In School B I experienced an open environment that encouraged me to appreciate who I was. I believe that in that environment I managed to focus my attention on the positive side of my educational life. This was a Black high school situated in a township. I arrived in April of 1998; already there were many curricular and extramural activities taking place. I had to adjust quickly.



(Figure 2.2: Image of me and the grade 8 class of 1998: Photo, Paul Mokhele)

My sturdiness turned me into a very strict teacher. I remember this incident: Ms Grace (an English teacher) passed my classroom one morning and although I was

outside, my learners were quiet and doing their class work. She approached me and enquired, 'Mr Mokhele, tell me, how do you maintain order in your classroom?' Look, my learners are always noisy and jumping around and sometimes even shout on top of their voices'. I cannot honestly recall my response except that inside I felt joy. I was happy because it meant to me (at that time) that I had the good qualities of a classroom manager. It took me three to four years to realize that my learners were afraid of me. The realization terrified me, – how many questions went unanswered because my learners were afraid to ask them. I do not blame myself; I was introduced to teaching in this way – never share a smile with learners, they will take advantage of that and try to befriend you.

### **School C**

Three years into my teaching career, I met Mr Mandla of School C whom I referred to as a transformational leader for the simple reason that he made me feel good about being a teacher. As the principal of the school he encouraged me to enrol for a B-Tech Degree – a part-time course at Tshwane University of Technology (TUT). He also made it a point that I leave the school early to catch a bus for my afternoon lectures. Of course, leaving the school earlier than everyone else, made me feel irresponsible. I found comfort in his words: 'It is your responsibility as a young teacher to develop yourself professionally'. School C was also a Black high school situated in a township. Unfortunately, the culture of teaching and learning was lacking at the school – teachers and learners were not dedicated to their work. This is what I wrote in my dusty, old 1999 diary:

*There is too much of a blame game in this school. The school management team (SMT) is not enforcing the school policy – teachers do not sign the time register and learners leave anytime (30-04-1999).*

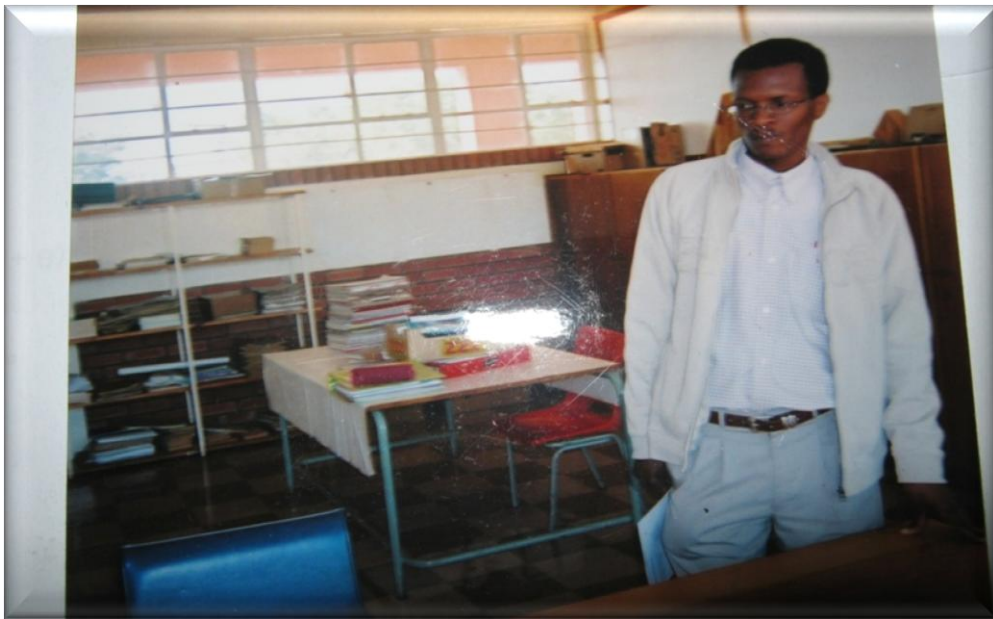
Four months into the job, I wanted to resign. This is how I reflected in my diary:

*Still nothing is running in a smooth way. I feel bored and ashamed of this wonderful time being wasted outside the classes (05-05-1999).*

This situation continued until the school recess. I came back full of hope that things would normalize. Unfortunately, that was not to be, as is highlighted by my reflection:

*This is the second day after the school holiday, and learners are still not coming to school (20-07-1999).*

*Learners left early at 13:45 instead of 14:10 the normal knock off time. Half of the teachers did not come to work (02-08-1999).*



(Figure 2.3: Image of me, 1999 in an empty staff-room: Photo, Paul Mokhele)

I chose not to behave like most of my colleagues and therefore I continued teaching under those difficult conditions. One day after the lesson, Nancy (a girl learner) came to me and said: 'Thank you, Mr Mokhele, for teaching us, you are the only one who came to the classroom today'. My concerns were shared by some staff members in particular Mr Mike, the deputy school principal. He commented to the St Mary's Developmental Staff Group (DSG) Outreach:

*'It seems as if people wanted change, but when change came, people were not ready. Therefore, I want to challenge all staff to be exemplary in doing whatever is expected of them; be it class attendance arriving on time, respect, honesty and meeting the client's expectations' (\_-10-2000).*

St Mary's DSG Outreach was a non-governmental body training and educating the management team plus the school governing body on the Whole School Development. At this school I learned to value education and teamwork. I led many teams, including a sports team. My team mates, including learner team captains would not leave my decisions unchallenged, until I decided to allow various role players to be 'responsible' for their respective roles. I believe that I was beginning to adopt 'responsibility' as one of my academic values.

### **2.3.2 My role as facilitator**

#### **Workshop attendee**

I took a leading role in the professional development of colleagues when I was appointed on contract by the Department of Basic Education and UNISA as the new curriculum facilitator between the years 2002 and 2006. In June 2002, before I assumed my duties, I attended a facilitation-capacity development workshop facilitated by VISTA University. At the Technikon my Teaching Practice lecturer, Mr Smith, encouraged myself, not to try to copy someone else's teaching style; emphasizing that someone else's teaching style could make me insecure and lead to problems. I learned during the facilitation-development training workshop that nobody could be me better than I could. I immediately decided to develop my own unique, teaching and facilitative style. At the end of a 5-day training workshop we were asked to reflect on this question: 'Where are you in your journey to becoming the best facilitator you can be?' This is what I reflected in my diary:

*'I learned about the techniques of being sensitive and power sharing. I am half way where I want to be' (26-06-2002).*

#### **Workshop facilitator**

Here, I was alone in front of teachers who were not happy to be where they were at that moment. They felt that the department of education interfered with their school holiday – it was 29 June 2002. I attempted and succeeded in making them feel welcome, accepted, and at ease with our tutorial lessons. I ensured that my



colleagues (workshop participants) learned from me by sharing newly acquired information openly. This was after I discovered that the more I put emphasis on my expert knowledge (know-all attitude), the more I make my lessons non-interactive. As a facilitator I was encouraged to share power with my participants by welcoming what they brought to the workshop and then developing their ideas further. Theresa Grimm once said: 'Without teacher appreciation there can't be any student progress. I have learned to be 'fair' enough to appreciate the little knowledge my learners bring to the classroom. Henceforth, I made fairness one of my academic and life values.

### **Life at an FET college**

It was a challenge for me to bring the two ways of imparting knowledge together: facilitating and teaching. Every-time I met my students I would resort to my autocratic (telling) teaching style. The next picture was taken in 2009 at an FET college where I was appointed as a lecturer after resigning from School C. The picture shows my position of power (expert power) – standing up and giving orders regarding what should be done. My posture (physical stance) could also indicate that I was acting superior.



(Figure 2.4: Image of me and the FET college students, 2009: Photo, Paul Mokhele)

It took me some time to realize that my students come to the classroom with their own power bases. They have knowledge from their peers or parents as well as from reading magazines and books on the subject. Being an 'autocratic' lecturer – providing direction all the time to students, made life difficult for me and I guess for my students as well. There was a great deal of confrontation with students. On 16 July 2009, I reflected in my diary:

*'Students wrote my first test – poor performance; others even refuse to be tested'.*

The procedure was that during the official monthly tests all question papers had to be placed in the pigeon holes the day before the subject was written. I followed the procedure and the following day, question papers were missing:

*'My Level 3 and 4 question papers for Electrical System and Construction (ESC) subject are missing. I have to re-schedule the test. First, batteries were stolen from my store room and now this' (23-07-2009).*

Earlier on I was given the money by the financial clerk to buy new batteries for my next project and somehow they disappeared from my store room. The following year (in 2010), our HOD Mr Peter, reshuffled the time-table and our venues without prior discussion with the lecturers. As Engineering department staff members, we were not happy:

*'According to the new work distribution I have been removed from teaching ESC subject, it means I must leave my workshop. No reason was given to me' (12-01-2010).*

Then in the following weeks we requested a meeting with the HOD – a departmental meeting. The HOD agreed to the meeting but did not arrive to address our concerns:

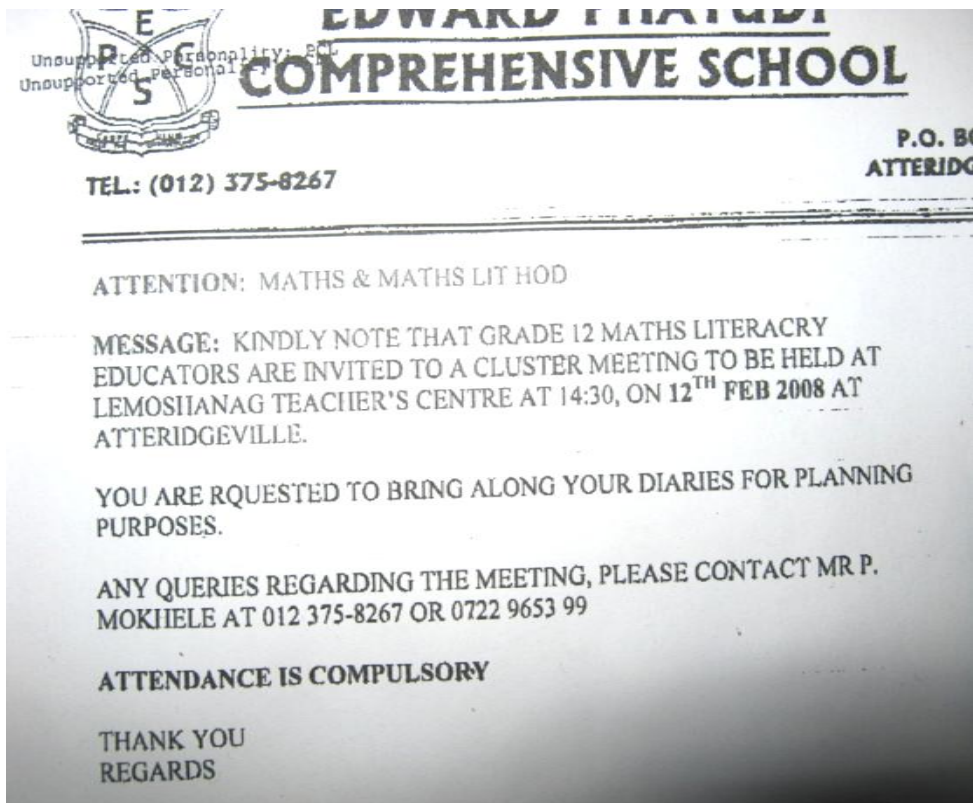
*'An Engineering department meeting was held at 7:30 a.m. Fruitless gathering, members were not happy at all. The HOD was not around to address most of the issues'.*

Obviously I felt he was not responsible enough. He was supposed to have called a meeting earlier to announce his future plans, as required by the college policy.

### **2.3.3 My cluster leadership role**

In 2006 I was elected a cluster leader for Mathematical Literacy. A cluster is formed by a group of educators from different schools teaching the same subject. The aim of clusters is to promote best practice and excellence in education. Gryffenberg (2006, p.3) puts it succinctly: "the purpose of clusters is to provide opportunities for educators to cross-pollinate information and best practice". The concept of clusters is defined from the 'critical friends' concept. It was during this period that I came to value the work done by critical friends – asking provocative questions that helped me to define my expectations and intentions. The intention was to improve our own skills of teaching, assessing, reporting, planning and executing learning programmes. Their provocative questions instilled in me an 'open-mindedness' value – stop being defensive, instead, open up to new ideas. I believed back then that my integrity as a teacher-cluster leader could be sustained by my willingness to be open to informed criticism. My role as a cluster leader involved chairing the cluster meeting, setting dates for the cluster meetings, and completion of minutes for every meeting, forwarding these to the district facilitator. There was always a confrontation with regard to setting the dates of the next meetings. The following notice I sent out to teachers in 2008 bears testimony:





(Figure 2.5: Notice of a cluster meeting, February, 2008)

The message was clear and to the point. However, I feel that I should have been more polite and should have phoned various heads of department and agreed with them on a date.

## 2.4 VALUES I UPHOLD

In the above sections I presented examples of leadership roles that I have held in my educational life and the way in which they have been influential in my own development. I believe that the values I hold are based on the various leadership roles and it is through them I came to realize the importance of these values in education. I learned to internalize values that bring improvement to my practice. I have learned to go through life with an open mind; not to be sad when others criticize me. By means of their criticisms, I can make my practice better. Averbury (1905) once said that we all know how to make ourselves miserable – take offence easily. I am no longer living a miserable life. Open-minded behaviour leads to open-ended thinking which accepts shared responsibility and eventually grants peace of

mind (Grant, 2005). To have peace of mind, I respond positively to constructive criticism.

I have learned that fairness comes with objectivity – the ability to consider contextual factors before arriving at any decision. I have learned this value also from my parents. They always encouraged me to avoid taking hasty and irrational decisions, in order for me to avoid regrets. As a result, during my educational life journey I became mindful and cautious about what I learned from others. Averbury (1905) advises us to be mindful of the things we learn from others. According to him, what we teach ourselves must be more useful than what we learn from others. This, of course, is not to demean the significant influence and impact others have had on who I am. I took a decision to discard sloppiness and to learn well. Lastly, to me the value of fairness means that I should be consistent, transparent, and inclusive. That is, I am always prepared to share support and information equally among my students.

To me the value of responsibility translated to my being prepared always to try new ways of working. This value has been my driving force. My ex-school principal at School C lived out this value. He was able to instill in me a sense of responsibility. I have learned to be sufficiently responsible to respect my students' autonomy. Monitoring my learners' learning can no longer depend on the assignments, projects, and test scores only: I should consider indicators such as learners giving their views on the task; also, I should take into account their questions.

## **2.5 MY STORY CONCLUDES**

In this chapter I described some of my background experiences that have led to my deep commitment to fairness, responsibility and open-minded values. These values have become the "bedrock" (Harrison, 2012, p.4) of my personal life; they influence the way I teach. I argue that I developed these values, acquiring new knowledge and additional skills to address my professional needs, from my previous colleagues and learners. Some were exceptional – they managed to build commitment and confidence in me. That was when I started thinking deeply and sincerely about my

academic values. During that time I was criticised a great deal by both the learners and my colleagues. I always carry in the back of my mind this basic guiding principle from my mother: 'avoid confrontation by keeping quiet, my son'. I 'quietly' went through that developmental stage by listening more than talking back, especially to my seniors. This resulted in my being able to accept advice, creating non-threatening working relations. I know that, without question, I was keen to improve my practice. In the process, I developed certain values which remain with me today. I like McNiff's (2002, p.22) explanation of values: "values are what drives your life and work, so you can be clear about what you are doing and why you are doing it".

I have realized that values which I hold, relating to education are influenced by my close relationships with other people. I argue that without my close relationships with my previous learners and colleagues, I could not have gained further understanding of why certain things are as they are in my practice. To sum up, this chapter attempts to answer the question: 'Who am I?' by looking at my autobiography of learning that explains why I am committed to the values I hold. Riding (2008, p.13) asks these questions about writing personalised and passionate accounts: "In 100 years' time, if a spaceman looked over our library shelves at the writing on education, will they summarize from it that was about people? Or will they think that it was about experiments, and objects and other things...?" I believe that values such as fairness, open-mindedness, and responsibility, are crucial to improving teaching and learning at university. I now wish to see, therefore, whether I can live out those values when I work with students. I also investigate (in Chapter Three) the theories of teaching and learning, before selecting a possibility on which to act.

## **CHAPTER THREE**

### **POSITIONING MY STUDY IN OTHER EDUCATIONAL PRACTITIONERS' LIVED EXPERIENCES**

#### **3 INTRODUCTION**

Literature review is a creative way of organizing what has been written on a topic by scholars and researchers. As Mills (2003 cited in Suter, 2006, p.409) observes, "taking time to immerse yourself in the literature allows you to reflect on your own problems through someone else's lens". The purpose of a literature review is therefore to establish the viability of the research topic. By the end of the literature review, the researcher should have identified: (1) what other respected sources have written about the topic, and (2) how the planned strategy, technique, or approach for the project shows promise for success, contends Ross-Fisher (2008).

I strongly believe in collaboration and learning from the work of other educational practitioners, therefore, I reviewed the research literature on self-improvement studies before I began my study. Ross-Fisher (2008, p.3) says that, "many times, reviewing the work of others also provides insight regarding what additional avenues could be explored". There is rich variety of approaches to self-improvement studies such as 'self-study' for teachers and others involved in education, with the intention of improving their teaching-learning practices or solving significant problems they experience in their professional life. The dearth of 'self-study' literature in South Africa education restricted me on reviewing overseas studies on how to improve teaching-learning practice in the classroom. I searched particularly for ideas in studies that pursue (1) self-directed learning by adult students, and (2) students and teachers as co-researchers, to inform my approach to 'self-study' inquiry. Their different approaches to solving problematic classroom situations should inform my methodology. Knowledge of 'self-study' methodology and its applications is therefore necessary. The literature I find suitable for my study is methodological literature. According to Dick (1997), unlike content methodology, its action involves taking into account the literature on bringing about change in the situation which I am researching. Literature review answers the question: "How is what you plan to do

similar or different from the efforts of others?” (Riel, 2010, p.5). I reviewed the literature of those scholars who were looking at improving their teaching-learning practices.

As part of my enquiry, I am hoping to determine which essential teaching skills and learning methods are suitable for both students and lecturers in technology education practice. As observe by Costello (2003, p.30), in reviewing the relevant literature, an important aim is to enable the researcher to offer answers to key questions such as: “When authors tell me what is happening (or should happen) in, for example, a classroom, does this coincide with own experience? If yes, why? If no, why not?” I therefore set out to explore theories of learning, teaching methods, and the essential teaching skills to inform my approach to teaching at the university.

### **3.1 STUDIES ON SELF-IMPROVEMENT**

The practitioners who have improved their practice using collaborative action research include Lloyd (2003), Grande (2006) and Cripps (2007). There are of course others, but these are the main researchers contributing to this study because they employed strategies that, if used correctly, I may be able to employ in creating a lecture-room climate conducive to practice improvement. A brief account of their work is discussed and it is shown how they contribute to the study. However, I must indicate that self-study inquiry approach is still embryonic among the South African lecturer educators; there has been a recent interest and development of self-reflexive pedagogic among academic staff members from three universities (see section 4.1.1). They are not encouraged during professional training workshops to look critically at themselves to see whether they are not a barrier to the effectiveness of their students learning. One of the reasons to this failure could be attributed to the fact that teachers had to keep up with the pace curriculum changes. For example, in my recent study on *challenges of curriculum implementation in South African rural schools*, many teachers have considered “the pace of change over the past ten years to have been too rapid, and have queried the usefulness of some of the reforms” (Mokhele, 2012, pp.47-66). Studies on self-

improvement provided strategies on how to search answer(s) to the sub-question: *How can I adapt my teaching and encourage students to ask questions as I am striving towards improving my practice?* As Koshy (2005, p.43) contends, reading about what others have discovered about your topic can enhance your understanding of the issues associated with the topic, and can help you to sharpen the focus of your study.

### **3.1.1 Grande's (2006) dialogue with students**

The first source I examined was the article written by Grande (2006): *"From a closed mind to an open mind through an action research project – How do I improve my practice?"* Her greatest challenge was being able to facilitate students' learning by and for themselves. Grande decided to focus on the following three areas: change of attitude, environment and subject tasks, to create conditions conducive to teaching and learning. She also encouraged an open dialogue: "The significance of the learning is that it's important for students and teacher to be honest, to talk and listen to each other" (Grande, 2006, p.42). She used Whitehead and McNiff's (2006) ten questions to structure her thinking. Interestingly, these questions turned out to be her method of enquiry. I was tempted to use questions, ideas and actions that distinguish an action-reflection cycle by (Whitehead, 1988; Whitehead, 1993; McNiff & Whitehead, 2002) as a method of inquiry and to introduce the purpose of my study. Their ideas, actions and questions informed my methodological inventiveness, discussed in chapter one. The reason Grande chose to use this methodology is that as action-researchers we need to give space to our feelings and emotions. She expressed this succinctly as follows: "When you connect action and participation to research, you can't participate only with the intellectual and cognitive part of yourselves. Feelings and the emotional demands more space than in conventional, distance and non-participatory research" (Grande, 2006, p.18).

Unlike her, using an action-research circle to explain the situation at the beginning of her study, I used an ongoing action-research reflection *cycle* to explain how the action was initiated. In this way I was able to let events happen "one after the other

in a certain order” (Chambers-MacMillan, 1996, p.102). Using a *circle* might have encouraged my actions and events in this research study to move “round and round” (Chambers-MacMillan, 1996, p.70) in a closed loop instead of searching for wherever the search leads me. To avoid vagueness in her ideas on improving her practice Grande focused her research project on facilitating change in attitudes and subject-related tasks, and interpersonal relationships. I exited her study with this question: What is the focus of my study? That is, I found encouragement in her study to search for sub-themes and concepts on which to focus my study.

### **3.1.2 Lloyd 's (2003) mentoring role to students**

Lloyd (2003), reflecting on his article entitled: *"How do I/we help the students in Key Stage 4 improve their learning if they are in danger of underperforming?"* questioned that in his enquiry plan, 'his' influence was not fully identified, only the procedures and techniques for helping learners. He feels that he ignored those conversations with his learners that demonstrated his educational influence in the situation. To improve the learning of his learners, he involved them in their assessment. Lloyd (2003, p.5) quotes Megahy (1995): “We must ensure that students are given opportunities to be involved in their own assessment...” Before any assessment could take place, learner-participants were interviewed in order for them to clarify their needs within the present situation.

A key aspect of Lloyd's approach with his learners was mutual respect. Through developing his 'mentoring role' with his learners, he was able to encourage them to take part in their learning. What I find interesting about Lloyd's study is the encouragement for teachers to relax the legitimate power they have and begin to treat students as persons with individual and unique qualities. The concept of action research being cyclic in nature is also evident in his study. His initial methods of educational enquiry outlined specific areas for presentation of his enquiry. His methodology includes establishing a journal enquiry in which to provide a record enquiry of events and give a primary source of information during the later write-up. However, when writing this up he found those headings too rigid. The identification

of an area of concern, the action taken, followed by the review and appropriate new action took place as a continuous cycle; the method of inquiry that proved successful only became evident or clear during the course of his enquiry.

An important lesson for me was that I should never forget the academic as well as the social background of my students. The student-boys Lloyd was helping were exposed to various elements of society. "Having these concerns overshadowing their school work, I tried to deal with the boys as-sympathetically as possible, taking into account the importance of their education at this time" (Lloyd, 2003, p.11). Lloyd's method of data analysis included narrative extracts from the completed proformas by the tutor to the parents of his learners. He then paralleled the extracts to the themes identified by the school's Learning Support Coordinator. I found encouragement in her data-analysis approach to adopt a narrative enquiry as a method of my data-analysis.

### **3.1.3 Cripps's (2007) educational relationship with students**

Another interesting study which was conducted by Cripps (2007) entitled, "*How do I improve my educational relationship with both adults and children?*" explains that the most effective learning takes place in educational relationships which exist in a learning community. Her understanding of an educational relationship is one built on mutual value and respect, where a true exchange of understanding takes place. Through the creation of an environment conducive to learning she managed to achieve her aim of encouraging her learners to engage with and be excited by asking questions about the world; and to be skilled enough to be able to communicate their understandings in the most appropriate way. How she started her research study was to create the learning environment founded on a positive educational relationship which best supports the values she holds to be crucial, as well as modeling the way in which she learns them. Mokhele (2006, p.149) observes that, "positive teacher-learner relationships have the potential to create a conducive learning environment in the classroom and will determine whether or not a learner can benefit from the teaching-learning situation". Her (Cripps) thought of first



creating a positive learning environment speaks directly to my study; as I strive to assist my students in developing best learning and study skills, I should also think about ways of creating an environment conducive to the realization of this important goal. I found encouragement in her study to create a learning environment where each student respects the learning of others and makes space for it. Her method of enquiry involved using an audio-visual camera to record a video clip of her classroom situation, working collaboratively to develop new understanding of educational relationships. I also used an audio-visual camera as part of my data-collection instrument.

### **3.1.4 Summary of the studies on self-improvement**

Self-improvement studies helped me (1) to understand methods that could generate valid and reliable data, or methods that proved successful, and (2) how I could transform my situation. For me to be able to improve my practice my study had to focus on: playing a mentoring role (Lloyd, 2003), developing sound educational relationships (Cripps, 2007), and opening an effective dialogue with students (Grande, 2006). These roles may be achieved by helping my students to understand more fully and to learn more comprehensively from our day-to-day encounters. My success depended on the way in which I played the following roles: teacher and coach; inspirer, adviser, and listener.

Their views (scholars) informed my approach to teaching-learning. "... there are a number of teaching strategies that have proven successful in facilitating deep, lasting student learning. The key is to know when and how to apply these strategies", says Suskie (2010). In summary, each one of them found a unique way of approaching teaching-learning in his or her classroom. For instance, Grande (2006) opted for an honest dialogue with her learners; while Cripps (2007) created a learning environment founded on positive educational relationships which best supported the values she holds; and Lloyd (2003) released the legitimate power he had and began to treat learners as persons with individual and unique qualities. Their ideas informed my approach to teaching-learning. I was able to empower my

students to engage openly and honestly in lecture-room discussions. I shall return to this in Chapter Seven when I write about my claim to educational knowledge.

### **3.2 TEACHING AND LEARNING PROCESSES**

The two concepts – teaching and learning, must be defined in order for their meaning and context in this thesis to be understood. Teaching should be seen as “enabling learning” Watkinson (2006, p.6). This is an important definition of an educator. Regardless of the institution of teaching and learning, the educator must adopt and link to his or her teaching style – that of being a facilitator of learning. As Galbraith (1998, p.4) expresses, “good teaching should be a balance of understanding oneself as a teacher, and knowing how to develop learning encounters that are meaningful and useful in the promotion of personal growth”.

According to Abbott (1996 cited in Watkinson, 2006, p.18) learning is that reflective activity which enables the learner to draw upon previous experience, to understand and evaluate the present, so as to shape future action and to formulate new knowledge. The definition of learning emphasized the idea that my research participants (students) should establish and maintain a reflective portfolio of learning.

#### **3.2.1 The common theories of teaching**

Theories of teaching are directly linked to different perspectives teachers hold about teaching-learning practices. These different theories of teaching are either hierarchical or developmental with the first two (below) being additive models, and the third systematic. The theories are:

- Learning is primarily a direct result of individual differences between students.
- Learning is primarily the result of appropriate teaching.

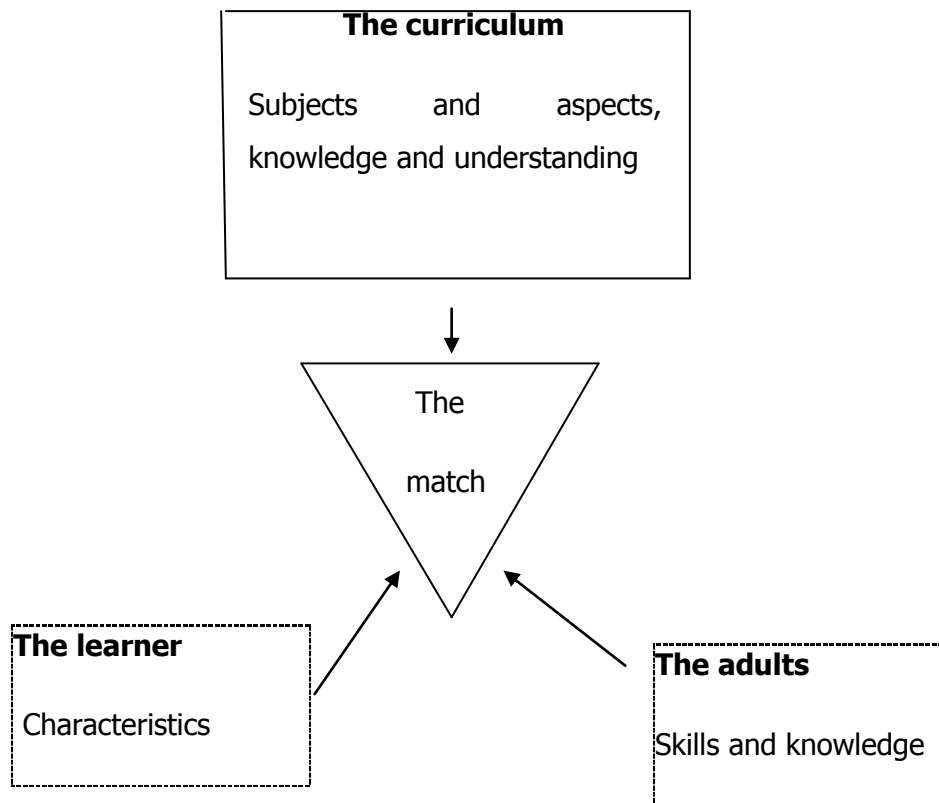
- Learning is the result of students' learning-focused activities which are engaged in by students as a result of their own perceptions and inputs and of the total teaching context (Biggs, 1999, p.61).

Biggs (1999) argues that it is what students do to achieve understanding that is important, not what teachers do. According to him, teacher-focused strategies are transmission theories of teaching arising from assumptions about the nature of institutional learning.

### **3.2.1.1 The teaching process**

According to Watkinson (2006), the best teaching process recognizes learners as partners in the whole process of teaching and learning. In his words: "relationships between the learner and the teacher are important" (p.8). He further proposes a teaching process that encouraged teachers to value the needs, strengths and reactions of learners, so as to find an appropriate 'match' between classroom activities and the material the teacher wants learners to learn (see figure 2.1). The teaching process should therefore find a match between the content or curriculum, the teacher and the learners. Steinert (1999) refers to that type of teaching method as an interactive lecturing, which involves increased interchange between teachers, students and the subject matter or lecture content.

**Figure 3.1 The match between the curriculum, the learner and the adults in the classroom**

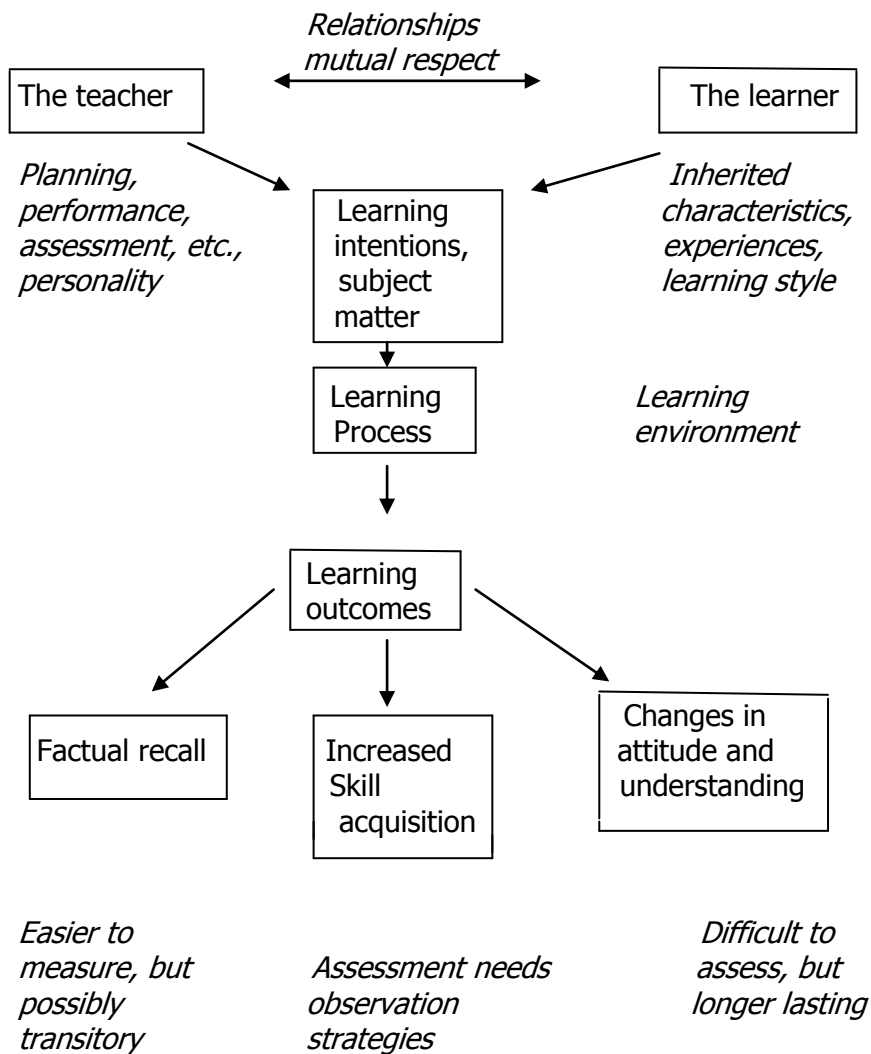


(Adopted from Watkinson 2006, p.9)

Watkinson (2006, p.9) submits that "... what goes on in the classroom for the pupil learner depends on the match between what the teacher wants him or her to learn (the curriculum, the learning style and characteristics of the pupil) and the activities of the adults teaching and supporting the learning". According to him, if any of these are inappropriate, "then something goes wrong" (p.9). Apps (1981 cited in Galbraith, 1998, p.5) discovered that effective teachers showed an interest in students, possessed good personalities, had an interest in the subject matter, had the ability to make the subject interesting, and were objective in presenting to and in dealing with students.

### 3.2.1.2 The learning process

**Figure 3.2 The process/product pathways in a school**



(Adopted from Watkinson, 2006, p.20)

The figure in the previous page demonstrates the stages at which children are able to accomplish various tasks. These stages, according to Watkinson (2006, p.19), are what researchers, medical practitioners and teachers call "norms". "When tackling a new area of learning we 'play around' with the subject, just as does a small child" writes Watkinson (2006, p.20). He further argued that social or emotional upsets out of school affect the pupil's capacity to learn in school. Something that is not clear, however, is when we may say that learning has taken place – (the final product) this did not come across clearly in his model.

### **3.3 TEACHING AND LEARNING AND PROGRESSIVE EDUCATION APPROACH**

Something caught my attention during the literature review process: progressive education. The reason I find progressive education appealing as an approach to teaching and learning appealing, is that it encourages progressive teachers to live the values they fully aspire to in their teaching practice. Kohn (2008, p.2) observes that, "... progressive educators don't merely say they endorse ideas like 'love of learning' or 'a sense of community'. They're willing to put these values into practice even if doing so requires them to up-end traditions". I believe that everyone who aspires to improve his practice should ask himself this question: 'How do I improve what I am doing?' Whitehead (2010) should adopt a progressive-education approach. I came to realize this after repeatedly asking myself this question: 'What kind of student teachers am I producing?' I am more concerned about producing student teachers of whom society will be proud of than merely giving them certificates. As Kohn (2008, p.2) contends, "to a progressive teacher, learning is a process, more a journey than a destination". As I embark on this journey – improvement of teaching-learning skills, I should guard against creating students who depend on me.

Proponents of progressive education normally compare it with traditional education. The term progressive was engaged so as to distinguish education from the traditional curriculum of the 19<sup>th</sup> century, which was rooted in classical preparation for the university, and strongly differentiated by socio-economic levels. Traditional education encourages learners to memorize endless facts and formulas from a "dreary academic curriculum remote from their own youthful interests" (Hampel, 2008, p.1). Progressive education by contrast, encourages education to be learner-centred; learners being afforded an opportunity to become creative. According to Robert (1991, p.1), its principles involve two essential elements: "(1) respect for diversity, meaning that each individual should be recognized for his or her own abilities, interests, ideas, needs, and cultural identity, and (2) the development of critical, socially-engaged intelligence, which enables individuals to understand and participate effectively in the affairs of their community, in a collaborative effort to

achieve a common good". It is clear that progressive education does not only support constructivist accounts of learning, but is also consistent with essential teaching and learning skills.

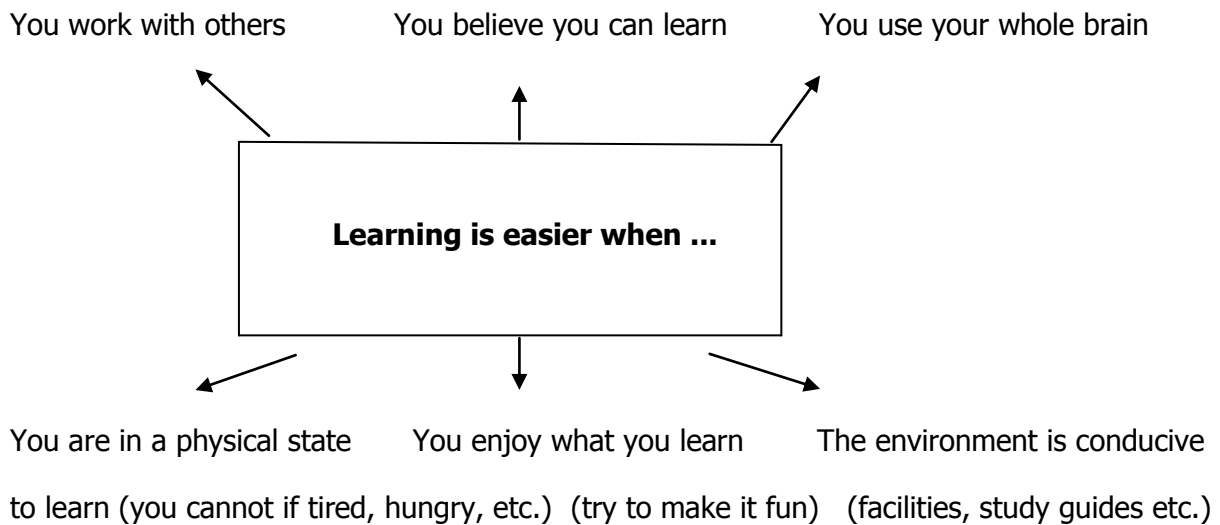
### **3.3.1 Essential learning methods and progressive education**

Cottrell (2008, p.48) says, "learning is permanent change of behaviour". Hergenhahn (2005, p.8) went further than Cottrell, writing, "learning is a relatively permanent change in behaviour or in behavioural potentiality that results from experience and cannot be attributed to temporary body states...". According to Cottrell we know that we have learnt something if we can explain it, teach or demonstrate it to others. He discovered the following four dimensions of learning:

- Via various sensory modes – writing, seeing, hearing, and speaking.
- Conscious or unconscious – conscious when we are aware that we are learning. We normally write something out or tell someone else what we know. Unconscious is when we are aware only of a small part of the information.
- By detail or whole picture – some learn best when they see a picture or build up details allowing the whole picture to emerge.
- At varying levels of attention – learning can take place in a relaxed, aware state; it does not always require effort and great concentration.

Cottrell (2008) uses a figure to explain further the concept of optimal learning. The following figure 3.3 has been adapted from his work.

### Figure 3.3 Optimal learning



(Adapted from Cottrell 2008, p.53)

In Wikipedia, scientists claim to rely on the best available scientific theories of learning. One such theory was proposed by Dewey as a model of learning (see table 3.1).

### Table 3.1 Dewey's model of learning

Become aware of the problem
Define the problem
Propose hypotheses to solve it
Evaluate the consequences of the hypotheses from one's past experience
Test the likeliest solution

(Adapted from Dewey's model of learning, n.d.)

One thing that is clear from the Dewey's model of learning is that students should not only learn as if they were scientists, but classroom learning activities should centre on the real life of the students - evaluating the consequences of the hypotheses from one's past experience. The next section offers a summary of the levels and types of learning.



**Cognitive learning:** According to Gray, Griffin and Nasta (2005, p.29), "it is possible to have learned something without there being any measurable or observable changes in behaviour". They describe cognition as knowledge and understanding. De Villiers and Cronje (2005) view cognitive learning as a process that supports cognition, formation of internal knowledge (deep-level thinking) structures and retention. However, deep-level learning is unlikely to happen if a learner restricts his or her approach to rote learning to disconnected facts and formulas, argue (Gravett, 2005). He (Gravett) points out that rote learning through memorization does not require active thinking and linking of a learner. Unfortunately, separate pieces of information that are memorized are generally soon forgotten. Fraenkel (1997, p.245) has this to say about learners who use rote learning as a method of learning: "Rote learners either do not have necessary prior knowledge to form concepts and to consolidate the additional facts, or have decided to learn by rote". He went further to mention the following as disadvantages of rote learning:

- Limited quantity of information may be learned;
- Rote learned information is easily forgotten;
- It takes time to learn by rote; and
- It is useful in reproducing songs, poems and prose.

Pudi (2006, p.110) writes this about rote learning, "a paradigm shift in education shows radical shift from the past which stressed rote learning to the present paradigm which is based on reflective practice. Reflective practice hinges on the philosophical aspect of understanding and insightfulness". The emphasis should therefore be on the objective of the learning and instruction. For instance, if the teacher's objective is the growth of knowledge or understanding in his or her students, then the cognitive theory of learning will be "the basis of practical knowledge" (Gray et al., 2005, p.30). It is important for teachers to make students aware of the disadvantages of rote learning and together collaborate with students in finding best learning practices.

**Collaborative learning:** De Villiers and Cronje (2005) maintain that collaborative learning involves joint work, social negotiation, peer evaluation, and sharing responsibility. "... giving students some responsibility for their own learning is seen as a means of enhancing student learning" (Boud, 1988 cited in Lumina, 2005, pp.482-496). According to Kohn (2008, p.3) when learners are invited to help direct their own learning "they are not only more likely to enjoy what they're doing but to do it better". Louw (1991, p.10) has this to say about collaborative learning, "overestimation of the educator's contribution and underestimation of the educand's word contribution to the educative occurrence are both equally detrimental".

**Cooperative learning:** Cooperative learning is not merely another name for group work, it "includes more than students simply working in groups" (FET Institute, 2010, p.38). According to the institute, cooperative learning is characterized by positive interdependence and individual accountability. Positive interdependence means that the success of the group depends on the input of all the group members, while individual accountability means that students are held accountable for completing the work assigned to them within a project. Hampel (2008, p.1) writes that, "progressives envisioned teachers as facilitators who should encourage student participation and activity through discussions and group projects". In cooperative learning students are responsible for learning and for helping their fellow group members learn or to practice skills (Jacobs, Vakalisa & Gawe, 2004). Johnson and Johnson (1992 cited in Jacobs et al., 2004) assert that, without cooperation among individuals, no group, no family, no organization and no school would be able to exist.

**Active learning:** Active learning is based on the argument that learning "is a matter of constructing ideas rather than passively absorbing information or practicing skills" (Kohn, 2008, p.2). Learners are normally invited to assist in designing the curriculum, formulating questions and seeking out answers. According to Meyers and Jones (1993), active learning involves providing opportunities for students to talk meaningfully, and to listen, write, read and reflect on the content. Kohn (2008, p.3) offers the following warning about misrepresenting active learning

in that “learning is thought to happen automatically while the teachers just stand by, observing and beaming”. It is clear from the warning that teachers should make learning take place – be the facilitators of the learning process.

**Participative learning:** Participative learning is based on the following assumption, amongst others (Jacobs et al., 2004), that significant learning occurs when: (1) each individual learner is given an opportunity to express what he makes of the learning content presented to him and (2) learning by reflection and enquiry balances reception learning (reception learning occurs when the teacher or textbook is the only source of information). It is clear from the assumption that the backbone of participative learning is learning by enquiry. This means that students should be guided and encouraged to “express what they think and to explain why they think as they do” (Jacobs et al., 2004, p.3). Learning by enquiry requires a maximum participation by the students in their own learning areas. They further noted that this participation involves:

- Asking questions, especially of the ‘how’ and ‘why’ type;
- Critiquing and evaluating learning content;
- Seeking information from experts (using people as resources);
- Answering questions put to them by their peers, in this way explaining their views on particular content; and
- Keeping reflective journals about their learning experiences at particular levels of development.

**Asking questions:** The use of questions while teaching has been encouraged by (Petty, 1993; Mwamwenda, 2004; Dunning, Dreyer, Steyn, Behr, & Vos, 1991; & Jacobs et al., 2004), among others. Petty (1993, p.26) writes: “The process of learning is doomed to failure unless (1) the student can question the teacher to resolve ambiguities or to clarify difficulties; and (2) the teacher is given some feedback apropos student’s understanding”. Dunning et al. (1991, p.11), also recognize the importance of allowing students to ask questions, “these questions indicate that they are really interested in the lesson and must be encouraged since

they will reveal gaps in their understanding". Teachers can find out how well learners are following what is being taught through asking questions. As Jacobs et al. (2004, p.188) contend: "Questioning is a key technique in most teaching-learning situations". Mwamwenda (2004) proposes the following factors for effective questioning: prompting, wait time, frequency and equitable distribution.

FET Institute (2010, p.17) uses "action words" based on Bloom's taxonomy, as a guide to choosing the most appropriate words when writing questions. On the knowledge level, teachers can use action words such as: name, state, recall, etc.; on the application level: show, use, and apply, etc.; on the comprehension level: tell, report, summarize, etc.; and on the analysis level: examine, contrast, classify etc. The entire Bloom's taxonomy may be found in Appendix N.

### **3.3.2 Essential teaching methods and progressive education**

"A teaching method comprises the adoption of a general approach or technique that determines the type and frequency of interaction between teachers and learners" writes (Gray et al., 2005, p.103). The underlying values of progressive education are as follows: collaboration, community, attending to the whole child, deep understanding, feedback, taking children seriously, intrinsic, and motivation (Mwamwenda, 2004; Kohn, 2008). These values inform the basis of essential teaching methods. According to Jacobs et al. (2004, p.176) "teachers should not randomly select a method, but take a number of factors into account". The next paragraph views those factors and the way in which teachers may select the most suitable methods.

**Deep understanding:** Teachers should invite learners to think deeply about issues that matter, thus helping them understand ideas from inside out, by discouraging rote memorization of facts and skills (Kohn, 2008). This may be achieved by organizing teaching around problems, projects, and questions. Learners are presented with problems which they try to solve themselves, either individually or in groups. Using materials that apply to the senses; academic focus – placing emphasis

on the material that should be taught and learned; is an effective way of drawing the learner's attention to what is taught (Mwamwenda, 2004).

**Community:** According to the community value, effective teaching is realized when students are not pitted against one another in some kind of competition. Kohn (2008, p.1) discovered that "children learn with and from one another in a caring community, and that's true of moral as well as academic learning". Mwamwenda (2004) concurs in saying that teachers should remain in constant contact with their learners, both physically and psychologically. Group work teaches students to accept responsibility for their learning and for the performance of the group as a whole. Students, especially those that are shy or withdrawn, are more likely to contribute to small-group discussions and activities. In support of group work, Petty (1993, p.169) has this to say: "Group work tends to hand the responsibility of learning over to the students". Students practice common skills such as the ability to work with, and communicate with others.

**Collaboration:** Progressive teachers are characterized by what Kohn (2008) calls a 'working with' rather than a 'doing to' model. Collaborative problem-solving takes precedence over any other method of teaching. Collaboration encourages open communication, as noted by Stephens and Roderick (1971). Students like communicating with one another and with the teacher whenever they encounter new lecture-room situations. Factors contributing to effective teaching through communication and collaboration are the use of precise terminology, connected discourse and transition signals.

**Attending to the whole child:** Schools should develop learners who, are responsible, caring, and who love their communities. Kohn (2008, p.1) submits that "schooling isn't seen as being about just academics, nor is intellectual growth limited to verbal and mathematical proficiencies". The discovery method may be used to allow students to discuss problems among themselves. This allows students to

discover principles, concepts, patterns and results for themselves, observe Stephens and Roderick (1971).

**Intrinsic motivation:** According to Kohn (2008), intrinsic motivation involves promoting long-term dispositions rather than simply improving short-term skills. Progressive teachers should therefore ask themselves this question: "What is the effect on students' interest in learning, their desire to continue reading, thinking, and questioning?" (p.2).

**Lecturing:** Lecturing should be used as a teaching method, not just as a way of "standing before a large group to speak" writes Galbraith (1998, p.143). Although the lecturing method has been the primary medium of college and university instruction since the Middle Ages, it has its own limitations. Attention studies revealed that after 15 to 20 minutes the lecture loses its effectiveness even when transmitting information (Frederick, n.d.). Kelly (2011) sums up the lecturing as a teaching method by looking at its pros and cons.

#### **Pros of Lecture as a Teaching Method:**

- Lectures are a straightforward way to impart knowledge quickly to students;
- Instructors also have a greater control over what is being taught in the classroom because they are the sole source of information;
- Students who are auditory learners find that lectures appeal to their learning style;
- Logistically, a lecture is often easier to create than are other methods of instruction;
- The lecture is a method familiar to most teachers because it was typically the way they were taught; and

- Because most college courses are lecture-based, students gain experience in this predominant instructional delivery method.

### **Cons of Lecture as a Teaching Method:**

- Students strong in learning styles other than auditory learning will have a harder time being engaged by lectures;
- Students who are weak in note-taking skills will have trouble understanding what they should remember from lectures;
- Students may find lectures boring, causing them to lose interest.
- Students may not feel that they are able to ask questions as they arise during lectures; and
- Teachers may not gain a real feel for how much students, are understanding because there is too little opportunity for exchanges during lectures.

Despite the lecture method's being so unpopular, lecturer educators continue to use it and "students continue voluntarily to attend them" (Charlton, 2006, p.1). This fact suggests that lectures are a much more effective teaching method in many circumstances. The pros and cons of the lecturing method are a clear indication that lecturer-educators cannot rely solely on lecturing; instead they should only use it when appropriate. A lecture may be used to direct the students' focus and in probing to determine the students' level of knowledge in conjunction with other teaching methods. To avoid the cons of lecturing ensuring that only the pros play a significant role in my lecturing (teaching) I shall ensure that my lecturing is as interactive as possible.

**Interactive lecturing:** Interactive lecturing involves an increased interchange between teachers, students and the lecture content. The use of interactive lectures can promote active learning, heighten attention and motivation, give feedback to the teacher and the student, and increase satisfaction for both" (Steinert, 1999, p.3). I see it as a teaching method that encourages maximum participation in the lecture-

room. It is the total opposite to a lecture, which is one-way communication. Interactive lecturing contrasts greatly with the stand-in-front method of lecturing. The interactive method ensures that the teacher becomes the facilitator of learning and not the transmitter of the subject matter.

**Feedback:** Learners should be provided with concrete, genuine and prompt feedback. Feedback is important in promoting effective teaching and learning (Mwamwenda, 2004). However, the focus should be more on constructive than destructive feedback. Positive and constructive feedback is crucial for both teachers and learners. As Brown and Race (1995, p.56) argue, "to feel confident about our achievements, we need to find out what to do about things we are not yet doing satisfactorily and confirmation about the things we are doing well". Teaching by feedback can prepare learners for future projects and examinations.

### 3.4 TEACHER-CENTRED AND STUDENT-CENTRED TEACHING METHODS

Gray et al. (2005) categorize teaching methods into teacher-centred and student-centred methods (see table 3.2).

**Table 3.2 Summary of teacher-centred and student-centred teaching methods**

Teacher-centred methods	Student-centred methods
Lectures	Seminars
Practicals/demonstrations	Role-playing
Discussions	Buzz-groups
Mentoring	Brainstorming
The tutorial	The debate
	Fishbowl
	Snowballing
	Resourced-based learning
	Projects
	Virtual learning environments

(Adopted from Gray et al., 2005, p.104)



Gray et al. (2005) argue that today, the emphasis in education should be on student-centred methods. For instance, where severe barriers to learning exist amongst those students who have severe learning difficulties; strategies for inclusive learning must involve building skills that encourage student independence.

The table in the next page summarizes various methods of learning as observed by (Brooks & Brooks, 1993). They used percentages to represent the average amount of information that is retained through that particular learning method. Observing the percentages closely, the student who uses the *teaching others/immediate use of learning* will frequently experience the highest retention rate (90%) of the new content.

**Table 3.3 Different methods of learning**

Learning method	Retention rate
Lecture	5%
Reading	10%
Audio-visual	20%
Demonstration	30%
Discussion Group	50%
Practice by doing	75%
Teaching others/immediate use of learning	90%

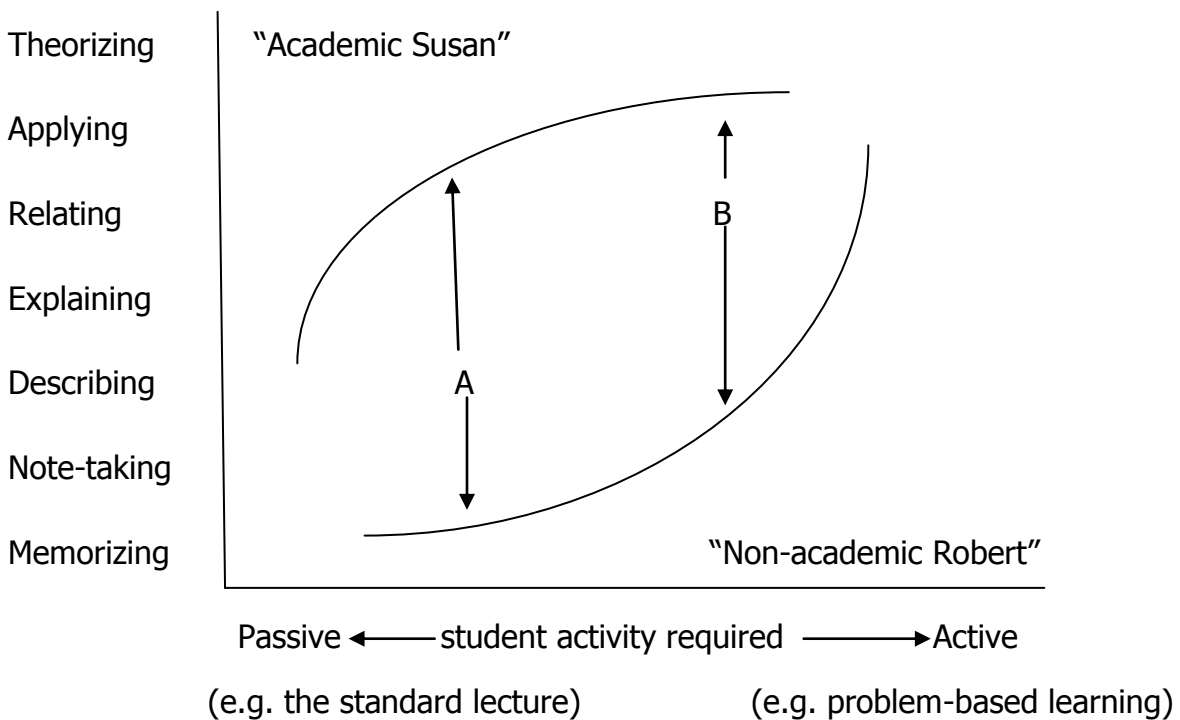
(Adopted from Brooks & Brooks 1993, p.3)

### 3.4.1 Student orientation, teaching method, and level of engagement

The next figure (figure 3.4) is a summary of a two-way interaction between the degree of learning-related activity and the academic orientation of the students as proposed by Biggs (1999).

**Figure 3.4 Student orientation, teaching method, and level of engagement**

#### High-level engagement



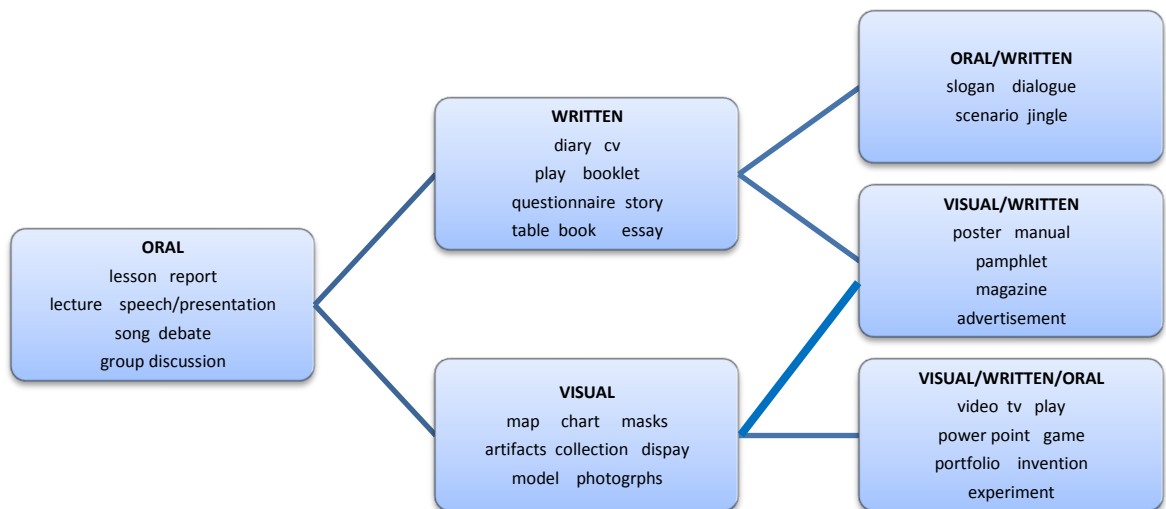
#### Low-level engagement

(Adopted from Biggs, 1999, p.59)

The figure shows two students who need help in order to achieve the same levels of understanding. According to Biggs (1999), the challenge teachers' face is to teach in such a manner that Robert learns more in the manner of Susan. What it means is that I need teaching strategies that will stimulate my students' level of engagement, so that they may become active participants in their own learning. Teachers are faced with the problem of describing a technology of teaching that maximizes the chances of engaging students' learning, observed Biggs (1999). Looking at the figure closely, we see that Susan is relating, engaging, and theorizing, while Robert is probably taking notes and memorizing. According to Biggs (1999), "good teaching is

getting most students to use the higher cognitive level processes than the more academic students use spontaneously” (p.58). After the learning activity has occurred, teachers must determine whether indeed learning has taken place – conduct assessment. The next Venn diagram (diagram 3.1) is the summary of some of the assessment activities.

**Diagram 3.1 Learning – assessment activities**



(Adapted from FET Institute, UWC, 2010, p.24)

The diagram above illustrates the way in which learning activities and assessment activities combine in any subject module, to develop the skills and competencies of both students and lecturer-educators and teacher-educators. I needed to think deeply about ways in which I could use them in my lecture-room as learning activities and assessment activities.

### 3.4.2 Perspectives on teaching

According to Ross-Gordon (n.d., p.1) a “perspective on teaching is an inter-related set of beliefs and intentions that gives direction and justification to our actions. He strongly argued that if “teachers are to improve, they must reflect on what they do,

why they do it, and on what grounds those actions and intentions are justified” (p.9). On the other hand, perspectives on teaching form the basis to reflect critically on the underlying assumptions and values that give direction and justification to the teachers’ work. Ross-Gordon (n.d.) puts forward the following perspectives on teaching:

**A transmission perspective:** From this perspective, teaching starts with a substantial commitment to the content or subject matter. What it means is that teachers should have mastery over their content. Learners should learn the content in its legitimate forms.

**A developmental perspective:** Here the primary goal of education is to develop increasingly, complex and sophisticated ways of reasoning and problem-solving. Teachers must know how their learners “think and what they believe in relation to the content or work” (p.7). Developmental teachers always try to adapt their knowledge to the learners’ ways of understanding.

**An apprenticeship perspective:** Learning is facilitated when people work on authentic tasks in real settings of application or practice. It is the teachers’ responsibility to see to it that learners work on tasks that are meaningful and relevant to the community of practice.

**A nurturing perspective:** From this perspective learners are nurtured by the knowledge that “(1) achievement is a product of their own effort and ability, rather than the benevolence of a teacher; and that (2) their efforts to learn will be supported by their teacher and peers” (p.7).

**A social reform perspective:** Effective social-reform teachers bring learners into diverse communities of practice; they ask probing questions and use powerful metaphors that help learners to link prior knowledge to new concepts. They also work hard to respect and promote the dignity and self-efficacy of their learners.

### **3.4.3 Summary of teaching and learning methods and perspectives**

The literature on teaching-learning methods above reflects that “there is no one way to teach pupils, you need a variety of strategies” (Watkinson, 2006, p.33). However, I must emphasize that the above-mentioned methods were not applied, however, some of them were tried as the study unfolded. I agree with Suter (2006) that because most teacher action-researchers develop their ideas within their own classrooms, theoretical and conceptual frameworks of others’ research findings play a lesser role than does their own practical experiences. It is because of this that I resolved to find new ways of teaching which would address my own lecture-room situation.

The reason I explored theories of learning (behaviourist learning theory and constructivist learning theory – see 3.5 below) was to inform my approach to teaching. These theories provided me with an understanding of the way in which learning and instruction occur in technology education. I am fascinated by the perspectives on teaching; they make me pause and consider which perspective captures my own orientation towards teaching and learning. I know that subconsciously I shall find parts of each perspective that fit my teaching-learning style as I go along, attempting to improve my practice.

## **3.5 LEARNING THEORIES**

The following is a brief description of the constructivist and behaviourist learning theories. The next section provide a taxonomy of learning outcomes that help clarify which theories are appropriate for different types of learning to occur in technology education (Reddy, Ankiewicz & de Swardt, 2005; Gravett, 2005; de Villiers & Cronje 2005). The Continuous Professional Development Unit (CPDU) Handbook (2010) of WSU highlighted one of the main outcomes of the Learning and Teaching in Higher Education and Training (LTHE) as promoting the use of learner-centred teaching strategies and encouraging lecturers to apply insights gained from learning theories, including constructive alignment, to their own teaching. We as self-study action-research teachers are faced with the ‘horror’ of having to find/or link up with a

theory that informs our practice. However, self-study research offers teachers a new way to think about their professional accountability, observes Samaras (2011). I believe, therefore, that the insights gained from constructivist and behaviourist learning theories will assist me in modifying my beliefs and concerns and significantly influence my thinking on how to work with adult students.

### **3.5.1 Constructivist learning theory**

Constructivism emphasizes collaborative activities and advanced resources. It relates to tenets such as knowledge construction, active learning, personal goals and multiple perspectives (de Villiers & Cronje 2005; Good & Brophy, 2008). In support of this, Gravett (2005, p.19) argues that from the constructivism perspective learning is an active process of constructing meaning and transforming understanding in interaction with the environment. He further argued that, "when constructivist thinking informs teaching, norms of interaction that have to be established are that individuals should feel free to explore ideas, ask questions, critically discuss ideas and make mistakes" (p.23). This constitutes social constructivism. According to Stage, et al. (1998 cited in Gravett, 2005) social constructivists emphasize the role that language, dialogue and shared understanding play in learner's constructions. In support of this, Good and Brophy (2008) argue that according to social construction the teacher acts as a discussion leader who poses questions, seeks clarification, promotes dialogue and helps groups recognize areas of consensus and of continuing disagreement. Another perspective representing constructivist theories of learning is radical constructivism. Arising out of the radical constructivist approach to learning is a question of reflection and choice on the part of learners (Reddy, Ankiewicz et al., 2005). This, however, does not mean that learning should be entirely left to learners. As Reddy et al., (2005, p.429) argue, "... teachers create situations in which learners could develop and exert their innate drive towards acting independently". Watkinson (2006, p.61) puts it succinctly: "It is no good just knowing your tables or how to spell, essential as those skills are, if you cannot use them...". There should be an activity following a teacher input.

Teaching, as mediation is mentioned as one of the broad implications of constructivism for teaching practice. According to Brown (1998 cited in Gravett, 2005) teaching through mediation implies that the adult educator assists learners by modeling (demonstrating); appreciating (learners try out while articulating their thoughts about what they do and why); scaffolding (supporting); fading (gradually decreasing assistance); and coaching (suggesting, challenging). Teachers seeking to implement constructivist teaching vision normally feature the following forms of constructivist activity (Good & Brophy, 2008): (1) students work collaboratively and are given support to engage in task-oriented dialogue with one another, and (2) teachers make their own thinking processes explicit and encourage students to do the same through dialogue, writing, drawings, or other representations.

Hoover (1996) puts forward some important implications for teaching as far as constructivism is concerned:

- First, if students apply their current understanding in a new situation, then teachers must engage students in learning, bringing students' current understanding to the forefront;
- Second, if learning is based on prior knowledge, then teachers must note that knowledge. The challenge for teachers is that they cannot afford to assume that learners understand things in the same way; and
- Third, teaching cannot be viewed as a transmission of knowledge. Constructivist teachers should act as guides on the side who provide students with opportunities to test the adequacy of their current understanding.

Brooks and Brooks (1993, p.2) offer some suggestions on how to teach with the Constructivist Learning Theory.

- Encourage and accept student autonomy and initiative;
- Try to use raw data and primary sources, in addition to manipulative, interactive, and physical materials;

- When assigning tasks to the students, use cognitive terminology such as "classify," "analyze," "predict," and "create" ;
- Build on and use student responses when making "on-the-spot" decisions about teacher behaviour, instructional strategies, activities, and content to be taught;
- Search out students' understanding and prior experiences of a concept before teaching it to them;
- Encourage communication between the teacher and the students and also between the students;
- Encourage student critical thinking and inquiry by asking them thoughtful, open-ended questions, and encourage them to ask questions to each other; and
- Ask follow-up questions and seek elaboration after a student's initial response.

### **3.5.2 Behaviourist learning theory**

“At the heart of the issue of behaviourism is the question whether learning can take place without behavioural changes being observable” (Gray et al., 2005, p.27). The emphasis is on controlling the behaviour of the learner that may be observed and measured and could be best served through the following instructional strategies: direct instruction, whole-class teaching, lecture and demonstrations (Reddy et al., 2005). Watkinson (2006, p.61) submits that “... if success is associated with reward, it can be a powerful monitor to help learning”. Reddy et al. (2005) stated that in education technology, there is a body content of (factual) knowledge that must be learnt, and there are basic skills and techniques that have to be mastered before these may be meaningfully applied. As Gray et al. (2005) observe, behavioural objectives are particularly associated with the learning of skills and with vocational training and education. Designing instruction around the behaviourist theory is therefore appropriate when learning outcome is to help learners remember important information. When the direct instructional approach is used the teacher assumes major responsibility for structuring the content or skills.



### **3.5.3 Reasons for adopting learning theories**

Through the development of a conceptual framework representing relevant learning theories, Reddy et al. (2005) examine what should be taught and learnt in technology education. They argue that the ability to think critically, conceptually and creatively, and make informed decisions – cognitive skills required in technology education, has its roots in the constructivist theory; acquisition of basic conceptual knowledge and basic manipulative skills required to solve technology education has roots in behaviourist theory. Because education technology is consonant with the view of students as active participants in their learning, the two learning theories informed my instruction when guiding students' learning. The authors, however, warned against the use of these learning theories as a panacea for improving students' learning and studying skills. They express it succinctly as follows: "... it needs to be noted that understanding of how learning takes place (knowledge of learning theories) will not be sufficient to improve the quality of learning and instruction in technology education. What is also needed is the wisdom and agreement in relation to what needs to be taught and learnt in technology education" (Reddy et al., 2005, p.441).

It is therefore not the aim of this thesis to apply theories of learning in practice; rather the study aims to show how students' learning may be improved through practical considerations and by allowing university students to take charge of their own learning. I believe that theories of learning informed my approach to learning and teaching as I sought answers to the following sub-question: *How do I help my students improve their learning and studying skills?*

### **3.6 LEARNING OF ADULT STUDENTS**

As part of the study, I needed more clarity on theories of learning as well as learning styles of adult students that may either hinder them or lead to greater success in the academic environment. Again, I did not wish to be taken by surprise when students behaved in a certain way or when they responded to me differently from what I expected. Kenner and Weinerman (2011, p.2) observe that "these new adult

learners bring learning and life experiences that may either be critical foundations for future success or deeply entrenched beliefs that hinder learning in the academic environment". That is why I also set out to examine characteristics of my 'new' students (university students) and how they differed from my 'old' students (FET college students); in particular, how adult students learn.

Knowles (1984 cited in Kenner & Weinerman, 2011, p.2) conducted a study on adult college students, identifying the following characteristics:

- They are task-motivated. Adult students returning to the college attend for a specific goal;
- They are ready to learn. As most adult learners return to college voluntarily, they are likely to engage actively in the learning process;
- They are self-directed, take responsibility for their own actions, and resist having information arbitrarily imposed on them; and
- They have an extensive depth of experience, which serves as a critical component in the formulation of their self-identity.

White (2005) also observes that adult learners draw on life experiences in their learning. The general term for adult students at HE institutions of learning is older or university students (Lizzio & Wilson, 2005) so as to distinguish them from students who have enrolled for adult basic education and training (ABET) programmes. According to Mwamwenda (2004, p.73) an "early adulthood ranges chronologically from 20-40 years of age"; it is marked by taking on civic responsibility and finding a congenial social group, among other behaviour. My university students (henceforth termed adult students) possess the following characteristics: they are between the ages of 20 and 33, have a high school certificate or/and level 2 further education and training (FET) certificate, have one semester (six months) electrical engineering coursework, and others have worked in the industry and in other commercial settings. I can safely refer to them as adult students at a HE institution of learning. Mwamwenda (2004) argues that an adult is a person who accepts and carries out responsibilities entrusted to him or her; is in a position to make viable decisions, and

is capable of maintaining an integrated and stable personality. "Those helping adults learn carry such labels as facilitator, mentor, teacher, instructor, coach, broker, monitor, trainer, or adult educator" (Galbraith, 1998, p.3). I assumed the following roles in dealing with my 'adult' students: mentor, facilitator, and teacher.

### **3.6.1 Adult learning strategy and theory**

Schraw and Moshman (1995 cited in Kenner & Weinerman, 2011) identify two theories on the way in which adult learners form meta-cognitive skills: tacit theory and informal theory.

**Tacit theory:** According to the tacit theory, meta-cognitive skills occur without any specific learning framework; adult students acquire meta-cognitive skills from peers, teachers, and the local culture (Kenner & Weinerman, 2011). Unfortunately these meta-cognitive skills can be detrimental during the early phases of the adult students' transition to academic life. For example, if the adult students come from a community that lacks respect, they will have difficulty submitting to the authority of the teacher and they may be disruptive in class (Kenner & Weinerman, 2011).

**Informal theory:** Informal theory describes adult students as possessing some recognition of meta-cognition from peers and their environment as well but "have at least a rudimentary conscious thought process regarding their meta-cognitive framework" (Kenner & Weinerman, 2011, p.3). In support of this, Kenner & Weinerman (2011, p.4) say "... much of their informal meta-cognitive development is recognized by their peers as a sign of wisdom, which brings together intelligence, experience and reflection".

### **3.6.2 Matching adult learning theories to practice**

I agree with Charles (2002, p.224) that theory helps us understand larger events and processes when there is not enough factual information available. Theories of the way in which adult students form meta-cognitive skills during learning processes can only give me an insight into working with the students. Piaget (1976 cited in

Meyers and Jones, 1993, p.20) argues that students no matter what age, need opportunities to engage in activities – with teachers, fellow students and materials – that help them create their own mental structures and test them. “Adulthood does not mean rest or standing still (homeostasis): even the adult is becoming more adult; he remains a traveller on life’s way, continually responding to the demand made of him as a human being-in-the-world” (Griesel & Oberholzer, 1994, p.64). As Kenner and Weirnerman (2011, p.4) contend, the adult learner is also likely to desire a greater sense of cooperation between himself and the teacher as they proceed through the educational process. As Cass (1972) observes, adult learners desire to acquire a sense of accomplishment, satisfaction and dignity. The topic being presented should be related to the students’ experiences. They have experienced team successes in various situations in their lives; as a result they will use any opportunity to pursue the group-study method. Lizzio and Wilson (2005, p.375) submit that: “... team cohesiveness has been shown to increase help-seeking behaviours between group members”.

### **3.6.3 Principles of effective teaching of adult students**

I agree with Galbraith (1998) that teachers of adult students should be aware of the characteristics of a ‘good teacher of adults students’ and recognize qualities, attributes and technical proficiencies identified as essential. Gailbraith (1998) provides six principles of effective practice associated with the teacher of adult students. The principles are as follows:

- Facilitation is collaborative;
- Participation is voluntary; adults students engage in learning by their own volition;
- Facilitation aims to foster in adults a spirit of critical reflection;
- The aim of facilitation is the nurturing of self-direction, empowered other’s self-worth; and

- Praxis is placed at the heart of effective facilitation; “learners and facilitators are involved in a continual process of activity, reflection upon activity, collaborative analysis of activity, new activity, further reflection, and collaborative analysis, and so on”.

These principles suggest that the teacher of adult students should have an understanding of self and of adult learners. For example, an adult student when “he is unsuccessful in whatever study course he has attempted, not immediately decide that he is unintelligent, or blame external factors ... he will consider if he himself studied diligently and purposefully” (Griesel & Oberholzer, 1994, p.66). In the next section I view the characteristics a teacher of adult students should possess at the very least.

#### **3.6.4 Aspects of a teacher as total person**

Prinsloo, Vorster and Sibaya (1996, pp.47-49) offer some aspects of a teacher as a total person. Viewing these aspects, I could not avoid asking myself what strengths I was bringing to my teaching; also, in which areas did I wish to initiate improvements or changes. The aspects are:

**The teacher’s physical appearance:** Teachers should as far as possible, be images of good health, reflecting a healthy lifestyle, and be neat and well-groomed. If they display respect for themselves, children will respect them as teachers.

**The teacher’s cognitive functioning:** Teachers who are cognitively energetic, dynamic and sympathetic will inspire their learners to actualize themselves cognitively, not only at school, but also in the careers they are to follow.

**The teacher’s emotional life:** Sometimes pupils are despondent, overcome by the demands they face. At these times the teacher should be positive and encouraging, appreciating every little success and conveying this to the pupils.

**The teacher’s normative life:** Norms are guidelines for behaviour. The formation of values and the establishment of norms depend partly on a stable emotional life and partly on an enriched cognitive life.

**The teacher’s conative life:** Enthusiastic, devoted, disciplined, dynamic and well-prepared teachers are committed teachers. They do not allow for boredom and their classes are purposeful and filled with excitement.

### 3.7 RELATED LITERATURE SURVEYED

The table below is the summary of the reviewed literature. According to Maphosa (2010, p.104) this is in an attempt “to confirm the relevance of the literature reviewed to the research sub-questions of the study”. I began by first looking at the work of other scholars who had collaborated with students to improve their practice in order to understand the do’s and don’ts when researching with students. I also examined theories of teaching and learning in order to understand the expectations of my adult students in a teaching-learning relationship.

**Table 3.4 Summary of surveyed literature**

<b>Focus</b>	<b>Author</b>	<b>Year</b>
Studies on self-improvement	Grande	2006
	Lloyd	2003
	Cripps	2007
	Milton-Brkich, Shumbera & Beran	2010
Learning of adult students	Prinsloo, Vorster & Sibaya,	1996
	Griesel & Oberholzer	1994
	Lizzio & Wilson	2005
	Galbraith	1998
	Mwamwenda	2004

	Meyer & Jones	1993
	Kenner & Weirnerman	2011
Learning theories	Reddy, Ankiewicz & de Swardt	2005
	Hoover	1996
	Gravett	2005
	de Villiers & Cronje	2005
	Good & Brophy	2008
	Watkinson	2006
	Gray, Griffin & Nasta	2005
Teachers ad students' centred teaching methods	Brooks & Brooks	1993
	Biggs	1999
	Gray, Griffin & Nasta	2005
Progressive teaching and learning-processes	Robert	1991
	Fraenkel	1997
	Kohn	2008
	Hampel	2008
	Cottrell	2008
	Gravett	2005
	De Villiers & Cronje	2005
	Mwamwenda	2004
	Jacobs, Valisa & Gawe	2004
	Watkinson	2006
	Galbraith	1998
	Kelly	2011

### **3.8 SUMMARY OF POSSIBILITIES ON PRACTICE IMPROVEMENT**

The above literature demonstrated what should be taught and learnt, as well as the essential teaching skills for educators in HE institutions of learning. Important for me is to appreciate the need for researching together, as the collaborative research provides the basis for developing productive relationships engendering trust and

understanding of students. The real challenge lies in the incorporation of these essential teaching and learning skills in assisting students from poor and rural schools to learn at the HE institutions. Whilst I can accept the importance of what they say, about teaching perspectives – students should learn the content in its legitimate forms (transmission perspective), I believe that our students should be allowed to question certain knowledge; new knowledge cannot be accepted without being critically analyzed. I value their contribution to education but I do not believe that the high level of engagement of university students depends more on theorizing, applying and relating new concepts than on note-taking and memorizing (see figure 3.4). I believe writing and memorizing stimulate the higher cognitive level processes. We all learn at some point through memorizing.

When imagining possibilities, I tapped into the developed 'living' educational theories of the above scholars and developed my own 'living' educational theories. Watkinson (2006, p.31) contends, "nevertheless, teachers need to know something of the research-based theory of learning, and its varieties, as the basis of their own practical knowledge". WSU is a former Black institution with most of its students coming from the surrounding rural and township schools where rote learning is still rife. This is where my research study is going to make a contribution – assisting students with lack of basic study skills to develop appropriate study skills suitable for university standard. Through self-study I shall be able to take control of my improvement, identifying priorities and monitoring progress.

The literature was undertaken to help me understand the needs and features (characteristics) of my students and to be able to plan realistic activities for them. Having a background understanding of various learning theories on the way in which adult students or university students learn, contributed to my understanding of what they expect from me and perhaps partly answered the question that I developed when I began lecturing at the university: *What learning skills do my students possess and how do I improve them (skills)?* Another question is, if my students possess this profound eagerness to study (referring to the literature above), how do I convert enthusiasm into useful learning skills suitable for university standard studying?



Gray et al. (2005, p.119) recommend the use of teaching methods that “accord with the learning objectives of the teaching session”. Lecturer-educators should vary teaching methods in accordance with the intellectual readiness level of students. As a leader varies his leadership style according to the uniqueness of each situation, so this should be striven for by lecturer-educators. In Chapter Four I examine the method of inquiry that enabled me to collaborate with my students in finding answers to the research question(s) and to collect valid and reliable data.

## **CHAPTER FOUR**

### **MY COLLABORATIVE ACTION RESEARCH PROCESS**

#### **4 INTRODUCTION**

I concur with Tidwell, Heston and Fitzgerald (2009) that in generating a living educational theory in inquiries of the kind, 'How do I improve what I am doing?', the individual researcher must engage in self-study because of the significance of the 'I' in the question. According to Graig (2009) self-study genre employs a broad range of qualitative methods such as action-research and narrative inquiry. In trying to distinguish self-study from action-research Samaras and Freese (2009, p.3) write, "In both methodologies, the researcher inquiries into problems situated in practice, engages in cycles of research, and systematically collects and analyzes data to improve practice". I have stated in Chapter One that my enquiry adopted action-research (collaborative) as an approach to practice improvement. One of the goals of action-research as stated by Riel (2010) is the improvement of professional practice through continual learning and progressive problem-solving. In Chapter Four I traced the development of action research as a method of inquiry over the past few decades. I went through this 'labour' in order to increase my knowledge of action research so that I might engage it with greater confidence and understanding. The greatest value of adopting action-research as an approach to my thesis is that it enabled me to monitor my learning and the learning of my students because it is an "educative process carried out in social situations that usually involve posing and solving problems resulting in a change intervention" (Wilson, 2009, p.201). I became aware as I was reviewing the evolution of action-research, that the collaborative action-research approach has its advantages and limitations. I write about these and explain how I used the advantages to develop my research methodology; how I addressed the limitations to collect authentic data.

Having selected the topic and collected related literature, I needed to design and plan for the execution strategies to conduct the study. A good action-research project needs careful planning, flexible approach, and continuous reflection on the part of the researcher (Koshy, 2005). I explain the reasons I chose collaborative

action-research approach as a mode of inquiry. Collaborative action-research is a form of participatory enquiry in which the researcher works closely with the participants to find solution(s) to a problematic situation. That is, I show step by step how I planned some intervention strategies based on the existing related literature. This is how my methodology developed. McNiff (2002, p.10) writes, "the methodology of action research means that you have to evaluate what you are doing". In the sections which follow I offer more explanations of the methodology as well as the method the study adopted and how the two strategies assisted me in collecting valid and reliable data.

I was confronted by the problems and dilemmas of conducting collaborative action research – referred to as ethical issues by the literature. Ethical issues stemmed from my research-data collection tools (in particular, chats – informal interview/conversation); standards of judgement (personal and academic values); the procedures I adopted (when introducing reading and summarizing learning strategy); and the usual matters of anonymity (student-participants writing their names in the portfolio of learning). I agree with Cohen et al. (2000, p.57) that where research is ethically sensitive, many factors may need to be taken into account, and "these may vary from situation to situation". I write about these factors as well as how I managed (or at least tried) to overcome some ethical dilemmas.

#### **4.1 ACTION-RESEARCH ENQUIRY AS AN APPROACH TO MY STUDY**

According to Costello (2003), if yours is a situation in which there is increasingly, (1) self-reflection; self-evaluation and self-management by autonomous and responsible persons and groups, and (2) people who reflect and improve (or develop) their own work and their own situations, then yours is a situation in which action-research is occurring. Action-research is hardly a new concept. Action-research was introduced by Carr and Kemmis in the early 80's (Samaras & Freese, 2009). Though, its origins have been traced back to the work of Collier in the 1940's (McNiff & Whitehead, 2005; Wood et al., n.d.).

Action-research is often called applied research and in some instances classroom research. It is so-called, because of its emphasis on “problem-solving through inquiry into human problems in a real context” (Curry, 2005, p.1). Stringer (2004, p.2) captures the concept well when he says that “action research is not just a formal process of inquiry, but may be applied systematically as a tool for learning in classrooms and schools”. He further contended that “action research is particularly relevant to those who engage in constructivist approaches to pedagogy” (p.2). Action-research is always research with, not research on people when solving problematic situations (McNiff & Whitehead, 2002; Cunningham, 2008; Wilson, 2009). Koshy (2005, p.10) submits, “action research involves researching your own practice – it is not about people out there ...” Wilson (2009, p.189) also observes that action research “is always done by or with insiders within an organization or community and not by an external team”. ‘Employing’ collaborative action-research enabled me to fulfill my need of improving what I am doing as a lecturer in collaborating with other people (students and my colleague); it gave me an opportunity to reflect on my practice. As McNiff (2002, p.10) contends, “action research helps you to formalize your learning and give a clear and justified account of your work, not on a one-off basis, but as a regular feature of your practice”. In the next section I discuss evolution of action-research, models of action-research, and advantages of collaborative action-research, its limitations, and its working principles. An awareness of what the action-research paradigm entails enabled me to engage it with greater confidence.

#### **4.1.1 Evolution of action-research**

Action research began in USA, went to prominence in the UK in the 1970s, and by the 1980s it was making a significant impact in many professional contexts, particularly in the teacher professional education (McNiff, 2002). It was developed mainly by academics in higher education institutions, which saw it as a useful way of working in professional education. According to McNiff (2002), today action-research is prominent not only in teacher professional education but also in management

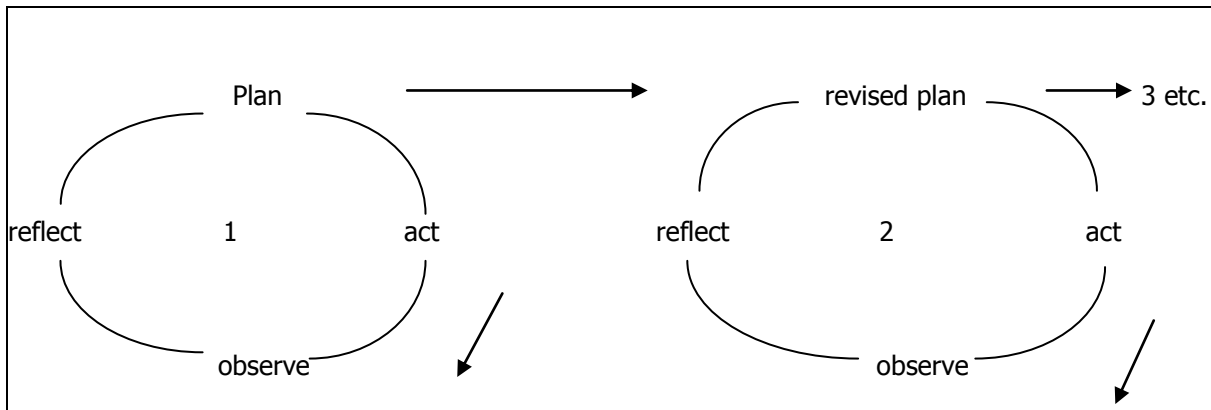
education. "It is used widely in professional contexts such as appraisal, mentoring and self-assessment" (McNiff, 2002, p.6).

Of recent times action-research has gained a reputation in South Africa through the work of academics such as Joan Conolly (DUT), Lebo Moletsane (UKZN), Kathleen Pithouse (UKZN), Edgard Sienaert (UFS), among others. Conolly, of the Durban University of Technology (DUT), Pithouse of the University of KwaZulu-Natal (UKZN) and Meyiwa of the Walter Sisulu University (WSU) run a series of workshops as part of the Transformative Education/al Studies (TES) project under the auspices of DUT and supported by the South African National Research Foundation (SA-NRF). The workshops are intended to assist both master's and doctoral action-research student teachers in the three South African universities – WSU, DUT and UKZN. I am part of the TES workshops and I believe that without their expertise my collaborative action research inquiry journey is going to be really difficult. Another key focus of the project is on developing supervisor expertise in the area of self-study (or action research) of educational practice so as to ensure that there is an abundance of researchers in this area.

#### **4.1.2 Action-research models**

An action-research model is used by many authors to represent diagrammatically action research as a process of inquiry (Skerritt, 1992; Denscombe, 1998). Skerritt (1992) maintains that the process of action research is in fact a spiral of cycles of action and research consisting of four major movements: plan, act, observe and reflect (see figure 4.1 – next page). This is a basic action-research model which has its origins in the work of Kurt Lewin (1946).

**Figure 4.1 The traditional spiral of action-research cycles.**



(Adopted from Skerritt, 1992, p.13)

The basic assumption apropos action research models is that people can learn and create knowledge: (1) on the basis of their experience, and (2) through observing and reflecting on that experience, contends Skerritt (1992). Action-research cycles may best be understood by closely studying the basic steps in action research as described by Gray (2009, pp.318-322):

Planning (getting the focus right) – planning answers the questions: (1) what actions must be taken? and (2) how to accomplish tasks;

Acting (gathering evidence) – the idea is to gather data as comprehensible as possible, because important insights may only emerge once data are being analysed;

Observing (analysing the impact) – analysing the impact of our actions as action researchers may include providing authentic descriptions of what has been achieved. These may be either subjective (such as diaries and personal reflections) or factual (for example, transcripts of conversations); and

Reflecting (evaluating the impact of the project) – the idea is to answer the following question: 'How will you conclude that change has actually taken place?'

The model (figure 4.1), depicts action-research as a cyclical process of change. For instance, the basic four steps of self-study research and action-research are: plan, act, observe, and evaluate. A word of caution from Koshy (2005, p.5): "Excessive reliance on a particular model, or following the stages or cycles of a particular model too rigidly, could adversely affect the unique opportunity offered the emerging

nature and flexibility which are the hallmarks of action-research". I used these steps to develop my own reflexive cycle model; I write about it in Chapter Five.

### **4.1.3 Working principles of action-research**

The following concepts: communication, participation, inclusion, and relationships were identified by Cohen et al. (2000); Stringer, (2004); Koshy, (2005); Gray, (2009) as the key working principles of action-research. In the next section I present a detailed explanation of each concept and how it enabled me in creating a tolerant environment – an environment that allowed for a meaningful engagement and sharing of ideas between the students and the lecturer-educator.

**Inclusion principle:** Inclusion denotes that people whose lives are substantially affected by the problem under investigation are included in the project. Participants are required to ensure that all relevant groups benefit from activities (Koshy, 2005). According to Cohen et al. (2000) this may be achieved when members strive to share the information. I provided a constant feedback to my colleague and students regarding the progress of our study. My students needed information on my impressions about how they were responding to my 'new' teaching methods. My colleague required to be updated on the feedback from my research supervisor.

**Participation principle:** One of the purposes of action research is to engage the natural expertise and experience of all participants, observes Stringer (2004). Through participation, action-research enabled me to provide support to my students considering that they were learning to act for themselves. Koshy (2005, p.27) is of the view that "in action-research, researchers collaborate with practitioners and other stakeholders". Cohen et al. (2000) highlight participatory as one of the principles and characteristics of action-research.

**Communication principle:** Effective communication occurs when all participants listen to each other (Stringer, 2004). According to Cohen et al. (2000), action research leads to quality and cooperation, an end to exploitation. As Grundy and Kemmis (1988, cited in Cohen et al., 2000, p.232) contends, communication "is an

intrinsic element, communication being amongst the community of equals". My views did not dominate my students' views. I respected their view that there should be a mark allocated for their lesson presentations. Lesson presentations were used as a learning method to give students an opportunity to teach others. The literature surveyed (in Chapter Three) refers to lesson presentations by students as "immediate use of learning" (Brooks & Brooks, 1993, p.3). I write more in Chapter Five about the learning methods that I tried with my students.

**Relationship principle:** Good working relationships resolve conflicts that arise, openly and dialogically (Stringer, 2004). "The dialogue is always a dialogue of equals" (McNiff, 2002, p.9). "...the researcher encourages personal cooperative relationships rather than interactions that are impersonal, competitive, or authoritarian" concludes Curry (2005, p.4). In support of this, Cohen et al. (2000, p.228) agree that action-research "is dialogical and celebrates discourse". The next table (table 4.1) displays the summarized key elements that I used as guidance in my academic relationship with students. The key elements are proposed by (Stringer, 2007 cited in Gray, 2009) as elements that contribute to community relationships in collaborative action-research.

**Table 4.1 Elements that contribute to community relationships in action-research**

Working principle	Principle as implemented in action-research
Relationships	Maintain harmony Encourage cooperative relationships Promote feelings of equality for all involved
Communication	Be truthful and sincere Listen attentively to people



Participation	Act in socially and culturally appropriate way
	Enable significant levels of involvement
	Provide support for people as they learn to act for themselves
Inclusion	Enable people to perform significant tasks
	Maximize the involvement of all relevant individuals
	Ensure that all relevant groups benefit from activities

(Adapted from Stringer, 2007 cited in Gray 2009, p. 324)

Jacobs et al. (2004, p.3) remind me that “every teaching-learning relationship is both teaching and learning for all participants – teachers and learners”. This made me realize that for my students to listen to me in creative receptivity, I must also be willing to listen to them. Once I did that they responded to me positively. In my last two chapters (Chapters Six and Chapter Seven) I explain in detail the strategies I employed to help my students open up to me – that is, be willing to receive ideas from me. I also say something about how I felt – emotions that I experienced as the study unfolded. The feelings and emotions underpin the ‘self-study element of any self-study action-research report.

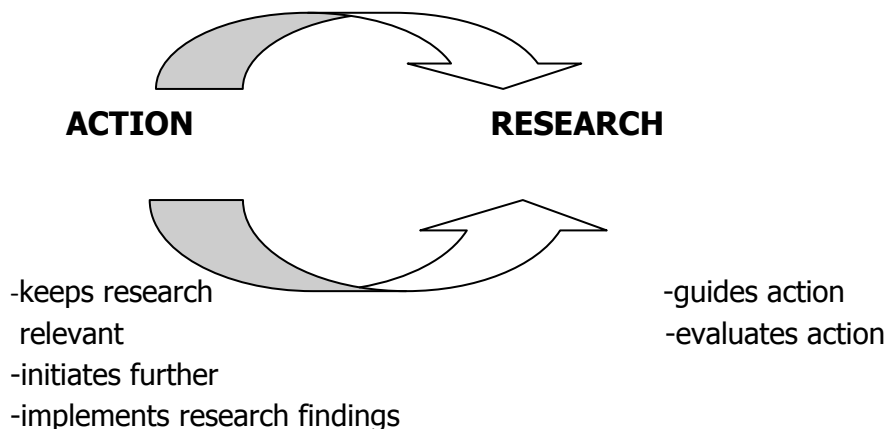
#### **4.1.4 Advantages of action-research**

Unlike traditional scientific enquiry, action-research does not provide measurement but description. It therefore gave me an opportunity to experiment with new ideas and describe what I did and why. One of the major advantages of action-research as a collaborative inquiry is “researchers can be participants – they do not have to be distant and detached from the study” (Koshy, 2005, p.21). Another noteworthy fact about collaborative action-research approach is that it differs from other forms of research in that “there is less concern for universality of findings, and more value

placed on the relevance of the findings to the researcher and the local collaborators” submits Riel (2010, p.3).

Conventional research (traditional scientific enquiry) emphasizes investigations that seek to explore issues that do not necessarily have an overt impact on the person who is conducting the research. Curry (2005, p.2) argues that “... formal research operates at a distance from (sic) the everyday lives of practitioners, and largely fails to operate the experienced reality of their day-to-day work. The objective and generalizable knowledge embodied in social and behavioural research is often irrelevant to the conflicts [they] encounter”. As Meyiwa (2010, p.190) points out “that kind of an approach alienates the researcher from his or her study, thus creating a barrier between the researcher and the environment in which s/he is positioned”. Bless and Higson-Smith (1995) summarize the advantages of collaborative action-research by looking at the relationship between ‘action’ and ‘research’ and representing it in the form of a diagram.

**Figure 4.2 Action-Research**



(Adapted from Bless & Higson-Smith, 1995, p.59)

According to Bless and Higson-Smith (1995) this repeated cycle of research and action, contribute to the success of collaborative action-research studies. According to them this cycle of research and action contribute to the success of many collaborative action-research studies. Formal research methodologies were therefore not suitable for the purposes of practical enquiry that requires me to research together (collaborate) with my students in trying to improve teaching-learning

practice in a single lecture-room. "... at the heart of action research is the commitment of the action-researcher to study his own influences as he seeks to improve his practice, his understandings of this process, and the social context in which the practice is located" argues Whitehead (2010, p.3).

#### **4.1.5 Limitations of action-research**

One of the limitations or criticisms of collaborative action-research is that it lacks rigour and validity (Koshy, 2005, p.30). This concern was addressed by involving a critical friend and by using triangulation as a method of data collection. As Koshy (2005) contends "the role of critical friends is helpful in maintaining rigour and the quality of your findings" (p.40). Again, according to literature action-research can sometimes be described as a 'soft option' - its problem-solving nature may portray the process as a deficit model, therefore the action-researcher must define the parameters of the study at the start (Koshy, 2005). I agree with Stringer (2004, p.48) that "by including too many issues, the study is likely to become complex and unwieldy, but delimiting the study too closely may neglect issues that have an important bearing on the problem". The scope of my inquiry was delimited as 'the experiences of students and lecturer of learning and teaching'. I looked specifically at the two lecture-room components: teaching and learning.

Another limitation is that collaborative action-research studies are susceptible to "researcher bias" because practitioners often engage in the study of their own practice (Costello, 2003, p.43). However, Robson (2002, cited in Costello, 2003) referred to a strategy called an audit trail – keeping a complete record of raw data, to reduce researcher bias. I have completed questionnaires, chat transcripts and field notes (group reflection notes, students' learning portfolios). Another threat could have been student participants' trying to impress me, by changing their normal routine behaviour. My prolonged involvement in the study helped reduce this threat. Again, Parahoo (1997) finds that it is not always possible for people to change their normal behaviour and sustain it for long periods. "This is due to the likely development of a trusting relationship between researcher and respondent, which

may decrease the possibility that the latter will provide biased information” argues Costello (2003, p.45). I also made the point that my colleague should administer the questionnaire. It took me almost nine months of collaborating with my students to improve their learning and study skills, at the same time improving my teaching.

I agree with McNiff and Whitehead (2002, p.87) that, as an action-research practitioner I was “inevitably involved with others” in doing my research in the following ways; as research participants (I was trying to improve the learning and study methods of my students), as observers (my colleague – I value his opinions regarding my practice improvement), and as validators (the promoter and others who might be interested in the study – TES project members). As Curry (2005, p.1) notes, collaborative action-research involves the “community” at all stages. This suggests strategies that assured that my subjectivity did not threaten the credibility of my research. Another way of establishing the credibility of the study was persistent observation. According to Stringer (2004) action-researchers must record the number and duration of observations and interviews (my interviews took the form of chats). Our chats lasted between 5-10 minutes, depending on the number of questions and/or how willing the student was to share his/her views with me. My critical friend would spend one hour with me – the duration of a single teaching period at WSU, during his lecture-room observations.

#### **4.2 PREPARATIONS THAT PRECEDED THE ACTION**

I assured the students beforehand that the study would form part of the course work. I also had to discuss issues of ethics with the students. My aim was two-fold. I wanted to set the right mood by explaining to my students what collaborative action-research is and most importantly ‘ask’ permission from the students to conduct the study with them. I also used the first few weeks of our interaction to discuss with them various learning and study methods. The next paragraphs provide a detailed explanation of how I established a mutual working relationship with my research participants and created a productive research environment.

### **4.2.1 My introductory lecture**

I started with a lecture entitled 'learning how to learn', explaining the meaning of and conditions under which learning could take place. My introductory lecture was guided by the following questions: (1) what is learning? And (2) how do we know that we have learnt something? Cottrell (2008) is of the opinion that we know that we have learnt something if we can explain, teach or demonstrate it to others. During the first weeks of our encounter my students made it clear to me that the most popular method of learning is 'rote' (i.e. memorizing) something that has been revealed by the Nelson Mandela Foundation (NMF) – I will write about this shortly. I pointed out to them that rote learning is not encouraged at the university as a method of learning as it leads to memorizing disconnected facts that are easily forgotten. My experience has taught me that students who rely on rote learning are unable to relate theory with practice. I encouraged them rather to attempt to understand new concepts by analyzing, reflecting and discussing as is done in action-research when solving problematic situations. I introduced to them these two methods: (1) reading and summarizing and (2) question and answer, as the alternatives or as methods to be coupled with rote learning. They agreed that although these methods take more time than rote learning, they can lead to the acquisition of long-lasting new knowledge; they agreed to try this. The methods are reading and summarizing – searching for the most important concepts, and question and answer – developing and exploring answers to the questions. They were fascinated by the idea that every time they come across new information they should try to link it with their existing knowledge (real situations in schools) as part of its analysis. I further discussed with them conditions that must be present for learning to take place. These conditions are captured by Cottrell (2008) as favourable conditions for optimal learning to take place (see figure 3.3 in Chapter Three).

Students were not required to write a psychometric test to determine their level of readiness and learning skills. I relied on the ministerial report of the Nelson Mandela Foundation (NMF) which found that 'rote learning' is still rife among the rural-learners; there is no understanding of the teachers and textbooks (Ministerial

Report, 2005). The NMF was commissioned by the Department of Education in 2005 to study the challenges facing rural education in South Africa. I was also guided by the study conducted by the Centre for Learning and Teaching Development (CLTD) at WSU in 2009. The study was a local research on transformative curricula using integrated multilingual learning. It was determined from the assessment that language had little impact on certain aspects of study and very significant impact on others. For example, "in direct comprehension assessments, students performed slightly better in English, while questions involving synthesis of information – combination of old and new information, were performed better in isiXhosa (primary language) especially among rural-students" (CLTD, 2011, p.2). However, according to the summary report on SATAPs (Standard Assessment Tests for Access and Placement) compiled by Ludidi and Mayaphi (2011), a serious learning challenge has been identified: it is predicted that students at WSU will not cope with degree-level study without extensive and long-term support, perhaps best provided through bridging programmes.

The report further indicated that students who are in the extended programme of WSU do well, but once they move on to the second or third year, the failure rate increases. Among other things, they (Ludidi & Mayaphi, 2011) attribute this to CAS (continuous assessment) and being given more chances to perform tasks in Extended Programme. When this is taken away, the students tend to regress. The SATAPs are nationally developed by interdisciplinary teams of experts including academics from WSU. These tests are used in conjunction with matric results to decide on the place of the average and below average matric students, either in mainstream or in the extended programme.

After this introductory lecture, students were ready. I was also ready to call my colleague to do follow-up observations, and to start with our action-reflexive cycles.

#### **4.2.2 My ethical role as a teacher-researcher**

Ethics refers to the study and justification of conduct – how people behave. "If something is ethical by definition it conforms to the professional standards of

conduct" (McKay, 2009, p.1). As Stringer (2004, p.44) contends, ethics refers to "steps taken to ensure that no harm is done to people through their inclusion in the research". I applied for ethical clearance (Appendix A) at a WSU ethics-research committee. At the base of the study of ethics is the question of morals – reflective consideration of what is right and wrong (Criessell & Louw, 1991). The problem of the ethical dilemma of teaching adult students was resolved not only by obtaining permission from both the university authorities and research participants (students), but by establishing rapport with my students. Permission to conduct research at the university was sought, and granted by the University Registrar (see Appendices C & D). I had to establish a rapport with my students, something that led to the feelings of trust and confidence. As Bless and Higson-Smith (1995) contend, during the negotiation and planning phases, research participants build up a rapport, or sense of cooperation. During the negotiation my students and I, as well as my colleagues reached an agreement on how to break the study into manageable tasks in our different roles. We planned together on how to solve our problems. The students, where necessary, were provided with the results of the study (after their lesson presentations and assessment tasks) to help them to: (1) put extra effort into their studies, and (2) improve their learning skills. Bless and Higson-Smith (1995, p.58) emphatically state that "a good relationship between everyone involved is essential for the success of the action and research involved in the final stages". I made it clear to the student participants that the study was for academic purposes – towards improving their learning and study skills and therefore would not cause them any danger or discomfort. Each participating student gave his or her written permission (see Appendix B) for participation in the study. Names were changed to protect the identity of the students.

The next step was to discuss with my students the "facilitative role" of the action-researcher, which is influenced by ethical issues (Gray, 2009, p.323). I agree with Morton (1999, cited in Schumacher 2007, p.30) that "it is hard, if not impossible, to design ethics into Action Research completely". This is because, as teacher-researchers, we have to adapt to our needs and the needs of student-participants,

and recognize the value of action research “as a dynamic and cyclical enterprise, suffused with uncertainty” (Schumacher, 2007, p.33).

“Students as well as teacher-researchers, should be able to see a clear division between what is structured curriculum and what is part of the experiment” writes Schumacher (2007, p.30). In my study, all the lessons were part of the ‘structured curriculum’ in which students were given an opportunity to explore new learning methods. Students were not “penalized with poor grades for not learning effectively” because I believe the ‘grades’ they achieved could have been poor had I continued with my instruction dominance, leaving students to continue to study using rote learning (Schumacher, 2007, p.30). Quite often ethics are located in the intentions, rather than the actions of the teacher, submits Galbraith (1998). As such, the intentions of action-research practitioners are the first thing to analyze when reasoning the way through ethical dilemmas.

The aim of the study -- practice improvement -- was made explicit to the students as ‘learning how to learn’. This is how I establish rapport with my students – by explaining to them step by step what is involved in collaborative studies and giving assurance of anonymity. It was both challenging and interesting. As Alderson (2004, p.99) contends, “ethics are about helping researchers be more aware of the hidden problems and questions in research; and the ways of dealing with these, although they do not provide simple answers”. In Chapter Seven I talk about these and other challenges when ‘reflecting on my journey’. I did not study photography, nor is taking photographs my passion. However, I decided to take students’ photos so that I could obey the photography code of ethics. According to the code, as highlighted by Rangkong (2008), research photographers should try to establish rapport with the person(s) they photograph. I brought samples of classroom pictures taken by other practitioners from their own classrooms to show my students the type of pictures I would shoot. They were fascinated that in all the sample pictures they could not recognize the person as the photos were taken with the subject facing away from the camera. The photographers should obey the following photography code of ethics: “Do not take people’s pictures, give images...” (Rangkong, 2008,



p.2). I ensured this by avoiding taking pictures of my students when they looked directly at the camera.

### **4.2.3 The study sample**

As part of my preparations I had to answer the question: from whom am I going to collect data? My annual class size is approximately 28 students. These are undergraduate students, mainly aged between 20 and 33 years old. The population of the study was therefore approximately 28 students. "Population is the entire group in which we are interested and which we wish to describe or draw conclusions about" (Briggs & Coleman, 2007, p.130). These students were selected because according to statistics they were at risk of dropping out of university – being unable to cope with the university work has been cited by Ludidi and Mayaphi (2011) as one of the major reasons for the dropout rate at my university. According to the SATAPs report released in 2011; "In some departments the entire class is at risk, which makes it difficult to give individual consultation for Academic advisors" (2011, p.43). As I highlighted in my introductory lecture (see 4.2.1 above) SATAPs are tests written by university students who are at the entry level for placement purposes. "Improper material, improper teaching method, and being unable to understand the material" are some of the reasons cited by students for dropping out of the universities (Vergidis & Panagiotakopoulos, 2002, p.7).

A sample is a proportion of the population from whom to collect data. The reason I write about a sample after introducing population is that in practice my sample is the population. Because action research is centred on practical problems within a personal but applied setting (e.g., a classroom), sampling presents itself and often includes the researcher's "captive" group of students, observes Suter (2006, p.222). Ross-Fisher (2008) concurs by saying that another difference between the action-research model and traditional forms of research is sample size; it is possible to conduct action-research on a single student.

Another noteworthy fact is that in classroom research the concern is more with cases than samples. As Schumacher (2007, p.29) points out, "in action-research, the

subject of the study is often thought to be the teachers or instructors themselves – not the students...” The students nevertheless remain the research-participants. I have already mentioned in Chapter One that I was at the centre of my inquiry, researching with my critical friend and students.

Responding to the following question asked by one Transformative Education/ Studies (TES) project member prior to the TES workshop held in Durban in 2011: ‘In an action research study how big should the sample be?’ Whitehead (2011) writes: “The evidence-based of the effectiveness of living educational theory research builds up from the validated accounts of such practitioners and need not involve sampling”. However, I used purposive sampling because “action-research seeks solutions to problems and questions that are quite context-specific” (Stringer, 2004, p.51). Purposive sampling encourages researchers to identify the primary stakeholder group. I agree with him that my students and I formed the primary stakeholder group because “a study of a classroom issue might include teachers and students as primary stakeholding group” (p.51). He further warned against excluding other participants simply because it was not convenient or because they show little interest, or because they are non-communicative. According to him this “is to put the effectiveness of the study at risk” (p.51). The population of the study formed my sample – that is, I selected the whole group to take part in the study and to join in my research.

### **4.3 RESEARCH METHODOLOGY**

In order for me to choose an appropriate methodology I began by asking myself the following important questions: (1) will the methodology that I choose assist effective change and (2) are data interpretations adequately assured by the methodology? The methodology is important because it must align with what is being asked. This element of the action-research design states exactly which data will be collected, how it will be collected, and how it will be analyzed (Ross-Fisher, 2008). I see methodology as the rationale for collecting data in a particular order to get the result I wanted. Through my methodology I was able to tell our actions - lived

experiences. The methodology of action-research means that you must check constantly that what you are doing really is working (McNiff, 2002). In support of this Whitehead and McNiff (2006, p.23) refer to methodology as a “theory of how we do things”. I needed, therefore, to choose an appropriate methodology, to obtain the desired result, that is, an improvement in my practice. I found collaborative action-research the best strategy for obtaining such results.

#### 4.3.1 Collaborative action-research as strategy for conducting the study

Collaborative action-research involves those who will be most affected by the process of conducting research, and provides them with the ability personally to shape the action that will eventually affect them (Cunningham, 2008). It provided my research participants (students) with an opportunity to contribute to the action inquiry procedures that will eventually improve their learning skills and shape their future. Adopted Table 4.2 summarizes types of action-research and processes involved in collaborative action-research.

**Table 4.2 Types of action-research**

	<b>Individual teacher research</b>	<b>Collaborative action-research</b>	<b>School-wide action-research</b>	<b>District-wide action-research</b>
Focus	Single classroom issue	Single classroom or several classrooms with common issues	- School issue, problem, or area of collective interest	-District issue -Organizational structures
Possible	-Coach/mentor -Access to	-Substitute teachers	-School committee	-District commitment

support needed	technology -Assessment with data organization and analysis	-Release time -Close link with administrators	-Leadership Communication -External partners	-Facilitator -Recorder -Communication -External partners
Potential impact	-Curriculum -Instruction -Assessment	-Curriculum -Policy -Assessment  -Instruction	-Potential to impact school restructuring and change  -Policy  -Parent involvement  -Evaluation of programmes	-Allocation of resources  -Professional development activities  -Organizational structures  -Policy
Side effects	-Practice informed by data -Information not always shared	-Improved collegiality -Formation of partnerships	-Improved collegiality, collaboration, and communication  -Team building  -Disagreements on process	-Shared vision -Team building -Disagreements

(Adopted from Ferrance, 2000 cited in Milton-Brkich, Shumbera & Beran, 2010)

“Action research democratizes the relationship between the professional researcher and the local interested parties” observe Greenwood and Levin (2007, p.1). Allowing my students to improve their learning skills was democratic enough. I did not only create opportunities for them, but I invited them to take part in their own learning in the way they feel appropriate for them. Suter (2006, p.154) writes “teachers must think of their classrooms as research laboratories and involve their students as research collaborators. In this way, learning about teaching never becomes static”.

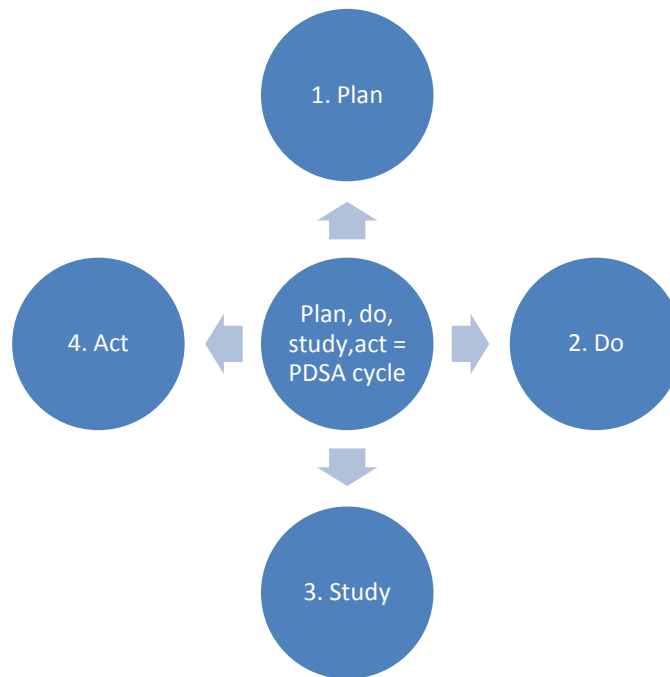
Heron and Reason (2001 cited in Cunningham, 2008, p.3) have the following view about collaborative enquiries, “this ... is not research on people or about people, but

research with people". I always felt eager to embarking on a research project that would not only identify problematic situations, but afford me an opportunity to 'get my hands dirty' – work with research participants to solve identified problems. Gray (2009, p.316) shares a similar idea in referring to collaborative inquiries as "cooperative inquiry" where, according to him, the focus is on research with people rather than research on people. "In traditional forms of research – empirical research – researchers do research on other people. In action research, researchers do research on themselves" (McNiff, 2002, p.5). I invited my students and colleague to research with me, and to evaluate as well as validate my teaching practice. That is, my thesis adopted a collaborative action-research as a mode of enquiry. Collaborative action-research was the suitable methodology; it is used by many practitioners as the basis for practice improvement.

#### **4.3.2 Collaborative action-research as a basis for improvement of practice**

Hayward (2008) demonstrates the way in which action-research may be applied to deal with disruptive learners in the schools. Diagram 4.1 (in the next page) shows how a teacher may take 'action' and experiment to solve classroom misbehaviour. It consists of a continuous cycle of: plan, do, study and act. He refers to it as a "cycle of peace and quiet" (p.30).

**Diagram 4.1 Cycle of peace and quiet**



(Adapted from Hayward, 2008, p.30)

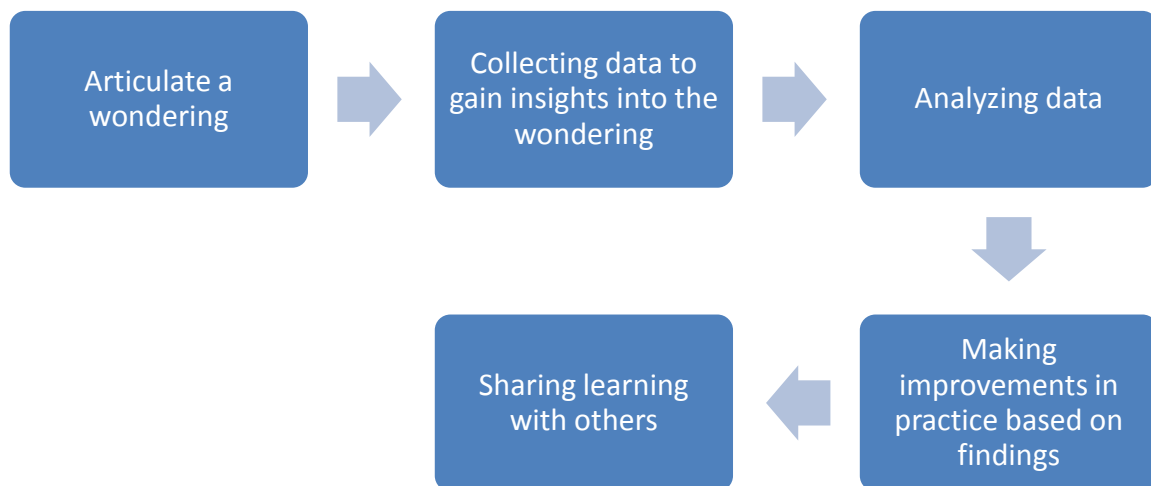
According to Hayward (2008), this is how action-research models may be used to help teachers deal with disruptive learners:

1. A *plan* is formulated to deal with disruptive or noisy learners.
2. The teacher *does* what has been planned, such as one-on-one meetings with any problem children.
3. The teacher then *studies* the level of improvement these actions have achieved.
4. The teacher *acts* on these observations and chooses corrective remedies or sanctions. If needed, a teacher would repeat the cycle until the learners' behaviour has improved.

Educational practitioners therefore conduct action research with one main purpose: to improve teaching and learning. As Gray (2009) argues, action research is not just about fostering change in organizations, it is about generating learning amongst the action-research participants. I contend that the kind of action-research that embraces collaboration inquiry, as espoused by Kurt Lewin (1946), is necessary if

improvement is to take place in institutions of learning. Dick (n.d. cited in Costello, 2003, p.5) extends this vision by describing action-research as a “flexible spiral process which allows action (change, improvement) and research (understanding knowledge) to be achieved at the same time”. Action-research is therefore intended to produce both change ‘action’ and understanding ‘research’. The process of action-research that best describes my study has been developed by Dana and Yendol-Hoppey (2009) – see diagram 4.2 below.

**Diagram 4.2 The action-research process**



(Adapted from Dana & Yendol-Hoppey, 2009 cited in Milton-Brkich, Shumbera & Beran, 2010).

This is how I explain my methodology as the processes that I used to answer the research question(s). As I mentioned in 1.3 (methodological inventiveness), the processes were guided by the ideas and questions from (Whitehead, 1988; Whitehead, 1993; and McNiff & Whitehead, 2002). Their ideas gave me working ways on how to improve my practice and to collect authentic data; their questions sounded warning alarms every time I strayed, out of my study parameters.

I have decided to choose to use a living-theory methodology, as developed by Whitehead (2009). A living theory could easily be mistaken for a case study. The case study is a study of a bound system while the explanatory principles of living

theories are not constrained by a bound system, contended Whitehead (2009), in an attempt to distinguish between the two research approaches. According to Whitehead and McNiff (2006, p.32) living theories “show how people can position themselves as living contradictions, because they hold certain values while also experiencing the denial of these values”. I write about my ‘living theory’ in Chapter Six when I answer the question: to what extent are my values negated? Although the living theory is a chosen theory for the study I was able to invent my own methodology as I generated a living theory of my practice. This was necessitated by this approach being applied in a different setting with different realities from those where applied by some researchers. My methodology therefore emerged alongside my practice (acting and reflecting on my instruction) and was responsive to the needs of my practice. Lastly, my methodology addressed three important questions.

- ✚ Which data will be collected and from whom?
- ✚ How should data be collected?
- ✚ How should data be analyzed?

In the next sections I look at these questions.

## **4.4 DATA COLLECTION**

### **4.4.1 Data collection from myself and from my students**

The selection of data collection was influenced by the type and purpose of the study. Examining the aim of my thesis, which was practice improvement – improving my instruction and students’ learning strategies, I collected data from myself and from my students. The reason I focused on both of us, is that both the students and I have problems with our teaching-learning methods, which affect the instruction as a whole.

**Monitoring myself:** I collected data from my practice on my instruction. Data collected from me was mainly through lecture-room observations. I requested that



my colleague monitor me in action (trying various teaching-learning strategies) through lecture-room observations. I also kept a reflective journal as part of monitoring how I had developed my own learning and how I had influenced the learning of my students.

I used the dialectic method as a technique for collecting data from myself (Dick, 1997). The use of this method enabled me (1) to focus on agreements and disagreements and (2) to carry forward only my interpretations from cycle to cycle. The problem for dialecticians is that whenever they try to communicate their understanding through statements, they are faced with the problem of contradiction (Whitehead, 2010). According to Whitehead (2010), to overcome this, problem individuals should recognize that they exist in a relational dynamic of space and boundaries. What it meant to me was that I should express and communicate this relational dynamic in terms of educational influence. "It also means bringing the same critical capacity to making judgements about the quality of your report, to see whether you are communicating normative assumptions through your use of language" (McNiff & Whitehead 2009, p.40). For example, in the question '*How do I help my students improve their learning and studying skills?*' I exist as a living contradiction in the sense that 'I' combine the experience of values together with their negation. In my practical life I have a set of values that gives meaning and purpose to my academic life. I am a "living contradiction" if I do not live my values in my practice (Whitehead, 2010, p.3). I experienced myself as a living contradiction after reflecting on the first observation of my lecture-room teaching. My living contradiction emerges when I realized that I deny us (students and myself) the true meaning of education by dominating lecture-room proceedings. I was not living my value of responsibility in my practice when I denied students the ownership of their learning. I am also saying that my value of fairness should be visible in my assessment, but according to the initial classroom observation my students were not involved in their own assessment. I also experienced a contradiction of my values when I did not lay the ground for my practice to be questioned by my students and/or colleague(s).

There were two aspects to this process of critical reflection – (1) stepping outside the research and locating it within my changing understanding of the historical, social, economic and political contexts in which it has been done (dialectic) and (2) making sure that each part contains the other parts, and each part is capable of making new meanings from and with the other parts - meta-reflexive (McNiff & Whitehead, 2009, pp.40-41). It meant that I had to take responsibility for my ideas, actions and concerns as I went along creating a 'living theory' of my educational knowledge.

**Monitoring students:** The data for the study was collected from WSU first-year undergraduate students, using chats as a form of interview, observation and open-ended questionnaires. These students were selected because, according to statistics, the dropout rate at the university is more prevalent among the first-year undergraduate students than among any other group. I write more about that in 3.6. As part of monitoring my students' learning and action, I asked them to keep a portfolio of learning. I used a video to monitor some of my students' actions. I write more in Chapter Five about the questions I prepared for students, to help them reflect on their learning.

#### **4.4.2 Methods used to collect data**

Data-collection method refers to what should be done to collect data and the way in which to collect it. Methods are the "specific techniques we develop for finding something out" (Whitehead & McNiff, 2006, p.23). The specific techniques that I used to collect data were chats, open-ended questionnaire, and observation. The use of multiple methods to collect valid, reliable, and truthful data is popularly known as triangulation. According to (Wilson, 2009, p.219) triangulation of methods involves the use of various data-collection instruments with the same subjects as way to counterbalance the "threats inherent of any one method". "Using multiple data sources and methods leads to the development of diverse perspectives on an issue or problem" asserts Samaras (2011, p.213). The use of multiple data sources

such as chats, open-ended questionnaire, and observation enabled me to analyze my research question(s) from more than one perspective. Here follow the reasons for and method of using these research tools to collect valid and reliable data.

#### **4.4.2.1 Chats**

Chats were used as an open response interviews in order to allow students to express their experiences about my teaching-learning methods in their own thinking and language. This type of interview was chosen because, "people will tell interviewers things in a chat they might not in a formal interview" (Briggs & Coleman, 2007, p.211). A chat occurred every time I seized a chance to have 'unplanned conversation' with a student. I quickly realized that by virtue of being their lecturer, some students might not want to express their views and opinions especially in a situation in which I would follow strict interview procedures. I did not want to jeopardize our research relationship at the crucial stage of the study by following strict interview procedure. A chat gave students an opportunity to express their views and opinions in their own thinking and their own language.

I used a chat to establish an enquiry journal, as advocated by Bassey (1998 cited in Lloyd, 2003, p.4) to "capture the feeling of the moment" and provide a record of enquiry events and I later used the information for write-up. I was aware that this method could be tricky with regard to ethical considerations and recording of data, which brought me to the question of how I should observe the rule of informed consent and "ensure reliability of data" (Cohen et al., 2000, p.50). I followed the advice of Briggs and Coleman (2000, p.211) that interviewers should make a mental note of key words as "triggers to flesh out a record of the chat". As Whitehead and McNiff (2006, p.64) contends "unlike archived data, where you can take reading documents, live data do not wait for you to catch up. People have quick conversations and move on, so you need to capture what they are saying on the spot". I therefore recorded the data as soon as possible after a chat had taken place. I also made students aware that our chat is a continuation of our collaborative action-research study. Another tricky part about using chats to collect data is that I

had to be ready with correct questions (have them in my head) all the time, because it was difficult to predict when I would 'bump' into my research participant (student). I realized that there was no time to ask inappropriate questions (questions that are not based on the new teaching-learning strategies that were being tried in the lecture-room); time was a valuable commodity when collecting data-using chats. Questions guiding our chats were influenced by the reflexive cycle questions which are the sub-sets of the two research sub-questions.

#### **4.4.2.2 Observation**

In self-study research process the first step is collecting data – with the use of a video-tape or any one of a range of methods, the teacher gathers information about his or her teaching (Hopkins, 1993). Observation, as with any other data-collection instrument has limitations. Koshy (2005) asserts that there may be a temptation to miss out details if they do not fit the items on a checklist. I used open-ended (unstructured) observation, allowing my colleague to capture all aspects of the lesson. An unstructured observation allowed my colleague, whom I used as a critical friend to observe my lesson inductively, that is, "without predetermined categories" Parahoo (1997, p.330). "Critical friends serve as validators who provide feedback, help shape the research, and work as a validation team" observed Samaras (2011, p.8). I needed someone who could offer critical and constructive feedback about my practice, not just become "evaluative or judgemental" (Samaras, 2011, p.75). I write more about my critical friend's involvement later in my study when I discuss his role and the value it added to my thesis. Although my critical friend observed my lessons without predetermined categories, some form or degree of structure was introduced by having broad topics on items to look out for during lecture-room observation. Another reason is that lecture-rooms are complex social settings and there are many things going on at once (Wilson, 2009). Introducing broad topics was a way of having a clear purpose – avoid recording everything at once. The completed observation checklists have been appended.

My colleague also used an audio-visual recorder (video) in later observations as well as making field notes using an observation checklist to record the proceedings. "Video tapes of practice can show the living reality of claims of knowledge" writes McNiff and Whitehead (2009, p.130). In support of this Hopkins (1993) reports that videotaping allows the teacher to observe many facets of his or her teaching quickly, and provides heuristic and accurate information for diagnosis. However, the use of a video can be inhibiting and distracting for the participants, observes Koshy (2005). I positioned the audio-visual camera at the back of the lecture-room; the camera focused on me all the time in order for me to obtain a clip of my teaching.

#### **4.4.2.3 Open-ended questionnaire**

Gray (2009) observes that the use of a questionnaire is valid for discovering information that cannot be ascertained in any other way, or for evaluating the effect of an action-research intervention. I used a questionnaire in my study solely to evaluate the impact of my teaching and learning strategies at the end of our last reflection action cycle. I rejected closed questionnaire, in-depth interview, as I reckoned my bias could be introduced by filtering through the data to extract key pieces of data supporting my own beliefs into the phenomenon I was attempting to study. I used a short open-ended questionnaire, which I did not pilot; I did, however, discuss it with my colleagues (one from communication department and my regular critical friend) to proofread and make comments, ensuring that I used words students could understand. As Koshy (2005, p.88) advises, "take account of the reading ability of students when administering a questionnaire". This type of a questionnaire afforded my students an opportunity freely to express their views and experiences of the course in the past academic year. As Gray (2009) notes, open questions have no definitive response and contain answers that are recorded in full, allowing research participants freely to express their views.

"Open-ended questions are useful, but give some thought to how you would analyze them" (Koshy, 2005, p.88). In designing the questionnaire for data analysis and

increasing validity I was guided by some of the questions from Gray (2009). He used the questions with regard to deliberating about questionnaire content:

- ✚ Is the question necessary? Just how will it be useful?
- ✚ Do respondents have information necessary to answer the question?
- ✚ Is the question content sufficiently general and free from spurious concreteness and specificity?
- ✚ Will the respondents give the information that is asked for?

Koshy (2005, p.89) goes further than that by saying, “designing a questionnaire needs great skill, especially when you use open-ended questions which are designed to be probing”. To increase questionnaire validity I started from the basis of a set of my sub-questions and formulated two or three questions in the questionnaire that sought to gather data for each sub-question. I therefore developed a type of a questionnaire that could answer the following questions: (1) did I create opportunities for my students to improve themselves, and (2) will they only take the knowledge context of the lessons away, or will they also take the skills, so as to articulate their own learning experiences in a reflective, emotionally responsive way? Lastly the questionnaire (Appendix Q) was designed in such a way that students could inform me if I had influenced their educational learning in a positive way.

#### **4.4.2.4 Weekly reflections**

My weekly reflections were in the form of writing reports for my supervisor at the end of each week. According to Samaras (2011, p.24) the weekly progress should be shared with a “critical friend and instructor”. My weekly reports helped me to “find success faster” (James, 2011, p.2) because they ensured that I took notice of the details that help – as I acted and reflected on my actions in my research journey. Coghlan and Brannick (2005, p.52) call the reflective journey “a weekly selection and analysis of critical incidents”. The aim of reflecting on my journey (weekly reflections) was two-fold: to monitor what I was doing, and also to clarify my role as an active participant in my own lecture-room. Weekly reports also ensured constant awareness of the work that still lay ahead, and the areas that had been covered. In

particular, I was able to keep records of any changes in the students' attitudes towards the new teaching-learning strategies, and to share these with my supervisor. I also kept records of the moments when I failed to live my values fully in my practice, prompting the question *'How do I improve my practice in such a way that my academic values and practice concur?'* Reflecting on this question every week enabled me to better understand my practice and to test out that understanding on other people. Data from my weekly reporting was kept in my reflective journal and later used as part of write-up in my narrative enquiry. Some of my weekly reports were appended (Appendix R).

#### **4.5 DATA ANALYSIS**

Data analysis denotes a search for patterns in data – recurrent behaviour, objects, or a body of knowledge (Neuman, 1997 cited in Mokhele, 2003). "Analysis involves the process of breaking data down into smaller units to reveal their characteristic elements and structure", writes Gray (2009, p.499). In action-research the problem is local, personal, and practical, not theoretical. As a result, constructs and variables may be described in terms of ideas, changes, and problem statements (Suter, 2006). As with qualitative research, I created categories and placed emphasis on shared characteristics from data collected through narrative portfolios (self-reflective journal and student-learning portfolio) and chats. My interpretations evolved through my views and perceptions of the students and a colleague. I was aware that sometimes the procedures used to analyse the data "do not perfectly match the plan" (Suter, 2006, p.412). However, well-written data-analysis plans describe methods for data reduction, strategies for coding, methods for displaying and summarizing data. The following paragraphs further explain the 'processes that I used' (methodology) as a strategy in answering the research question. The strategy identifies the method (narrative), principle (reflexivity) and the theory (grounded) as effective ways of analysing data, thereby leading to improvement of one's practice.

#### **4.5.1 Narrative enquiry as a method of data analysis**

Data analysis followed narrative enquiry logic. According to Czarniawska (2004 cited in Whitehead 2009, p.2), narrative enquiry is a specific type of qualitative design in which "narrative is understood as a spoken or written text giving an account of an event/action or series of events/actions, chronologically connected". Through the narrative-enquiry method I was able to 'tell' our actions (data gathering through lived experiences) as they emerged from cycle to cycle. Fox (2008, p.4) writes that, "the purpose of the telling and interpreting is to enable the reader to experience the narrative as though they lived it with the insight of the interpretation".

I have also followed what Denzin and Lincoln (2005) call interim site summaries (narrative review of research progress) and 'memo-ing' (formal noting and sharing of emergent issues). 'Memo-ing', according to Stringer (2004) is like analysing epiphanies. He describes epiphanies as illuminative moments of crisis or turning-point experiences. According to him, epiphany may emerge instantaneously or emerge gradually through a cumulative sense of awareness after an ongoing process of experience and reflection. I looked for patterns of evidence on which to base my interpretations, only taking my interpretations forward from cycle to cycle. Ross-Fisher (2008, p.163) offers the following advice with regard to data-gathering and evidence-generation: "Keys to look for in action research investigations are patterns of evidence-trends-over the duration of the study". As a result, I employed modes of inquiry that would make our (students and my) lived experiences directly accessible to the academic audience by "capturing the voices, emotions, and actions... focusing on those life experiences that shape the meanings" we give to ourselves (Stringer, 2004, p.98).

#### **4.5.2 Reflexivity as a principle of data analysis**

As I narrate our (students and my) actions to construct concrete data, I adopted reflexivity as the general principle of qualitative data analysis. Gray (2009, p.498) refers to reflexivity as the voice of the researcher where in his words "reflexivity involves the realization that the researcher is not a neutral observer, and is



implicated in the construction of knowledge". He further identified two forms of reflexivity, viz.: epistemological reflexivity (the researchers reflect on their assumptions about the world and about the nature of knowledge) and personal reflexivity (the researcher reflects upon how his personal values, attitudes, beliefs and aims have served to shape the research). I followed the latter strictly, as I found it to be "continuous, intentional and systematic self-introspection" (Dupuis, 1999 cited in Gray, 2009, p.499). It discards the notion that I should become a disinterested bystander who is detached from the study in pursuance of validity. Instead I should become a 'referee' and a 'player' in the field of my research study. This is what it means to me to be a collaborative action-researcher. My refereeing means that I applied and followed the principles and guidelines of collaborative action-research or self-study research. I am a player because I conducted research 'with' and not 'on' my research participants – I worked with research participants and my colleague to construct the data. "Action-research is viewed as a highly collaborative and reflexive process whereby a teacher examines his/her own practices" concludes Schumacher (2007, p.31). With my study I was fulfilling something that is in me and has been in me: be the best and create opportunities for others to develop themselves. That is, 'I' took action which involved 'we' to enable 'I' realize the values 'I' hold.

#### **4.5.3 Grounded theory as a process of data analysis**

Grounded theory does not begin with prior assumptions about hypothesis, research questions or what literature should underpin the study – instead it commences with a defined purpose, but also with the realization that this purpose may become modified or altered during the research process itself, argues Gray (2009). He defined grounded theory as a theory that is: "discovered, developed and provisionally verified through systematic data collection and analysis of data pertaining to that phenomenon" (2009, p.502). It is this idea of developing my living educational theory and that the grounded-theory researcher works with his or her participants to construct the data that encouraged me to adopt grounded theory as

a process of data analysis. According to Straus and Corbin (1998, cited in Gray, 2009, p.502) the process comprises:

- ✚ Open coding: the disaggregation of the data into units;
- ✚ Axial coding: recognizing relationships between categories; and
- ✚ Selective coding: integration of categories to produce a theory.

At first, my data analysis followed axial coding (first method of data analysis – analyzing epiphanies) and later open coding (second method of data analysis – unitizing). I write about that in Chapter Five. The process enabled me to employ modes of inquiry that “make the world of lived experience directly accessible to an academic audience...” (Stringer, 2004, p.99).

#### **4.5.4 Reducing data for meaning**

Koshy (2005) asserts that data reduction refers to the process of selecting, focusing, simplifying, abstracting and transforming the data. I followed the two hermeneutic-phenomenological approaches as advocated by Hussein (2008). The hermeneutic approach encouraged me to search and discover meanings through getting involved in the text. According to Eckartberg (1998, cited in Hussein, 2008, p.398) “the hermeneutic approach seems to palpate its object and make room for that object to reveal itself to our gaze and ears, to speak its own story into our understanding”. The first approach is the macro-thematic approach reflection. Macro-thematic is a holistic process of expressing the overall meaning of a text in an interpretive way. For me to be able to interpret data intuitively I read the entire transcripts of our narratives, searching for epiphanies or illuminative moments of our experiences. According to Stringer (2004) epiphanies are illuminative moments of crises, turning point experiences, which result in significant changes to peoples’ perceptions of their lives. The focus was on understanding the ongoing experienced reality of our lives “rather than seeking an objective truth that explains observed events” (Stringer, 2004, p.98). I observed what Stringer (2004) calls verbatim principle by adding additional words from within the speech of my student participants and a critical friend only to clarify meaning when the words themselves were insufficient. In this

way I could pick out quotes in the form of extracts that describe the main impression. According to him action-researchers add additional words constantly to seek to understand the perspectives and to formulate actions.

The second approach is micro-thematic reflection, which involved two sub-approaches: selecting or highlighting approach and the detailed or line-by-line approach. Hussein (2008) explains the micro-thematic reflection as the approach that requires a reflective practitioner to look for selected sentences and phrases that tended to emerge from the data and check in which units of the participants' reflections seem to be revealed. I read through the questionnaire, students learning portfolios, my reflective journal, and group reflections repeatedly underlining in pen what I found interesting. I realized that every time I re-read the transcripts, I found something interesting – something I had not picked up when I first read the notes. Re-reading provided me with an in-depth understanding of what my students and I say about the issues under study. I further used these individual accounts to construct a joint account revealing our perspectives and experiences of the issue under study. The following steps explain how I analysed data for meaning:

- Searching and noting issues pertaining to practice improvement in my reflexive-action research cycles;
- Read the entire transcripts of our narratives (the questionnaire, students learning portfolios, my reflective journal, and group reflections) searching for epiphanies or illuminative moments of our experiences. I underlined in pen what I found interesting;
- Re-read and carefully select sentences or part of sentences and phrases of our experiences that was significant to the purpose of the study. I picked out quotes in the form of extracts that described the main impression;
- Look for quotes from data that speak directly (offering answers and solutions to my initial proposition) to the criteria I set for myself; and
- Make connections between related phenomena by constructing joint accounts of the units of meaning in the participants' reflections. According to Stringer

(2004), a unit of meaning may be a word, a phrase, a part, or the whole of a sentence. With this, I was able to judge whether I had met my criteria.

#### **4.5.5 Analysing data for meaning**

As a reflective action-researcher I must be aware of what drives my academic life and work-related principles and morals so that I may be clear about what I am doing and most importantly, why I am doing this. In the next two sections I offer an explanation of how I analysed data and produced a truthful and authentic account of my enquiry. First, I discussed the criteria I had set for myself by which to judge my performance. Second, I talked about my values as ontological values I used when judging the standards of my performance. My understanding of ontology is that I bring my 'being' in relational dynamic with other beings. After watching my video clip for the first time my reaction was that I should accept myself as this being among other beings (students and colleagues). I felt a little bit embarrassed seeing myself walking and talking the way I was doing in front of other people. I can further explain that feeling by saying, for me to learn and develop the best practices in my job I need to know myself first. It is this knowledge that facilitates one to recognize the role others can play in my becoming. The ontological value underlying collaborative action is that we recognize that we live with others in a shared environment (Wood et al., n.d). "Ontology is a complex multi-disciplinary field that draws upon the knowledge of information organization, natural language processing, information organization, information extraction, artificial intelligence, knowledge representation and acquisition" write Ding and Foo (2002, pp.123 - 136). Breaking data down into smaller units (information organization) and ultimately making sense (knowledge representation and acquisition) of it was achieved, I believe, by linking my criteria with my standards of judgement.

#### **4.6 SUMMARY OF DATA-COLLECTION METHODS AND ANALYSIS**

This chapter outlines justification of the choice of my methodology around data gathering and generation. My methods of data collection include portfolios; journals (including my reflective journey); chats; questionnaire; audio-visual recordings; and reflecting on events in a group. The dialectic method enabled me to use multiple-data sources within each reflective-research cycle. My data is cyclic in nature. I started first with an introductory lecture. The purpose of the introductory lecture was two-fold. I wished to assist students in being able to reflect on their learning. I also wanted to make them aware that by choosing teaching career at an HE institution they possessed a self-directed learning style (they have a goal that serves as a motivation) which they may use to achieve greater success.

The reason I chose action-research as a mode of inquiry is that: "Action research involves continuous evaluation and modifications can be made as the project progresses" submits Koshy (2005, p.21). It did not only enable me to modify my ideas during the course of the study, but also to develop my methodology. I needed an inquiry that could afford me an opportunity to experiment with new ideas and to describe what I did and why I did it. Preparations that preceded our action formed the first set of data collected via student's portfolios and my reflective journal; and yielded rich information as the basis for the next set of data. The next chapter discusses our actions (lived experiences) in a lecture-room trying various teaching-learning methods in order to improve our practice(s). In the next chapter I take action to enable me to realize the values that I hold and evaluate the way in which my past teaching and learning experiences may have influenced what I am doing with my university students.

## **CHAPTER FIVE**

### **EVALUATING THE INFLUENCE OF THE ACTIONS IN TERMS OF VALUES AND UNDERSTANDINGS**

#### **5 INTRODUCTION**

In Chapter Five I present my data-collection techniques and a “detailed and effective account of what happened during the action stage...” (Koshy, 2005, p.129). I discovered that one of the challenges of conducting a collaborative action-research was in making decisions about the best way of using the various types of selected data-gathering instruments. I talk about this and explain the questions I used as guidance. In Chapter Four I took note of the research methods used by other action-research practitioners; I needed to discuss the appropriateness of these methods in carrying out collaborative studies. “Using several different methods for collecting data does not make your study better; I would say that it is the quality of your data that matters” writes Koshy (2005, p.83). This required strategies ensuring that I collect data that does not lack depth. I write about these strategies and how they enabled me in searching for instances where I had acted responsibly, showed fairness, and open-minded values in my teaching-learning.

In order to become more aware of my own teaching style and the way in which my students learn, I decided to obtain data from myself, my students and from a colleague who was used as a critical friend. Most of the data from myself came from our discussions (students, critical friend and myself) where, through various questions, single and group reflections, and brainstorming techniques, I directed the students to some logical conclusions. Cunningham (2008) notes that collaborative projects involve those who will be most affected by the process of conducting research, and provides them with the ability personally to shape the ‘action’ that will affect them. My students and I took equal responsibility in shaping the action that impacted on our academic lives through our group reflections. That is, this chapter introduces the action that I took to bring change into my teaching-learning strategies. In the chapter, I explain questions guiding my reflexive action cycles and how I used them to generate data in each cycle.

## 5.1 INTRODUCING MY ACTION

My 'action' involves the teaching and learning strategies I employed as a means of practice improvement. The teaching methods that I employed in improving my practice were guided by two intelligence approaches: interpersonal intelligence and intrapersonal intelligence.

### 5.1.1 Interpersonal intelligence approach to teaching

According to Lazear (2004), interpersonal intelligence uses the language of human relationships, collaboration, and teamwork, cooperation distinctions among people, common goals, consensus, empathy, and meaningful encounters with others. "Group activities, listening to each other's stories and poems, debating, helping each other to solve problems, and doing peer assessment can be employed to facilitate this intelligence" assert Pienaar, Nieman and Kamper (2011, p.270). It was envisaged that during group and lecture activities, students would realize the value of learning to do their part and supporting others in a team effort. That is, I employed group discussion and lecturing methods to encourage cooperative work.

**Group discussion:** The aim of group discussion was two-fold: firstly to allow students actively to discuss and develop their skills. It was also an opportunity for them to engage using their own language and thinking. I think that students need to be encouraged to form a learning-family – learning in a team, so that they can on their own form study groups. According to Everard and Morris (1996) a team is a group of people with common objectives that can effectively tackle any task which it has been set up to do. My duty was therefore to convince students that learning together adds value in thinking and creation of new ideas. I divided my students into small groups of four and gave them different topics to discuss and present to the entire group. This gave my students the opportunity to answer each other's questions in their own language and using their own thinking. Group discussion gave me the opportunity to assess students' abilities to work as a team; the method facilitated co-operation among the students. I observed my students practicing social skills such as praising others, listening well, and encouraging others.

**Lecturing:** Three years ago I was happy to become a lecturer, partly because of what I heard – lecturing involves introducing the topic and students going through the materials themselves. I saw and experienced this when I myself was a Technikon student. However, I came to realize that lecturing can be a valuable part of the higher education institution educator’s instructional repertoire if it is not overused – not used when other teaching methods would be more effective. As Galbraith (1998, p.143) puts it, the purpose of the lecture is to teach – “it is to be used as a teaching method, not just standing before a large group to speak”. The question for me was when and how to use lecturing effectively as a teaching method. “When the primary goal of the learning transaction is cognitive (information) transfer, the lecture method is well suited” contends Galbraith (1998, p.144). Unfortunately, for the lecture to be successful, both content knowledge and presentation skills are essential. With regard to content knowledge, I would prepare thoroughly for all my lectures. In my presentations I tried to be as interactive as possible by following one of the guidelines of interactive lecturing: make a lecture a two-way interaction by increased discussion among the students, the lecture content, and the teacher (Steinert, 1999). My students and I would engage with the lecture content on an equal footing – acknowledge their experiences for every topic under discussion. In that way I ensured that my students were no longer passive in the learning process. Other factors to consider before deciding whether to use the lecture method are availability of appropriate facilities – adequate space and equipment, advise Galbraith (1998). Jacobs et al. (2004, p.203) offer simple advice “... cover material from the textbook, using many good, present-day examples, and sprinkle the lecture with comments, questions, short exercises, discussions and stories”.

### **5.1.2 Intrapersonal intelligence approach to teaching**

Intrapersonal intelligence uses the language of introspection and awareness of internal aspects of the self, including awareness of one’s own feelings, intuitions, and thought processes (Lazear, 2004). In support of this, Pienaar et al. (2011) view intrapersonal intelligence as an awareness of inner moods, intentions, temperament and desires, and the capacity for self-discipline, self-understanding and self-respect.



They further put forward journal reflections, time to think, individual planning, discussing own emotions and moods, and conducting self-assessment, as strategies that may be employed in the classroom. "Where this intelligence is dominant, people will think best while alone. They enjoy individual activities where they can set their own pace" argue Pienaar et al. (2011, p.270). I used journal reflections to encourage higher-order thinking and reasoning. It was envisaged that during individual activities, students would realize the value of using facts and data to understanding processes. I therefore employed the following teaching methods; mentoring, presentation, and questioning, to encourage students to value the use of facts and data in understanding the learning processes. These methods were used interchangeably; sometimes I would use three methods in one action cycle (or lesson).

**Mentoring:** Thanks to Galbraith (1998, p.355) for clarifying my mentoring role, "when students come to higher education, they are in a real sense changing environments", I used mentoring more as a way of managing and coaching students on how to find information than passing direct information to them. I gave them support and guidance with the aim of helping them to teach themselves, acquiring the necessary knowledge and skills. My point of departure was to introduce 'reading and summarizing' learning method to my students, to enable them to go through the learning materials themselves. Herman and Mandell (2004, p.9) describe a mentor as someone who can "genuinely care for each person's effort to learn to thrive in a world where it is tough not merely to succeed but to be wise". Mentors serve as "midwives or guides rather than solely as sources of knowledge" submits Galbraith (1998, p.354).

**Presentation:** I gave students topics related to the course to prepare and present in pairs. The aim of the students' presentation was to listen to their use of course content, check their confidence, look at their facial expressions, and the types of questions from both presenter and his or her 'learners'. Lastly I wanted to check whether they were aware that each subject module has its own terminology. I agree with the philosophy: the best way to learn something is to teach it. It was also observed by Brooks and Brooks (1993) in their study of various methods of learning

and the retention rate resulting from *teaching others*: 90%. According to the South African Qualifications Authority (SAQA, 1995), School-Based Experience (SBE) is an integral part of all professional qualifications, whether in-service or initial training, and it should take place in all years of study. However, according to the Faculty of Education structure of the programme at WSU the first-year undergraduate students on initial training do not go for SBE; only in their second year are they allowed to go to the schools and observe or teach. Allowing my students to present lessons was for me a way of preparing them for the future; to demonstrate their practical competence.

**Questioning:** "Questioning is used in conjunction with many other teaching methods, however, it is commonly the most overlooked method by inexperienced instructors" writes Galbraith (1998, p.187). I used the questioning method in lecturing and mentoring, to stimulate students' interest and gain maximum participation in my lessons. Jacobs et al. (2004) differentiate between productive and reproductive questions. They contend that productive questions are higher-order questions which stimulate thought and insight. On the other hand, reproductive questions are used to establish how much knowledge the student has retained. "It is for this reason that reproductive questions are also referred to as memory questions" submit Jacobs et al. (2004, p.188). I varied these questions by opening with 'Why' and 'How' as I led our discussions and encouraged my students to do the same. Galbraith (1998, p.188) puts forward the following purposes of educative questions:

- ✓ To lead discussions;
- ✓ To review subject matter;
- ✓ To stimulate thinking;
- ✓ To gain learner's participation in class;
- ✓ To focus attention of the learner; and
- ✓ To test the learners' knowledge of subjects covered in class.

The preliminary data collection indicated a lack of questioning from both students and me during a lesson. I therefore used 'questions' in all the three stages of the lesson (introduction, body of the lesson, and conclusion). "The teacher may at the beginning and during the lesson use questions to arouse interest and to stimulate the natural curiosity of the learners", write Jacobs et al. (2004, p.188). In a classroom situation, questions normally relate to structure – these types of question must be answered by the teacher; and others relate to content - these may be redirected to the entire group. Redirecting questions kept my students focused all the time. "To redirect, the teacher may point or nod to a learner or ask anyone to add something" (Jacobs et al., 2004, p.190). I used the following strategies to redirect questions to students:

- ✓ What do the rest of you think about that?;
- ✓ That relates exactly to what Peter suggested. Don't you think so?; and
- ✓ Is there anybody who has read any material related to this topic before?

Further analysis of preliminary data (see Chapter Six on data analysis) also indicated a lack of acknowledgement of students' responses - I failed to a certain degree to give them feedback after they had responded. According to Jacobs et al. (2004) this is a 'reaction stage' which is a weakness of most incompetent teachers. At some point I was incompetent. I will say something about this shortly in data analysis. They put it succinctly, "if a teacher consistently fails to react to responses, it creates an atmosphere in which learners are reluctant to answer questions because the teacher does not acknowledge their efforts..." (p.191). I introduced the 'question and answer' learning method to the students in which I encouraged them to develop questions and to explore answers to the developed questions.

## **5.2 LEARNING METHODS EMPLOYED AS A STRATEGY FOR PRACTICE IMPROVEMENT**

I employed the following learning methods as a strategy for assisting my students to acquire learning skills suitable for the university: reading and summarizing,

questioning, and student presentations. These learning methods were employed separately in the first action cycles, but later were combined as students became used to them.

### **5.2.1 Questioning**

Asking questions and exploring their answers is perhaps one of the most important skills that teachers and students need. Teachers need to ask questions to relax the students and get them involved. Students should be encouraged to ask questions in order to seek clarification on difficult study materials. The questioning method was demanding on my students because they had to listen attentively. As Jacobs et al. (2004) observe, students must listen carefully to the questions asked by the teacher and to the answers given by other students and compare their own answers with those of other students. Listening to the questioning and answering techniques assisted some students who did not know or were not sure of how to ask questions.

First, I taught my students how to develop the five basic questions, namely: Why? How?, What?, Which?, and Where? Second, the way in which to develop questions using action words such as: explain, define, describe, mention, evaluate, etc. Questions form part of school assessment and therefore the skill of asking questions should be developed as early as the first year of study.

### **5.2.2 Reading and summarizing**

I taught my students two ways of reading: scanning and skimming. The dictionary defines skimming as "reading quickly but missing out parts" (Chambers-MacMillan, 1996). Students sometimes are faced with a number of sources when preparing for an assignment. They should therefore be able to skim the sources to see which ones have relevant information. Scanning implies looking intently all over; to find a specific piece of information. Here I directed students to the known piece of information. I led students in reading paragraph by paragraph, underlining important

concepts in the given study materials. Lastly we summarized the important points of each paragraph in a few words.

Looking closely, scanning, and skimming, complement one another. Students must learn these skills before conducting an in-depth reading in order to summarize the study materials. Again, on completion of their studies they should be able to write a summary (notes) of the study materials for their own learners at the schools.

### **5.2.3 Student presentations**

Students who use the teaching others method of learning, frequently experience the highest retention rate (90%) of the new content (Brooks & Brooks, 1993). I was able to see my students' ability to communicate what has been learnt. Students began to recognize the limitations of their work – that is, a student, after being unable to answer his or her co-students' questions, would be encouraged to go and do more reading. For me, the significance of learning was that students who were involved in presenting the content to fellow students were able to learn from it. My student teachers had the opportunity to gain practical teaching skills.

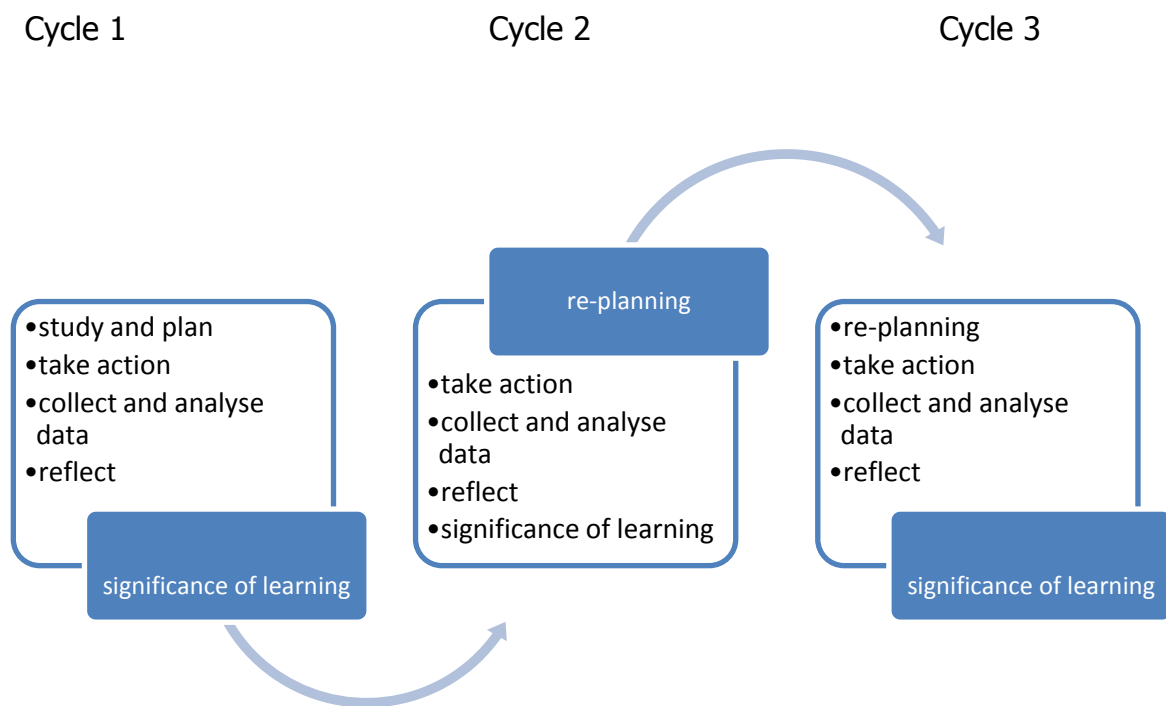
## **5.3 MY SPIRAL REFLEXIVE-ACTION CYCLES – A MODEL TO IMPROVE TEACHING-LEARNING SKILLS**

As action-researchers we recognize our own view as subjective, and seek to develop our understanding of events from multiple perspectives. "This form of research then is an interactive, cyclical process of reflecting on practice, taking action, reflecting, and taking further action. Therefore, the research takes shape while it is being performed. Greater understanding from each cycle points the way to improved actions" (Riel, 2010, p.2). I imagined possible ways of improving my practice therefore I chose one to act on in action plan. This is how I describe my model: as appropriate processes for carrying out our actions to realize practice improvement.

### **5.3.1 The uniqueness of my enquiry model**

This is how my reflexive action cycle (model) began: I studied the initial situation (study and plan) and planned a possible way of improving it; I then executed (take action) the plan which would involve students and in some instances my colleague; cycle data collection and analysis (collect and analyse data); and look into the learning and significance within each cycle. Other action-research models focus on plan, act, observe and reflect; my model emphasizes collecting and analysing data and looking at the significance of learning in each cycle as the two processes I used to decide which ideas I should take forward. The processes involved looking for common trends and behaviour (reflect) in students' acting and "making inferences" (Neuman, 1997, p.419). According to him the term inference means to pass judgement, to use reasoning, and to reach a conclusion based on evidence. It enabled me to carefully search for confirming cases (significance of learning). In the case of a negative or discrepant case, I would search in another cycle until the cycle question is answered. In some instances I would test the meaning of the emerging themes in another cycle. As Riel (2010) would contend "each cycle is a discrete experiment – taking action as a way of studying change" (p.2). McNiff (2002, p.12) submits that, "the processes can be shown as a spiral of cycles, where one issue forms the basis of another and, as one question is addressed, the answer to it generates new questions". Figure 5.1 represents the working model of my reflexive action research spiral of cycles.

**Figure 5.1 My reflexive cycles model to improve teaching-learning skills**



Mokhele (2012) reflexive spiral of cycles

### 5.3.2 Using my spiral reflexive action cycles to improve practice

Action-research is not only a problem-solving process; it is also a reflective and reflexive process of dealing with existential trajectories of the professional learning process (Hussein, 2008). In support of this, Sandelowski and Berosso (2002, cited in Hussein, 2008, p.6) see reflexivity as the ability to reflect inward toward oneself as an inquirer, outward to the cultural, historical, linguistic, political, and other forces that shape everything about enquiry; and, in between researcher and participant, to the social interaction they share. I made adjustments before the next cycle, according to the feedback from students, my critical friend, and my own reflections. To become a critically reflexive practitioner I was 'guided' by James, Slater and Bucknam's (2011) three constructs:

- ✓ Did you act in such a way as to positively influence a fair and equitable outcome (self-management)?;

- ✓ Did the other people involved leave feeling as though they were respected and that their concerns were heard (relationship management)?; and
- ✓ Did your behaviour model what you would hope for as that which creates positive norms of behaviour on a societal, even global level (social awareness?).

To me the word 'guided' means that every-time I took an action I would think about the feeling and the influence I am going to leave on my students and critical friend. That is, the three questions raised the level of self-awareness which is a precursor to working in collaborative-action research; and requires a degree of objectivity as to our relative emotional intelligence (EI) observe James et al. (2011).

I used a collaborative process, which not only fit my current educational philosophy, but is consonant with the learning theories of constructivism and behaviourism. The aim of developing my own spiral of reflective cycles was to gather data in such a way that I would be able to generate enough evidence. What I was looking for was episodes of practice to show how I have developed my own learning (which means focusing on myself), and episodes where I think my learning has influenced the learning of others (which means focusing on them). Although I treated each cycle as a "discrete experiment" (Riel, 2010, p.5) taking action to study change, I allowed ideas to flow from one cycle to another. It was easy to build a body of knowledge by letting one cycle correct the 'flaws' of the previous cycle; review and evaluate the modified action in the next cycle.

### **5.3.3 Questions guiding my reflexive action cycles**

In order to monitor our actions I had to develop a research question suitable for each cycle. By 'suitable', I mean a question showing intent to solve a problematic situation. According to collaborative studies, cycle questions are sub-questions that help address the larger issue in different ways. McNiff and Whitehead (2009, p.14) write that: "Your action is taken with educational intent, so it is about helping people learn how to improve the conditions and processes of their own living". According to



Riel (2010) a good question will inspire one to look closely and collect evidence that will help find possible answers. The question should not be vague in both the description of the action and in the possible outcome. Each cycle started with an initial situation which leads to the development of a cycle question aimed at addressing the problematic situation. I followed Riel's (2010, p.2) if/then format in developing questions for each cycle. He described it as follows: "If I [insert the action to be taken], how will it affect [describe one or more possible consequences of the action]?" He further contends that these questions when stated in if/then format, may take shape of a research hypothesis. The following questions came from a desire to have practice align with values and beliefs:

Cycle One research question:

*If I let students work in pairs on a certain activity using their own language and thinking, developing and answering each other's basic five questions (what? where? how? which? why?) will they develop a questioning attitude?*

Cycle One research question - continues:

*If I release too much structure in my approach and give students a freedom to also ask questions that start with action words such as: mention; state; outline; evaluate; discuss; reflect; identify etc., to what extent will they be able to develop and formulate their own questions?*

Cycle Two research question:

*If I teach students how to read and summarize study materials will they be able to read intuitively and develop questions in a much-improved way?*

Cycle Three research question:

*If I step back in my lessons by giving students sub-topics after introducing the major topic to prepare and present in our lesson(s), will they be able not only ask and answer questions from the presenters (co-students), but (1) develop teaching and learning skills and (2) take interest and initiatives in leading lecture-room discussions?*

The above questions were asked during the second phase of data collection – during instruction (while engaging with the lecture content). I would exit and move on to the next cycle once I was satisfied with that aspect of my work (McNiff & Whitehead, 2002). I wrote descriptions in my reflective journal of what happened in each cycle. The last cycle (cycle four) was followed by a string of students' oral-lesson presentations. Their lesson presentations gave me the opportunity to check, among other things (1) whether they were able to ask and allow questions from their co-students and (2) their readiness-level of leading lecture-room discussions.

## **5.4 DATA FROM SELF**

I used my values as practical principles to explain the reason for my doing what I had done – that is, I showed the meanings of these values as they were clarified in the course of their emergence in the practice. In order for me to be able to monitor my own actions and learning I constantly ask myself the following questions advocated by Whitehead and McNiff (2006, p.68):

- ✓ What am I doing in relation to others?
- ✓ How do I interpret and explain my own behaviour?

They further argued that I can only evaluate the quality of my influence on the learning of others and in the learning of social formations by checking how others respond to me. Dick (1997) submitted that increasingly in qualitative research, it is being regarded as appropriate to discuss yourself and your learning as part of your thesis.

### **5.4.1 Ways of collecting data from self**

I kept a reflective portfolio, the reason being that I would have a record that I could look back on and remember my experiences, and ultimately write a self-reflective report of my living theory. I wrote in my reflective portfolio a review of our actions, in particular my actions at the end of each cycle. I have (in Chapter Four) indicated

that my data is cyclical in nature. I did this persistently and in a disciplined way – that is, write about things as they emerged and not as I imagined them. Here I allowed myself to be assisted and guided by my ontological values as standards of judgement.

I also kept a record of the weekly-Friday reports I used to send to my supervisor about anything I found interesting and/or challenging on collaborative action research. The records formed part of reflecting on my journey.

#### **5.4.2 Questions guiding data from self**

I agree with Grande (2006) that it is important to gather data from the start. I have made reflection notes called a reflective-portfolio once actions have been performed. “The process of reflective writing is an integral part of professional development” observe Koshy (2005, p.97). To engage fully in my reflective practice I also included “anecdotal information and additional questions or concerns” (Ross-Fisher, 2008, p.5). My reflections were guided by the following questions from Grande (2006, p.47):

- ✓ What did you feel?
- ✓ What did you discover?
- ✓ What did you experience?

These questions were appropriate for my situation as they lead to self and critical reflection. However, the latter question about experience was slightly changed to: ‘What did I learn? for the obvious reason that it could be in line with the theme of our journey,— learning how to learn. I kept the same questions from cycle to cycle. I agree with Grande that using words such as; feel, discover and experience, describe what the students and I were thinking; our innermost thoughts and emotions. Although I used the above-mentioned questions only for my own reflections, having discovered that they were difficult for my students to comprehend, to them words such as *discover* and *experience* meant one and the same thing. Realizing that the

questionnaire from students would only be submitted at the end of the year, I used summaries of our chats, and group reflections, to improve my strategic plan and action for the subsequent cycles. I also collected the first part of students' portfolios in mid-year (June 2011) and the second part at the end of data collection (October 2011).

### **5.4.3 Reflecting on my journey**

My reflective journey comprises the weekly reports I began sending to my supervisor in April 2011. This is how my story began – describing where I started, and where I intended going or thought I was going with regard to self-study and collaborative action research. I reflected on any book I found interesting, TES training workshops funded by NRF, on anything I did with my research participants. These weekly reports kept me on my toes, focused and in good 'shape' – as I was trying to clarify for myself what I was trying to do. "The reflective process involved in writing a diary contributes to the professional development of the researcher" (Koshy, 2005, p.97). Another reason for keeping diaries as discovered by Gray (2009, p.325) is that it provides a "reflective account through which the researcher makes tentative interpretations of events, or through which the researcher records personal feelings and anxieties in order to try to understand them". I will need those difficult moments and the times I really enjoyed what I was doing when I reflected on my journey. At this stage I was still not sure how to test my own judgements against the critical feedback of others. This may have influenced what went into my diary. However, I decided to write as much as possible.

I agree with Gray (2009, p.325) that one of the important questions that I needed to answer at the end of my study journey was "how did I judge my own effectiveness"? I based my judgement on how I managed to live my ontological values and control my learning. McNiff (2002, p.90) writes that "action researchers see knowledge as something they do, a living process". Keeping a track record of my 'actions' puts me in a position to write an adequate theory of my learning.

## **5.5 DATA FROM STUDENTS**

I was interested in how my students found the teaching-learning practice in the course. I therefore requested them to keep a track record of their learning and my teaching in the form of two portfolios – the first portfolio was submitted in June 2011 and the second portfolio in October 2011. Female students never struggled with a portfolio; they quickly made it clear to me that a portfolio of learning is the same as the diary they used to keep about their love stories when they were young. I observed male students writing their impressions as the lesson progressed in their little books they kept as portfolios of learning. They found it easy to write on the spot than wait until later and struggle to recall what had happened during the lesson.

### **5.5.1 Ways of collecting data from students**

In action-research, data are generated from the direct experiences of research participants, writes (Gray, 2009). Students were therefore requested to keep a journal, which we called a 'portfolio of learning' in which they wrote everything related to the course. I followed an idea of Whitehead and McNiff (2006) that when monitoring others' learning I should invite them to maintain their reflective journals, or learning portfolios, recording instances where they learned something new, showing their reflections on their learning, and commenting on their possible significance. Another purpose served by the reflective learning-portfolio was to help students 'sort things out' as they restructured old ways of thinking and moved on to new understandings (Meyers & Jones, 1993). I was interested in what my students would say about their reality in this action-research study. I therefore requested them to act and reflect on the significance of their actions, and lastly to observe any improvement or change in behaviour from selves or co-students. This is how I explained action-research steps to the students:

- ✓ Act – given a task (assignment, project etc.) what are you going to do to answer the task?

- ✓ Significance – why did you approach the task in that way and not another way?
- ✓ Observe – what was the approach of other co-students; again, do you feel you should change your studying habits? Reflect - I encouraged them to think and check carefully - reflect on areas that needed improvement every-time they gained feedback on any assessment activity. To us, reflection encompassed all the action-research steps.

For a person like myself who is used to being in the 'driving seat' – leading and directing students, I was uncertain and afraid of inviting students' comments about my teaching practice. I viewed it as a risk to myself-esteem. However, Whitehead and McNiff (2006, p.70) saw that "action research is full of risk, and practitioner – researchers simply need to engage with it". Kohn (2008, p.4) concurs, "progressive teachers also have to be comfortable with uncertainty, not only to abandon a predictable march toward the 'right answer' but to let students play an active role in the quest for meaning that replaces it. That means a willingness to give up some control and let students take some ownership, which requires guts as well as talent". I invited students at the end of every cycle to tell me what I should stop, start or continue doing. As teachers sometimes "we need confirmation about the things we are doing well" (Brown & Race, 1995, p.56). My students' comments assisted me in planning for the next cycle.

### **5.5.2 Questions guiding students' portfolios**

Besides students reflecting on any book, or when doing assignment and preparing for a test using a process of planning, acting, asking themselves the significance of their actions, and reflecting on the outcomes, they also had to answer the following questions as part of monitoring our actions:

- ✓ Do you feel I allow enough questions from students? Why?
- ✓ Did you learn anything new and interesting about the session?

- ✓ Did other people (co-students and lecturer) help you enough to learn? Not enough? Why not?
- ✓ Am I helping my co-students to learn? If not, why not? If yes, how?
- ✓ Is there any progress in what I am doing?
- ✓ Today in class how was the lesson? Describe the bad moments and good moments.

Obviously questions were altered according to the new situation. This happened after reviewing the first group of students' portfolio. I discovered that some students were struggling to reflect on their learning. They focused on the 'course content' and their 'lecturer' without indicating how they found the content and whether I was making their learning easy. That groups of students obviously needed to be assisted and guided on what I came to refer to as 'self-reflective learning' for the obvious reason that students should start to focus on their learning. We agreed to do group-reflection lessons for the following two weeks, in order to assist those who were struggling to do self-reflective learning. Some of the things that were embarrassing to be spoken of openly (in chats) my students wrote in their portfolio of learning. For instance, during our chats, no student was brave enough to talk about the bad moments of my lessons. The next method of collecting data from my students was by using 'chats'. As explained in Chapter Four, chats represented those unplanned conversations that took place between the students and me.

### **5.5.3 Questions guiding the chats**

Whenever an opportunity arose, students were asked the following questions in any order:

- ✓ You are repeating the course? What would you like to see happening this year – something that can assist you to succeed?
- ✓ What is it like to be a student on this course? Describe the likes and dislikes.

- ✓ How does this experience compare with your expectations of this course?
- ✓ Today in class, did you learn anything new and interesting about the session?
- ✓ How do the new teaching and learning strategies affect you? Do you feel satisfied after the changes?

Lastly, I gathered data from students using a questionnaire. I gave students a questionnaire to establish the impact of my teaching and learning strategies (see Appendix Q). The questionnaire was administered in a lecture-room by a critical friend in October 2011, shortly before the university end-of-year examination. Students had many assignments and projects to conduct in order to make up for lost time (owing to class boycotts), therefore, giving them the questionnaire to take away was chancy; it may not have been returned, or at least not on time. Students were also thinking and preparing themselves for the next examination.

## **5.6 REFLECTING IN A GROUP**

After our first action-reflexive cycle, I requested that my students reflect on the proceedings in small groups. I wanted to check two things (1) were they able to reflect on their learning? and (2) the level of understanding and cooperation among students. Gray (2009, p.325) says that, "if the action-research project is a collaborative one, then it is also possible to write collaborative diaries. These can be written independently ... alternatively, they may be written interactively". After putting up on the wall the charts of their reflections, I took images of the extracts – (see Chapter Six). We agreed to refer to them as 'group reflections'. The structure of my lectures was such that, after introducing a new topic to students I would 'disappear' and let them decide on the direction the lecture should take. That is, I would allow them to be responsible for their own learning. The charts were presented to the entire group by the various group leaders. The aim was also to make students aware of the role of a teacher at a HE institution of learning; a role which has changed from teacher to a facilitator; and also to prepare them for the world of work – they need facilitation skills. Since the advent of the new curriculum



in South Africa, known as Outcomes Based Education and Curriculum 2005 (OBE-C2005), a new way of looking at teachers as facilitators was introduced – i.e. guiding learning, not transmitting knowledge. However, after successive curriculum reviews, the new curriculum was phased out and replaced by a strengthened and streamlined OBE curriculum referred to as the Revised National Curriculum Statement (RNCS). The current curriculum is the National Curriculum Statements Grades R-12 (NCS Grades R-12). The NCS Grades R-12 represents a policy statement for learning and teaching in South African schools and comprises of the following: (1) Curriculum and Assessment Policy Statements (CAPS) and (2) National Protocol for Assessment Grades R-12 (Department of Basic Education, 2011). I need to emphasize that the new curriculum developments did not change the fact that teachers should pursue varied learning resources and develop lesson activities that were learner-centred; and be facilitators of learning.

To arouse a quest for asking questions, students were given materials to study and from which to develop their own questions. The questions formed part of students' assessment as a way of showing fairness in my assessment. In the first two cycles students worked in pairs when developing and answering each other's questions and in groups of four during group reflections; only in the last cycle did students work alone; this was after realizing that students had gained confidence to try new learning methods. Throughout the cycles students were encouraged to collaborate, cooperate, ask questions, and give each other feedback. Lizzio and Wilson (2005, p.380) identify the following domains of self-managed groups:

- ✓ Cooperation and collaboration: the extent to which students feel that they are working in a cooperative environment.
- ✓ Trust and safety – are we tolerant or impatient with each other? Do we feel safe to make mistakes and freely share our ideas with one another?
- ✓ Collaborative synergy – do we build on each other's ideas?
- ✓ Process learning: the extent to which group members monitor and review personal and group processes.

- ✓ Giving and seeking feedback – do we ask/give each other feedback on our behaviour or impact?

My students did not form self-managed groups; instead, they relied on my direction in terms of bringing the instruction material to the lecture-room. However, the above-mentioned domains provided the whole group with some guidelines. I encouraged students to reflect on these domains, so as to encourage socialization and team effort in their groups or as they worked in pairs in the lecture-room. The following are the questions students answered after the completion of every group activity, and later wrote the review of their learning in their individual portfolios of learning.

#### **5.6.1 Questions guiding group reflections**

- ✓ What did you learn from this lesson?
- ✓ Did the lecturer help you enough or not enough? If not, in which way?
- ✓ Do you feel you helped one another enough or not enough? If not, in which way?
- ✓ How was the lesson? Describe the bad moments and the good moments.
- ✓ Do you think we should try this method again? If yes, why yes? If no, why not?

The questions were not asked in one group reflection activity, but depended on the lesson content and the aim. For instance, the question: 'What did you learn from this lesson?' was asked only during students' lesson presentations. Group reflections provided me with immediate feedback so that I could effectively plan for the next cycle-lesson. I realized that I should use the knowledge of my subject effectively to create meaningful experiences for the students. One of the things self-study research did was to encourage students to focus clearly on the learning task.

## **5.7 DATA FROM A CRITICAL FRIEND**

The essence of higher education is that it should be a process in which people search together, argue Donald (1997). I needed a person who could monitor and validate my actions. I invited my critical friend who, besides observing our (students and I) teaching-learning practice, also moderated all the assessment activities (mainly tests and assignments) written by the students. I used questions developed by students in setting tests and assignments for them. Earlier in my thesis, I highlighted that my value of fairness should be visible in my assessment. Whitehead and McNiff (2006) are of the opinion that action-research practitioners may also ask other people to observe and monitor them. Fisher (2008) observe that action-research involves sources of data such as teacher observation, examination of students' work samples, interest inventories, and performance on either teacher created assessments or commercially produced instruments. "The role of critical friends is helpful in maintaining rigour and the quality of your findings" writes Koshy (2005. p.40).

### **5.7.1 Critical friend gathering data about my practice**

My critical friend used an observation checklist in the first phase of data collection, to guide his observation uninterrupted. He used a combination of audio-visual camera and field notes (observation checklists) to record anything impressive or unusual in his later observations during the second phase of data collection. I agree with Buchanan and Jackson (1997) that teachers can benefit immensely from having their practice observed by a colleague who may be regarded as a 'critical friend'. The checklists were appended in order for me to keep a track record of data from my critical friend. After a lecture-room observation, my critical friend (henceforth to be known as Mr CC) and I would meet and reflect. Our reflections yielded rich data I captured as 'conversations'.

## 5.8 ENSURING VALIDITY IN MY DATA

The importance of critiquing action-research studies has been well captured by McNiff (2002, p.22) when she writes, "so that your judgement of your work is not held to be only your opinion, you need to make the work available to the critical scrutiny of others, such as your critical friend and your validation group". To ensure that I undertook my work in a rigorous way I was guided by two validity criteria: "democratic validity" and "process validity" as advocated by Wilson (2009, p.200). She viewed a democratic validity as a vigorous conversational process that engaged both the researcher and the researched in the inquiry. I worked closely with Mr CC and students to ensure that the results were relevant to what had been studied. A critical friend or learning partner in the words of McNiff (2002, p.23) should be able to ask questions such as, "how do I help you to learn and find your own answers?" Mr CC was able to make professional judgements on the validity of my study. I considered my research participants (students and TES members) my critical validation group. Their comments, speaking in their own language and thinking helped me to develop my own living educational theory. I write more about my living educational theory in Chapter Seven. "The task of the validation group is to help the researcher to move his ideas forward" submits McNiff (1988, cited in Leong, 1990, p.3).

Instead of calling for consensus, I invite people (my critical friend, my supervisor, and the wider academic audience) to learn from and debate my theory. As with Cohen et al. (2000), I value the 'academic freedom' in which an atmosphere of intellectual openness is maintained. Criesell and Louw (1991, p.18) assert that "action researchers do not aim for consensus or harmony, but they do try to create spaces of tolerance to negotiate differences". This can happen because reflection on 'action' is an inherent part of an action-research methodology – process validity. According to Wilson (2009), process validity focuses on how the new knowledge was generated; were appropriate methods to answer the question used. I write more in Chapter Six about how I followed a process validity to assess the quality of my collaborative action-research study.

## **5.9 ENSURING RELIABILITY IN MY DATA**

“Reliability is a measure of consistency and can include measures of stability (over time); and inter-judge reliability” (Gray, 2009, p.362). Reliability may be improved by the process of triangulation. Triangulation reduces sources of error by gathering data from multiple sources, or using a variety of methods (Gray, 2009). I used chats as a form of interview, also observation and open-ended questionnaires. Another process of reducing unreliability as observed by Gray (2009, p.417) is to record the observed events in some way so that the data may “be reviewed and, if necessary, re-interpreted”. I kept a journal of inquiry in which I wrote anything unusual happening in the lecture-room. My students also reflected on their learning in a portfolio of learning.

I believe another way of ensuring reliability is to narrate the stories as experienced by both the researcher and research respondents and not as imagined. I encouraged students to reflect on their learning the way they understood it “for there is no one best way or order of dealing with narrative experience or consciousness” (Hussein, 2008, p.15). According to McNiff and Whitehead (2009, p.13), in order for us to avoid our stories’ lacking authenticity, they should contain a “claim to knowledge” by stating what has been achieved.

## **5.10 SUMMARY OF STRATEGIES FOR HELPING STUDENTS TO LEARN**

I was interested in data that would assist in answering my questions – data that would enable me plan realistic strategies. I therefore employed the following strategies to gather data about my practice: students’ portfolios, chats, questionnaires, group reflections, and reflective journals. Data collection took place between February 2011 and November 2011. According to Ross-Fisher (2008), an action-research project may span only a few weeks, or it may last an entire school year and beyond. With projects on practice improvement it takes time to build knowledge, argued Ross-Fisher (2008).

The core aspect of the action self-study paradigm is its cyclical nature of solving problems. The solution that I imagined took the form of cycle questions that described the action and the possible outcome. It involved monitoring the action, gathering data and generating evidence from the data in order to ground a knowledge claim. My methodology became clear as I collaborated with my students and critical friend to inquire into my teaching-learning practice. I argue that methodology is not research tools but is the description of the techniques that one uses during an enquiry process. My methodology enabled me to problematize 'self' and set out an enquiry plan to investigate my contribution towards what I came to understand as the (in)effective use of teaching-learning methods at HEIs. The next chapter is mainly about the judgements I made on myself and my students as I/we acted. It contains a detailed narrative of students' portfolios, group reflections, open-ended questionnaire, conversations with Mr CC and Jack Whitehead, and my reflective journal. I allowed students' narrative reflections, our conversations with Jack Whitehead and Mr CC to inform the direction my study should take.

**CHAPTER SIX**  
**MODIFYING CONCERNS, IDEAS AND ACTIONS IN THE LIGHT OF**  
**EVALUATIONS**

**6 INTRODUCTION**

In this chapter I explain how I used my reflexive-action cycle model to improve teaching-learning skills and how my report becomes narrative enquiry. I also explain how other people (students, critical friend) were engaged and how data was categorized from their inferences. As Koshy (2005) once observed, data analysis is like creating a coherent story from all the data collected. I searched for the answers to my original expected outcomes (discussed in section 1.6: purpose of the study) – which are centred, around practice improvement in those pieces of data I collected from several sources. Stringer (2004, p.97) puts the aim of data analysis aptly: “The intent is to accomplish common-sense solutions to problems by finding concepts and ideas that make sense to the stakeholders”. I show how I live out my values as I contribute to the development of teaching-learning skills at a higher institution of learning. I show how I am able to set criteria with which to judge both my actions and practice by applying my values.

Data was generated through verbal responses to structured questions (either in oral or written form), hence qualitative in nature. According to Sherman and Webb (1990) qualitative research presumes nothing, but focuses on the perspective of those being studied. My methodology enabled me to report magnificently what had progressed as well as any difficulties I had experienced (Koshy, 2005). I have already (in Chapter Four) explained that my methodology is the processes I followed in order to answer my research question. I must indicate that the approach was data driven because of its “flexibility and responsiveness to the research context” (Costello, 2003, p.17). I first write about narratives of our (my critical friend and my) lecture-room observations in the form of reflexive action cycles; and then later I write narratives of our conversations, group reflections, video clips, and my reflective journal. Data analysis was continuously and consistently conducted throughout my reflexive action cycles. In this way I was able to select and carry forward only my

interpretations from cycle to cycle. Koshy (2005) argues that this continuous analysis and selection of relevant data is an emerging nature of participatory research. I treated each reflexive cycle as a discrete unit in which data was analysed as I went along trying different teaching-learning strategies.

## **6.1 DATA ANALYSIS**

I immersed myself in a process that involved searching and noting in my reflexive action-research cycle issues pertaining to practice improvement. This process of data analysis meant reducing piles of data from students' portfolios, my reflective journal, chats, video clips and questionnaires into manageable piles. I started first by analysing data according to the understandings and nature of emerging issues, however, in what is called reflective-data analysis (Gray, 2009). I set criteria for myself that enabled me to conduct a reflective-data analysis. The criteria were in a form of broad statements in the observation checklist used by Mr CC in his initial observation. I write about this in steps followed in practice improvement.

### **6.1.1 My criteria and standards of judgement**

In this section I attempt to explain my criteria and standards of judgement; how I used them to check whether the situation was improving. I conducted my actions (data-gathering through lived experiences) and produced evidence in order of reflexive-action research cycles, sorting my data thereafter. I received various kinds of data depending on the question I had asked in each cycle. My cycle questions addressed the research sub-questions which focus on improving my practice and students' practice. The cycle questions therefore show how practice improvement has taken place. Although the cycle questions indicate my statements of intention on how to improve our practice, they have not yet been articulated as standards of judgement.

The criteria I used to judge the success of my performance are the statements of intention I used to direct our practice. As Whitehead and McNiff (2006) contends,



criteria take the form of words and phrases that are used as markers of performance. The following are my criteria with which I judge my performance:

- (1) I allowed students to lead the discussions (student-centred);
- (2) I made the lesson (instruction) a two-way process (active engagement);
- (3) Students could both develop and respond to questions (questioning aptitude);  
and
- (4) I created space for my students to learn (process-oriented).

My criteria are focused on teaching-learning encounters between a lecturer and students at a higher institution of learning. However, criteria normally say little about the quality of the practice. I must, therefore, make judgements on the quality of my practice. This means making "value judgements" in terms of what I find valuable in my practice (Whitehead & McNiff, 2006, p.82).

I have indicated in Chapter One that my ontological values are my standards of judgement. I shall use my ontological values of fairness, open-mindedness, and responsibility, as my standards of judgement to test the validity of my claims to have influenced the learning of my students in a significant way and therefore to have improved my practice. My standards of judgement are based on what I consider is good. I judge the worth of my 'action' in the feedback I obtain from others and its relation to my standards of judgement. Whitehead and McNiff (2006) argue that standards of judgement enable us to make value judgements from a reasoned position. My standards are:

- To show fairness in my assessments;
- To value students' responsibility for their own learning; and
- To allow myself with an open mind to be criticised, my 'practice' questioned.

My values are the standards I used to make judgements on my practices; how I will ensure fairness, open-mindedness and responsibility in my practice. My values have nothing to do with the morals or ethics we as teachers intentionally or

unintentionally project on to our students. Besides, it will be difficult to project any kind of morals to adult students who have experienced and acquired so much in life. They have already made important decisions in life. I linked my criteria with my values to help me make judgements about whether the situation might be improving.

### **6.1.2 Producing a truthful and authentic account of my enquiry**

I need also to determine whether the intended results (practice improvement) are occurring within the context of established methodological techniques employed in the thesis. I can look for data confirming that my students were making progress and about which study method is suitable to them. The evidence shows (1) how I have improved my practice and (2) how my students have improved their learning and study skills. "When data match the criteria, those pieces of data become evidence". I was guided by two related questions in trying to produce a truthful and authentic account of my enquiry. The first question is:

- What if data has yielded things I do not want nor have expected?

I have chosen not to represent myself and my data in such a way that the voices of my participants are filtered "through the sanitising lens of my wish" (McNiff & Whitehead, 2009, p.149). I have chosen to show the processes involved, including cases where students show reservations and dissent. To present the situation truthfully and authentically I offer an account of how I negotiated the difficulties involved with the participants. I learned from Gray (2009) that the aim of collaborative-action research is not to present finalized answers to problems but to reveal the various truths held legitimately by different individuals. McNiff and Whitehead (2002) put it succinctly when they said that readers appreciate realism and honesty. I therefore present the limitations of my actions as seen by my participants. In viewing the evidence from the chats, student learning portfolios, group reflections, and my reflective learning journey, I shall make sequential extracts from the transcripts. Each extract will be followed by a comment, after summarizing the main points. That is, after my reflections I shall look at what the

data tells me about the significance of learning. My reflections will be guided by the following two questions: (1) were my teaching strategies successful? and (2) were the learning strategies employed successful? The second question that guided me in producing the truthful and authentic account of my enquiry is:

- What have I done with the pieces of information I had not expected? Did I simply ignore them and move on?

I used the dialectic-phenomenological method to collect data from my students and myself as this enabled me to focus on agreements and disagreements, carrying forward only my interpretations. The dialectic form of logic also afforded me the opportunity, when presenting accounts of our practice, to show "its inherently unstable and problematic nature of educational enquiry" (Koshy 2005, p.124). I needed not to ignore those data that might prove useful when drafting a plan of action for the future. This is how I generated evidence that showed my commitment in improving my own teaching and students' learning and action.

## **6.2 FIRST METHOD OF DATA ANALYSIS - STEPS FOLLOWED IN PRACTICE IMPROVEMENT**

In attempting to improve my practice and create opportunities for my students to improve their study and learning skills, I followed two steps. In step one I analysed the data from Mr CC's initial observation and my concern. Step two outlined my strategies, using spiral of reflexive-action cycles as a proposed model for improving teaching-learning skills at a higher institution of learning. I have already indicated that the solution that I imagined took the form of a cycle of questions. The process involved studying and planning, taking action, collecting and analyzing data, reflecting, significance of learning, and re-planning (in another cycle). That is, data about what should be done to improve the quality of teaching-learning occurred reflectively and reflexively as in any other collaborative-action research. By being both reflective and reflexive throughout the process enabled me to make informed decisions.

My reflexive cycles are mainly the lecture-room observations conducted by my colleague and me, observing my teaching and students' learning strategies. Our observations have been appended, as Koshy (2005) observes that any other significant issues emerging from observations may also be included in an appendix so that the reader may refer to it. My actions in all the cycles cover two related areas: to improve my practice, and to improve the method of facilitating my students' improvement of their learning and study skills.

### **6.2.1 Step One– an analysis of initial data**

I started first by analyzing data collected through lecture-room observation by Mr CC. Data analysis involved selecting quotes in the form of extracts from the observation checklists, weekly reports, and our conversations, that described the main impression offering answers and solutions to my initial proposition. In October 2010 I invited Mr CC to observe uninterrupted, my Electrical Technology in Education lesson with the first year undergraduate students. The observation was not structured – no specific area to focus on. This was my first phase of data collection. From the initial analysis of the observation, there were two areas where the observer and I saw possibilities for improvement. The first was concerning my dominance of the lesson. The second area for change was the lack of questioning from both students and the lecturer. Examining my values of fairness, responsibility, and open-mindedness, I saw that I deprived my students and myself of the meaning and value of education.

In February 2011, I invited Mr CC to attend the second lecture-room observation uninterrupted. He used an unstructured observation checklist, however, some degree of structure was introduced by using a broad criterion. That is, the second observation was focused more on how I deal with content and how I live my values. My data was therefore categorized according to the three criteria set for myself in the Observation Checklist 1 – Appendix E:

- Lecture-room control (student management, discipline, etc.).

- Lesson delivery (student engagement, ending the lesson, etc.).
- Lecture-room climate (student contributions, recognition of prior knowledge, questioning techniques, etc.).

The criteria enabled me to conduct a reflective data analysis. According to the initial data analysis there was a lack of questioning from both the students and from me. I did not ask questions at the beginning of my lesson so as to actualize the pre-knowledge. I only asked questions in the middle of my lesson to check whether my students were following me; and one question in the conclusion stage. It seems that I was still enjoying being in 'charge' of the lecture-room proceedings. That is, from the initial analysis of the observation data, there were two areas where the observer and I saw possibilities for improvement. The first concerns my dominance of the lesson. An obvious way to improve this is to create a climate of lecture-room discussion. The second area for change is the lack of questioning from both students and the lecturer. I felt that this could be overcome by allowing more time for questions and responses. The following extracts from Observation Checklist 1 as observed Mr CC captures this well:

*...students do not ask questions, and also there is a lack of questioning on the side of the lecturer...*

The results showed that I was not living my responsibility value in my practice. I was not responsible enough to allow my students the opportunity to bring their previous knowledge and lived experiences into the lecture-room discussions. My reflection on this action is that it seemed that I contributed to the situation by (1) not asking enough questions (2) and dominating lecture-room proceedings. This is what my critical friend observed:

*...lecturer's talk dominated the lesson... the lecturer is good at sharing his wisdom with the students...*

An observation by Mr CC that I am 'good at sharing my wisdom' confirmed my earlier belief that the only way to establish teacher authority is to dominate classroom discussions. I felt confident to introduce new teaching and learning

methods that would ensure that I shared power with my students and practiced values that I hold. Earlier on I painted a picture of students who did not ask questions. It was distressing to realize that I also did not ask enough questions; instead I enjoyed talking. See a completed Observation Checklist 1 in Appendix E for the full narrative.

Data analysis of our first observation enabled me to plan realistic strategies for practice improvement. This was done in order to understand perspectives and to formulate actions. Part of my actions involved monitoring my learning by engaging Mr CC in conversations. I produced a transcription of our conversations. In the next section I explain how our first conversation assisted me in meaning-making of collaborative action-research and monitoring of my learning.

#### **6.2.1.1 Trying to understand collaborative action-research**

Part of monitoring my learning emanated from the desire to understanding collaborative action-research as an approach to practice improvement by my colleague and me. I monitored my learning by working out “our ideas in conversations” with my critical friend (Whitehead & McNiff, 2006, p.66). Our first conversation was centred on understanding collaborative action-research as an approach to practice improvement (see Appendix J). Mr CC, although he agreed to observe my lessons, was not going to leave the idea of practice improvement unexplained. He wanted to know what I meant by practice improvement and when my practice would finally improve. I think he used the word ‘finally’ because of the strange way of collecting data – moving from cycle to cycle. The following excerpts from our (critical friend – Mr CC and me – Paul) first conversation, capture this well:

Mr CC: *When will all this end, I see you are moving from one cycle to another. Really is this what you mean by collaborative action research?*

Paul: *As action-researchers we are not worried about ending our data collection, but rather practice improvement.*

Mr CC: *Wait, Mr Mokhele, how you will know that you have achieved your goal of improving practice.*

Paul: *You and my research participants (students) will tell me – laugh.*

My understanding at that time was that I should involve both my students and colleague in my actions. I also wrote in my weekly report:

*Collaborative participatory research means one research with the participants in trying to improve one's self , one is also aware that one does not exist in isolation, what one does will influence others either positively or negatively (April 4, 2011).*

Appendix R contains one of my weekly reports. I have learned from James (2011) that weekly reports can help me to succeed faster in that I take notice of the details that help when reflecting. As part of my reflective journal I wrote reports and sent these to my supervisor at the end of each week.

### **6.2.1.2 Conclusions to the first observation and my concern**

I indicated my concern in Chapter One this way: as much as I realize the importance of teaching methods and learning skills suitable for a university, I want to know how to improve them so I can be as effective as possible both as a lecturer and as a learner. My students were not asking questions as much as I wanted them to do; often it was the same people only who asked anything. Subsequently, the questions posed were: If by not asking questions students imply that they understand the lesson, why didn't they perform well in their first two assessment tasks (assignment and test)? Students were not subjected to any special assessment; instead they were assessed on the tutorial learning material using the normal assessment procedures (written test, projects, presentations and assignment). These were the routine university assessment activities, not assessment(s) intended to test the level of readiness of the students to study in my course. It was obvious that their main study method was rote learning; as they previously indicated to me. I have realized that rote learning encourages students to rush through the study materials without critically engaging and developing a better understanding of the content. I believed

that questions can open lecture-room discussions and clarify confusions. I used questioning as a study method when I was a student and this worked for me. This may be because I was an unusually committed student, passionately interested in my studies.

Initial data analysis indicated that my teaching style was over directive. The revelation that I still enjoy dominating lecture-room proceedings confirmed that I did not live the academic values that I hold. At this stage I felt more committed to my academic values than ever before. There were also not enough questions to facilitate teaching-learning during the contact sessions, either from the students or from me. The first thing to do was to examine this behaviour. I needed to find out why they were not asking questions and how could I encourage them to ask questions and adopt questioning as the main study method. That is, I set out a plan to assist my students to improve on their learning and study skills, while I also improved on my questioning skills and hence improved on my practice. In the next sections I explain the process I followed to construct our narratives as I was trying to address my concerns.

### **6.2.2 Step Two– identifying and selecting epiphanies**

In step two data analysis involved a process of making connections between related phenomena by constructing joint accounts of the units of meaning in the participants' reflections. A unit has been described by Stringer (2004) as a word, a phrase, a part, or a whole of a sentence in participants' reflections.

I prepared an introductory lecture where I explained to students what collaborative action-research entails, and introduced the two new learning methods to them: reading and summarizing; and question and answer; as well as lesson presentation. I also tried various teaching strategies in each cycle. The aim of the thesis through various teaching and learning strategies was two-fold. Analyze and improve two aspects of my teaching style, viz.: (1) shift from lecture-centred and content-oriented approach to student-centred and process-oriented (instruction dominance), and (2) posing and handling questions efficiently; and encourage students to ask

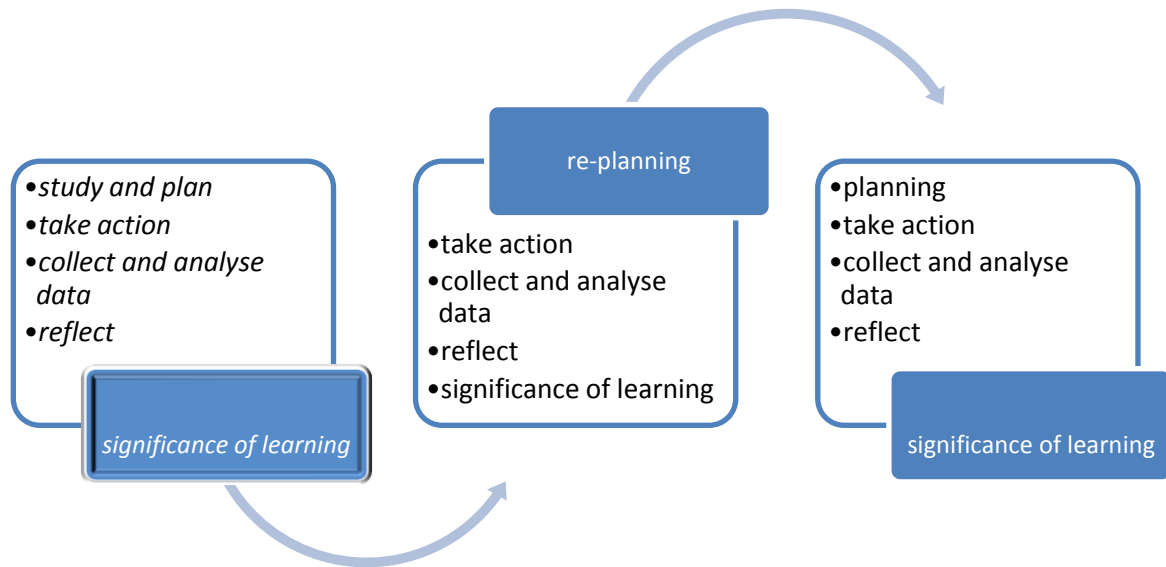


questions (lack of questioning), while at the same time I became familiar with educational research (or collaborative action-research) within the lecture-room. In earlier discussions with students they indicated to me that the only method they knew was rote learning – i.e. memorizing concepts. After introducing the new learning methods they agreed that, although these methods take more time than rote learning, they could lead to the acquisition of long-lasting new knowledge; the students agreed to try them. The new teaching-learning methods were question and answer; reading and summarizing; and lesson presentations. We agreed to try the new methods during tutorial time in a series of planned reflexive-action cycles. Step two was therefore carried out through the reflexive-action cycles. In this and the following section, I attempt to set the context by briefly summarizing the three reflexive-action cycles.

#### **6.2.2.1 The first reflexive action cycle – developing productive questions**

It was clear from the results of data analysis in step one that I needed to plan realistic strategies to (1) allow students to take initiative in leading our discussions thereby making my instruction a two-way encounter and (2) allow ourselves a space to ask questions and develop a questioning aptitude.

## Cycle 1



**Study and plan:** I explained to my students that I wanted to collaborate with them on what is called 'action-research study' both to improve their learning skills and my teaching practice. I also explained to them that we would need someone to observe our lecture-room proceedings. We agreed to invite Mr CC to conduct an observation. Mr CC was their educator-lecturer in another course-module.

At the end of the lesson I gave students charts on which to write their impressions of the lesson – in particular the learning method(s) used in the lesson, and of my teaching method(s). We called these group reflections. I gave them the questions to assist them when reflecting in a group. I found it easier to obtain answers to the research questions by asking questions that guided our actions. The following are the questions I asked students in the first action lesson. Do you feel you helped one another enough or not enough? Why do you say this? How was the lesson? Describe the bad moments and good moments. Do you think we should try this method again? If yes, why yes? If no, why not?

In my plan I worked out proposed solutions to the problems which I had identified, and took action to put these solutions into practice. I later evaluated the success of

my proposed solutions; if the proposed solutions had failed to have the effect I intended, I would try them in another cycle.

**Take action:** I reminded students about our earlier discussion of the rote learning method, and explained to them that I should like us to try various learning methods. They readily accepted this suggestion. I opened the lesson by requesting students to divide up into groups of four. I gave them prepared set of hand-out tutorial learning materials. The teaching and learning strategy was 'question and answer'. I had used this method in the previous two lessons where the focus was on my asking various questions in all the stages (introduction, body of the lesson, and conclusion) of the lesson. This time I requested students to develop five basic questions from the given hand-out learning materials. What? Which? How? Why? Where? My first cycle question was:

*If I let students work in pairs on a certain activity using their own language and thinking, developing and answering each other's basic five questions (what? where? how? which? why?) will they develop a questioning attitude?*

I gave them charts on which to record their impressions of the lesson, guided by the above-mentioned questions in my 'study and plan'. Students were given the opportunity to select a group leader from their small groups, who would represent the group and report to the class at large. I requested them not to end their reflections in the lecture-room, but to conduct them on an ongoing basis, maintaining a portfolio of learning. I prepared a reflective journal for myself in which I wrote the questions: What did I feel? What did I experience? What did I discover? I took these questions from the work of Grande's (2006).

**Collect and analyse data:** Mr CC followed an unstructured type of observation in order for him to observe some items that might seem unimportant at that initial stage of data collection. However, my data was categorized according to the four criteria I set for myself in the Observation Checklist 2 – Appendix G:

- Teaching style. Does the lecturer invite students to take part in the lesson activities? If yes, in which way? If not, what seems to be the problem?;

- How do students respond?;
- Give your impressions of the interaction among the students; and
- Give an overall impression (lecture-room climate, questioning techniques, lesson flexibility, etc.).

The criteria made it easy for me to conduct reflective-data analysis – that is, to search for the meaning and significance of learning from the data in each cycle. I did this in my reflection in the next section. Lecture-room proceedings were video-taped by my colleague. I asked him not to videotape my students at that stage. Perhaps I wanted my students first to get used to the two strangers (video camera and him) in our midst. The video camera was placed at the back, focusing on me all the time.

**Reflect:** Some of my students wrote on their group reflections' charts:

*...the lesson was good...we like it...we understood the lesson...*

They were responding to the question: How was the lesson? I took this as an indication that the teaching and learning strategy: 'Question and Answer' could become popular with the students. Students were not happy, however, with not being given a chance of developing calculation questions:

*...we don't ask questions about calculations...calculations depends on you...some of us could not come up with questions...*

This was the bad moment of the lesson. I found this really tricky to allow students to develop questions based on numeracy. I do not develop such questions -- I pick them up from experts (from the prescribed and recommended textbooks). Students who did not contribute to developing questions felt that they lacked confidence.

They wrote: *...maybe, we are not confident enough...*

Others felt that developing questions was really a difficult thing to do:

*...it is difficult to develop questions...it is better if the lecturer develops the questions himself...*

The good moment of the first action lesson was highlighted as students being free to ask questions, as is indicated by the following extract:

*...everybody is free to ask questions...*

Students appreciated working in groups. Group discussion contributed to students' assisting one another. The next extract captures this well:

*...the group played an important role in solving problems...what makes it more easier is the group work...some of us understand easy when we are taught by other students...*

In general, students felt that the two methods 'Question and Answer' and 'Group Discussion' should be tried again.

They wrote: *...at first the method was a bit confusing...try other questions like mention, list, describe etc...it helps us ask questions...*

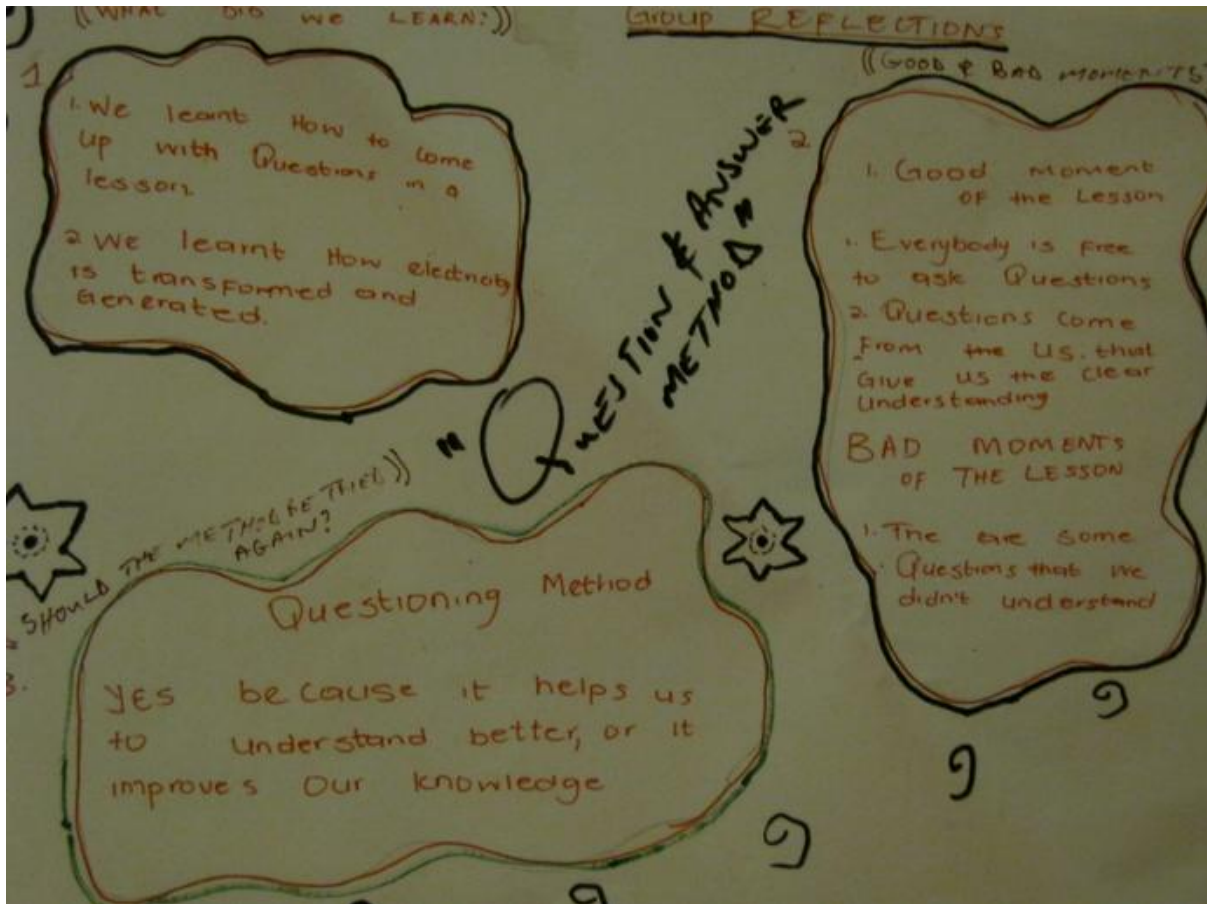
Mr CC also observed: *...I think I should try the 'Question and Answer' method as it really encourages maximum participation...*

Watching my video clip I remember saying: "that cannot be me, do I really look like this in front of other people?" It dawned on me that part of improving my practice and eventually myself goes with accepting myself as this 'being' who looks this way among other 'beings'. The video clip showed clearly that I was patient when assisting and encouraging students to develop questions; my strategy of inviting them to take part in the lesson. Next came what I was thinking about in my first action lesson. I have already mentioned that my thinking was guided by the following questions:

What did you feel? *I was fascinated by some students who explored answers to their co-students' questions. The session soon became a 'question and answer' something that needs to be applauded.*

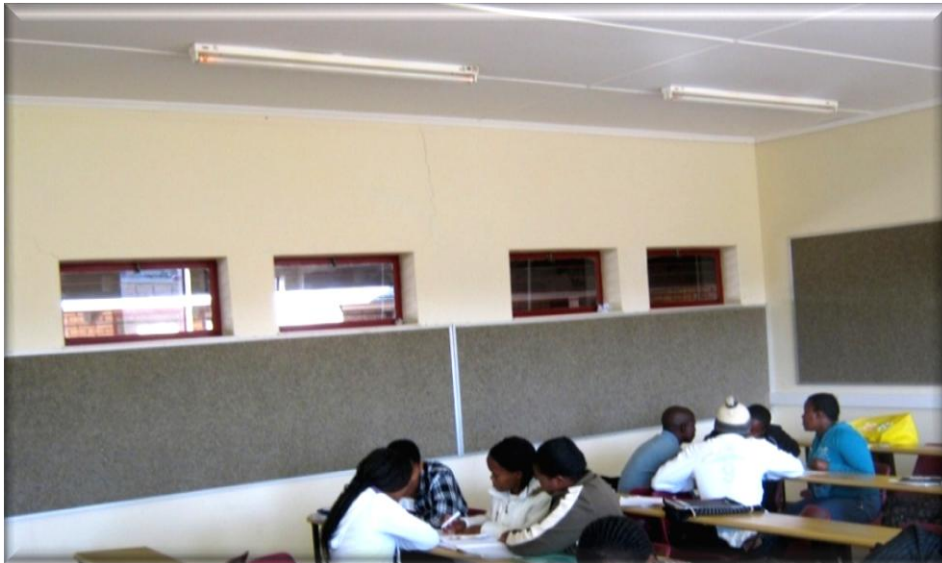
What did I learn? *I learned that I should allow other ways and methods of asking questions. Students wanted to develop questions starting with action words such as explain, describe, mention, list, evaluate etc.*

What did I discover? *I discovered that students were not happy with only using the five basic questions. What? Where? Why? What? Which? They used the word 'vacuum' saying that I let them operate in a 'vacuum'. I interpreted this as the reason the method was viewed as being difficult.* The figure below is an extract of what they produced.



(Figure 6.1 Extract from group reflections 'Question and Answer' July, 2011)

My reflections were guided by what I learned, felt, and discovered – see 'reflection' below. The next paragraph (learning and significance) answers the two questions: What was the significance of the first action lesson? Did we learn anything? And what did I do to make the 'Question and Answer' method easy for my students? First is the picture of my students working together in groups of four, developing and answering each other's questions.



(Figure 6.2 Image of students during group-work, July, 2011: Photo, Paul Mokhele)

This image shows students developing a relationship of mutual understanding among them. It also shows how committed and dedicated they were to their work. Here I attempt to live out my value of responsibility by allowing students to work together in searching for and gathering new information. I gave students an hour to think through the tutorial materials and to complete their reflections. It was not difficult to take this photo as none of my students was looking at the camera – for ethical reasons the faces should not be depicted. As is the requirement of the photography code of ethics that, we should “refrain from showing a photograph if undesirable manipulation cannot be averted” (Rangkong, 2008, p.2). Claudia Mitchell, a visiting professor from McGill University attending the TES March workshop 2011 held in UKZN, reminded us that taking photos is about (1) doing least harm and (2) doing most good. I reflected on this in my weekly reports (see Appendix R). What it means is that a ‘safe’ photo is the one in which the subjects are not recognizable.

**Learning and significance:** After the initial reflective analysis of the observation results, it was self-evident that I should undertake a planned action enquiry into how I could facilitate a question and answer session. I did this and I was happy to see my students interacting with one another; developing questions and exploring answers. The importance of learning, I think, is that in a lecture-room, group discussion should be appreciated. Learning in a group can be a powerful way for

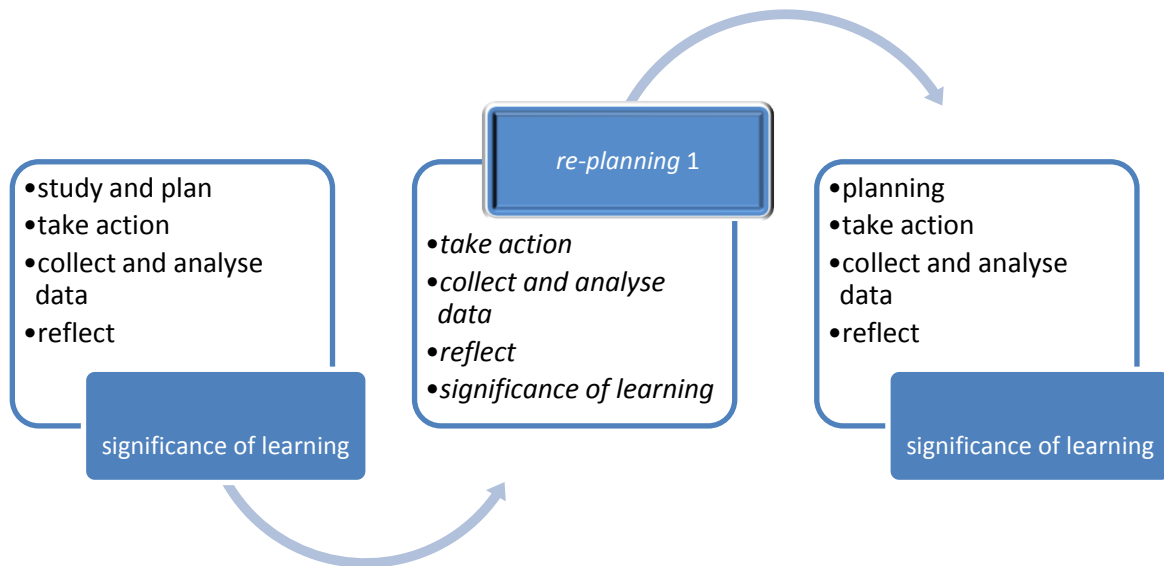
students to share their various experiences, knowledge and values. In trying to encourage my students to accept 'Question and Answer' as a study method I guided them on how to develop questions. Watching and closely listening to my video clip I could hear myself frequently using terms such as: 'thank you', and 'much better'. These words encouraged students to develop more questions.

We have learned the importance of allowing one another some space to be creative – students standing up and showcasing their various talents; developing questions and exploring their answers. This was a sign of being responsible. According to the above reflection the objective of the first action lesson had partly been achieved. This seeming failure led to another lesson where students were allowed to develop reproductive questions – questions starting with action words such as mention, describe, list, explain, evaluate, etc. These questions are found on level 1 (knowledge level) and level 2 (comprehension level) on Bloom's Taxonomy (see Appendix N). This was after the realization that the cycle question: *If I let students work in pairs on a certain activity using their own language and thinking, developing and answering each other's basic five questions (what? where? how? which? why?) will they develop a questioning attitude?*, was partly answered. Yes they were able to develop questions and explore answers to the questions, but (1) the questioning aptitude was still lacking and (2) students were not happy with developing only the basic questions. They wanted something more.



## 6.2.2.2 The second reflexive action cycle – developing productive and reproductive questions

### Cycle 2



**Study and Re-plan in another cycle:** I continued with the objective of my first action lesson in cycle two. The objective question was slightly altered.

*If I release too much structure in my approach and give students the freedom also to ask questions that start with action words such as: mention; state; outline; evaluate; discuss; reflect; identify etc., to what extent will they be able to develop and formulate their own questions with ease, and develop a questioning aptitude?*

In this cycle I planned to continue with group discussion as a teaching strategy combined with lecturing. I taught students how to develop questions beginning with action words. These are reproductive questions normally used to show how much knowledge has been retained by a student; they are spread throughout Bloom's Taxonomy. I used the same questions to guide students' group reflections. Do you feel you helped one another enough/not enough? Why? How was the lesson? Do you think we should try this method again? If yes, why yes? If no, why not? Describe your likes and dislikes of the lesson. The latter question replaces the question that required students to mention the bad and good moments. I felt that it

was necessary because of the numerous responses from students such as... *nothing...none...* when they had to mention 'bad moments' of the lesson during the first group reflections.

**Take action:** In small group sessions I facilitated students developing questions and formulating answers. I released too much organization by allowing them not only to develop the basic five questions but also to begin their questions with action words such as describe, mention, explain, discuss, etc. I handed out more tutorial learning material appropriate to the lesson topic. I decided to practice the following caring responses:

- Perhaps you feel...
- It sounds as though...
- You feel ... because ...
- It seems as though you are saying...

I came across these four caring responses when I was a staff-development facilitator between 2002 and 2006 at Unisa. It made it easier for my students to accept my reactions to their questions and concerns. I gave them charts on which to write their impressions of the lesson, requesting them to choose a group representative to present their impressions to the entire group. We invited Mr CC to conduct the third lecture-room observation. Students also kept a portfolio of learning. I kept a reflective journal guided by the questions: What did I feel? What did I discover? What did I experience?

**Collect and analyse data:** My data was categorized according to the three criteria I set for myself in the Observation Checklist 3 – Appendix K:

- Critically look at my responses (instances where I showed respect, sensitiveness);
- In posing the questions (am I patient or impatient – was I successful in allowing students to answer one another's questions); and

- Examine the overall impression (lecture-room climate, questioning techniques, lesson flexibility, etc.).

My colleague followed the three criteria in recording his impressions of the action lesson. This time he did not videotape the proceedings, he completed the checklist. Data analysis was guided by the students' group reflection questions and the criteria I set for myself.

**Reflect:** Responding to the first question: How was the lesson? students wrote:

*...it was enjoyable...we like it...what we like is the way we were approached...*

The last extract I interpreted as implying appreciation from my students after I listened to them and respected their wish to develop both productive and reproductive type questions in a single, lecture content. They viewed themselves as being part of the lecture-room decision-making process. This was also noticed by my colleague, and he wrote:

*...the lecturer's idea of involving students was to get them on board to the lesson with a lot of patience...*

They still did not like the idea of me developing questions involving calculations. They wrote:

*...calculations depend on you...is there no way we can ask calculations...*

Some even went to the extent of questioning my strategy of not answering some questions directly. They reflected:

*...he takes time to answer our questions...why is he ignoring our questions...our lecturer answers questions after we have answered them ourselves...*

This was observed by Mr CC:

*...the lecturer needed the views of fellow classmates before he could respond...*

I think I am to blame. I re-directed too many of their questions; I did not explain to them my strategy of pausing after each question. However, they appreciated being

given a chance to develop questions starting with action words, as is shown by the following extracts:

*...at least we can develop the questions we want...our lecturer taught us other questions...we like the way he teaches...*

The excitement that filled the lecture-room led to a 'competition' among some group members. As one member was busy presenting the impressions of his group of the lesson, another walked up to me and requested to present the same impressions saying:

*... I believe I can do better...*

I do not know what went through my critical friend's mind. He seemed to be impressed by the turn of events. He wrote:

*...this turned out to be which group is the most competent...*

I wanted students to work in groups and develop a team spirit (togetherness among students) so that they could become independent of me as they went through the study materials assisting one another. My reflections are guided by the following questions:

What did I feel? *I was overwhelmed by joy seeing students developing so many questions. At that moment I was satisfied that my action was bearing the 'fruits' – students were beginning to get used to the idea of going through the study materials developing and exploring questions and answers.*

What did I learn? *I noted that some demanded to see the necessity of the 'Question and Answer' method. They requested to be tested with those questions they developed. We agreed that for our assessment to be fair I should keep a record of 'our' developed questions and use sixty percent of them in the tests and assignments.*

What did I discover? *Students were really excited by working in groups and developing questions. They get tired of walking into a lecture-room every day and find the lecturer 'ready' to deliver another stand-in-front lecture ignoring what*

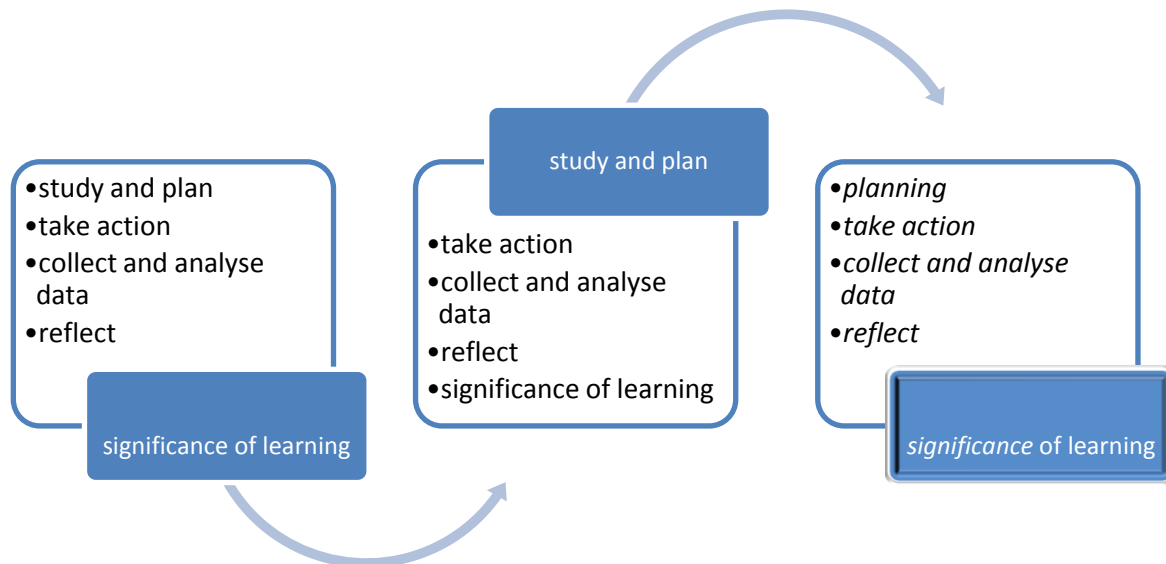
*students feel and think about the lesson. I need to work on my strategy of re-directing questions. To them pausing before answering a question was interpreted as ignorance or not being sure about the answer.*

**Learning and significance:** The significance of learning is that questions form part of school assessment and therefore the skill of asking questions should be developed as early as the first year of study. Student's involvement in their learning created a dialogue where students exchange ideas. A dialogue should be encouraged and not be competitive. I value students working together. It gives a sense of belonging; it leaves students with a feeling of comfort in a strange environment (university environment). The lecturing method combined with group discussion allowed for probing of students' thoughts.

I have learned an important lesson with regard to re-directing students' questions – do not overdo it, adult students can become suspicious that you do not know the answer or that you are rude. To them this may seem to denote your ignorance. In the next action lesson I guarded against that by reducing time taken to pause and by not re-directing too many questions. I was criticized for denying them an opportunity to develop both types of questions. I welcomed the criticism with an open mind. In short, I can say that I lived my value of open-mindedness in my practice. One of the questioning procedures as proposed by Galbraith (1998, p.189) is to "call on one learner by name". He argued that when learners are faced with the possibility of being called on to answer questions, they are more likely to try to formulate an answer. This notion did not work with my students. How do I know this? My students, especially the shy ones would go and sit right at the back and never look at me. Picking on them merely embarrassed them; students enjoyed the freedom to volunteer.

### 6.2.2.3 The third reflexive-action cycle – reading and summarizing

#### Cycle 3



**Study and plan:** It soon became apparent to the students that they needed reading and summarizing skills, presentation skills for examinations, tutorial materials, delivery of the lesson and assessment. These skills are a pre-requisite for young and aspiring student-teachers hoping to become better teachers. Being able to develop questions and exploring their answers required students who were able to read intuitively and write a summary as they go through the tutorial learning materials. I therefore planned to introduce another method I called 'Reading and Summarizing'. The reflexive cycle question was:

*'If I teach students how to read and summarize study materials will they be able to read intuitively and develop questions and answers in much improved ways?'*

The following questions assisted me in trying to achieve the objective of my action lesson: How was the lesson? Describe the likes and dislikes about the lesson. Do you think we should try this method again? If yes, why yes? If no, why not? I gave them to students to use when reflecting on the action lesson. I wanted students to tell me if indeed the introduction of the method influenced their learning in a significant way; if it complemented the 'Question and Answer' method.

**Take action:** I handed out prepared tutorial learning material to students. I led them through by showing them how to search and highlight important concepts. Here I directed students to the known piece of information. We summarized the important points of each paragraph in a few words. We also developed both productive and reproductive questions as we went along reading our tutorial material. The learning strategy was 'reading and summarizing' and the teaching methods used were lecturing and group discussion.

Students were given charts on which to write their impressions of the action lesson. I reflected in my journal as soon as students went into group discussions. The lesson was not video-taped. Once again, students worked in groups of four. Groups were kept small so that every member could have the opportunity of contributing in the discussions. I reminded them also to reflect in their learning portfolios.

**Collect and analyse data:** Data in this cycle was collected through students' learning portfolios, my reflective journal and lecture-room group reflections. Once again my analysis was guided by my reflective journal questions: What did I feel? What did I learn? What did I discover? I also used our group reflection questions. I will offer the full analysis in the next section.

**Reflect:** Some students wished to leave our research study – feeling that it was a waste of time. They reflected:

*...we do not like shuffling of chapters...this is confusing us...we are left with seven weeks before we write examinations, we need to stick to the syllabus...*

Picking up an example from other study material was viewed as shuffling of chapters.

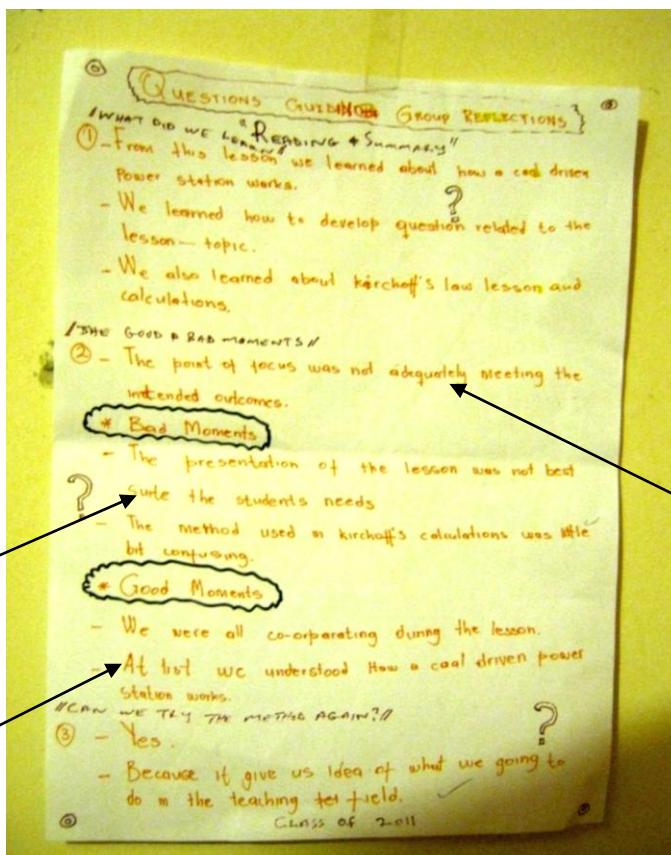
With regard to time wasting they wrote:

*...we are re-reading and translating to mother tongue...*

This was a sad moment, not only of my action lesson but also of my research study. I write more about that in the 'highlights of my thesis – reflecting on my journey' in Chapter Seven. The reaction from Mr CC was not what I had expected.

...your study is qualitative in nature don't worry about, who wants to leave...huge sample do not count...in every research we experience attrition.

Of course I was worried. I could not bear the thought of losing my research participants after so many action lessons. I arranged a meeting with the whole group and clarified the two concepts: sample and population. I first went through ethical issues and explained to them the difference between a sample of the study and population. I also explained to the students the reason for involving the entire group (population). I did not want to discriminate against anyone and be seen as having my 'favourites'. I wanted everyone to benefit. We agreed to set a special day and time for the students who were willing to remain in the research study. My reflection was well captured by the next questions I used to guide my thoughts. The figure below is an extract of what they produced. Arrows highlight key words identified as expressions of dissatisfaction about the 'Reading and Summarizing' method.



(Figure 6.3 Extract from group reflections 'Reading and Summarizing' August, 2011)



What did I feel? *I felt happy combining the two study methods 'Question and Answer' and 'Reading and Summarizing'. This was fair enough to give students a choice.*

What did I learn? *I realized that some students want to be left out of the research study. I needed to pause and revisit the aim of involving the entire population. Revisiting meant discussing the ethical issues with students and set a day and time for students who were willing to remain and see the end of the research study.*

What did I discover? *Some students were not happy. At first I thought this was a group of students who wanted me teach what they think was in the syllabus. They felt that with so many academic disruptions experienced by the university chances are we might not finish the syllabus.*

**Learning and significance:** Students wanted to know how far we were in terms of the syllabus; they needed the assurance that we would complete the remaining course materials. This was late in August 2011 when students started panicking. The university experienced academic disruptions on numerous occasions. We arranged an extra day on which to continue with our research study – 'Learning how to learn'. I was surprised when all my students arrived on our special day. I had misjudged the whole situation in my reflections when I reflected later on that day that 'some students wanted to be left out of our project'. I agree with White (2005) after selecting poor example when introducing 'reading and summarizing' as a teaching method, that adult students want their education to be relevant to their jobs and lives.

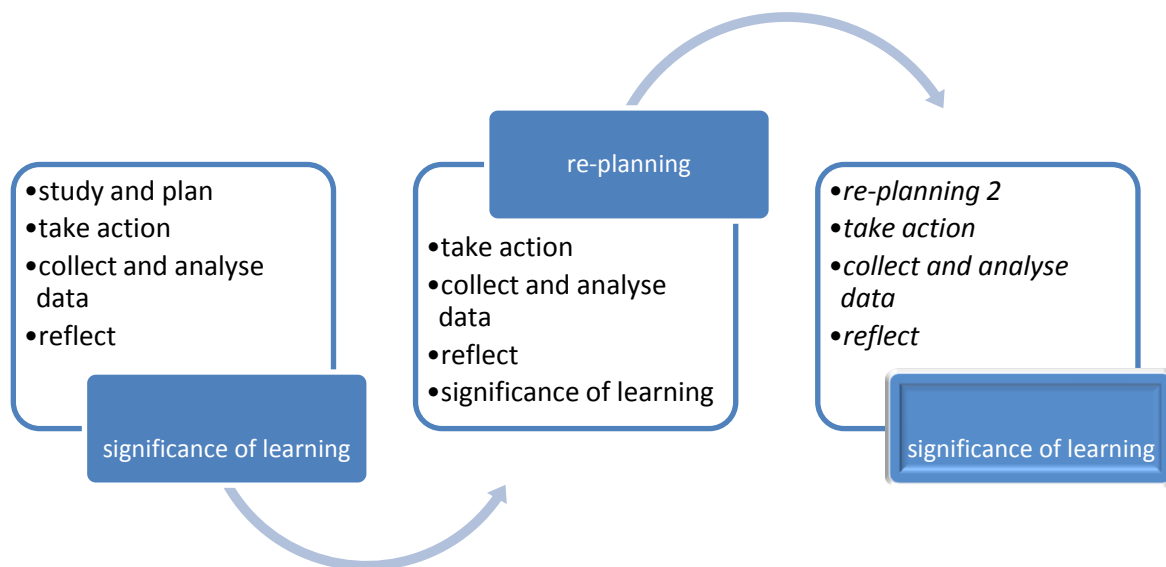
The significance of learning is that students desire a greater cooperation between themselves and the lecturer. Students should therefore be informed why something is important to learn. I fell short on this one. Not everyone in the group was comfortable with selecting an example from different study material. It was my mistake; I thought I could select an example from any piece of study material or course module. I was not careful in the selection of the content. I have learned that as teacher action-researchers we should not lose focus – that is, at the end, students should produce the required results (acquisition of new knowledge) and not

only satisfy our research needs. In the next cycle I tried the method 'reading and summarizing' in a series of presentations by the students.

### 6.2.2.4 The third reflexive action cycle continues – presentations by the students

My students were fast developing the questioning aptitude. I was happy when I discovered that the question method was becoming their main method of study. However, I know that if they can learn how to read and summarize tutorial learning materials they will acquire the basic skills of asking questions and leading lecture-room discussions.

#### Cycle 4



**Study and plan:** My plan involved affording students the opportunity to present lessons on various sub-topics from the remaining scope of course work. The reflexive cycle question was:

*If I step back in my lessons by giving students sub-topics after introducing the major topic to prepare and present in the next action lesson(s), will they be able not only ask and answer questions from the presenters (co-students), but (1) develop*

*teaching and learning skills and (2) take interest and initiative in leading lecture-room discussions?*

When students lead lecture-room discussions, the lecturer's role becomes more of a facilitator. Students' impressions of the presentation lessons were guided by the following questions: What did you learn from this lesson? Did the lecturer help you enough or not enough? Give a reason for your answer. I also kept my reflective journal guided by the usual questions. What did I feel? What did I experience? What did I discover?

**Take action:** In this cycle I followed presentation as a learning strategy for my students. My teaching strategy was more of a mentoring role where I guided students on how to write on the board; how to control and maintain order in the lecture-room; how to lead the lecture-room discussions. I introduced the major topic and allowed students to lead the discussions by presenting sub-topics. Once again I showed them how to develop questions and to summarize main ideas in tutorial materials. We did not invite my critical friend to conduct lecture-room observation. I developed a score sheet scrutinizing, among other things, individual presentation style and whether they were able to engage their 'learners' (see Appendix O). Scores were allocated and these formed part of an official assessment.

I would step in and provide direction where presenters could not answer questions from co-students. There was no time to conduct lecture-room group reflections. Students wrote their impressions about the lesson in their individual learning portfolios. I also kept my reflective journal.

**Collect and analyse data:** The cycle data was collected using students' learning portfolios and my reflective journal. My usual questions: What did I feel? What did I learn? What did I discover? assisted my thoughts on the lesson I used many videotapes to record individuals presenting their lessons. I watched the video, searching for the instances where students showed the level of readiness with regard to developing an individual teaching style and confidence when asking questions; such students can lead lecture-room discussions.

**Reflect:** Students prepared themselves well for their lesson presentations. The lesson plan was well written; drawings were clear, with questions ready for their co-students. They also appreciated my help. They wrote:

*...yes, he does involve the class in his lesson...he showed us how to teach...*

Students felt that lesson presentation prepared them for the real life school situation. The following extract captures this well:

*...it gives us an idea of what we are going to do in the teaching field...*

The video showed me intervening after the first four presenters and requesting the next presenters to engage co-students. Listening closely, I could hear myself explaining engagement as pausing for clarity-seeking questions. I witnessed smiles on their faces every time the presenter asked a question and demanded an answer. It seemed that when they had another student presenting to them they enjoyed the tutorial learning materials. The video showed students breaking into spontaneous applause every time a question was asked and an answer to it provided; it did not matter whether the answer was incorrect. They appreciated the confidence of asking questions and exploring their answers. The following are my reflections in my journal after the lesson presentations.

What did I feel? *It is ok to allow students to present the lessons to test their content knowledge. It is ok because it gives students an opportunity to develop an individual teaching style.*

What did I learn? *I realized that some students need some presentation skills. However, majority of them showed confidence – they demanded questions from their co-students at the end of an individual lesson presentation. I guess the reason being that they were beginning to realize the importance of questioning.*

What did I discover? *I discovered that students really enjoy presenting to their co-students. They prepared well. My students' excitement led to some of them not adhering to the stipulated time. The group behaved well by giving each other a chance to present and showed respect to each other. This is a sign that they were ready to lead lecture-room discussions.*

Watching the video clip of their presentations there was no need to plan another action lesson. I have reached “theoretical saturation” (Wilson, 2009, p.224). According to Wilson, this is the point where no further data collection is needed because all new data fit into the model without having to make any more adjustments. My students really impressed me with their unique individual teaching styles. It was in mid-October 2011 when I ‘exited the field of study’ and prepared a questionnaire for my research participants (students).

**Learning and significance:** One of the lessons I learned when I was a facilitator few years ago, was to allow my student teachers to learn from experience, by encouraging student presentations and reflection. As a staff-development facilitator I would ‘sit back’ and allow participants to learn from each other and to raise questions that help learning to take place. I thought I could try this technique with my university students. I did, and it worked well. The significance of the learning is that university students, regardless of the career course, must be given an opportunity of getting their hands ‘dirty’ – experiencing the practical working situation.

Lastly reflecting on tutorial learning material clarified and increased the accuracy of understanding. The purpose of clarification was to help my student teachers explore all sides of the school classroom situation. Earlier in my thesis I painted a picture of students with a poor questioning aptitude; their applause for every question and answer was an indication that that situation had improved. It was not easy for me to hand over the reins to the students, to initiate and drive their own learning. I stepped back and allowed the session to run freely. It was fair to score students’ presentations, and I recorded these scores and later used them for assessment.

### **6.3 RATIONALE FOR EMPLOYING THE THREE TEACHING-LEARNING METHODS**

In employing the various teaching-learning methods the aim was not to contest them but to find a way to discourage rote learning among my students, and hence to lay a strong foundation for them to develop learning and study methods that will

ensure a high retention rate and academic success. I believe that implementing various learning styles throughout the course affords students an opportunity to discover at least one style that matches their learning style. Realizing that my students used rote learning as their main method of study, I quickly self-reflected on my previous learning and study methods used when I was a student. I hated rote learning because I would go into an examination hall and struggle to recall what I had 'learned'. In my later years of schooling leading into my early years of tertiary education, I adopted questioning as my main study method. It was not easy for my students to adopt questioning as their main learning and study method, as some of them were struggling to read and make sense of the voluminous tutorial materials. I therefore set out to introduce another method known as 'Reading and Summarizing' which I came across during my distance education with Unisa. Judging by the number of questions they started asking combining the two methods had been the right thing to do. The next step was to give students the opportunity to demonstrate their newly acquired skills, by presenting tutorial lessons in the lecture-room. They did this with great passion and enthusiasm.

#### **6.4 IMPROVING LEARNING AND STUDYING SKILLS BOTH FOR LECTURER AND STUDENTS**

I began the second conversation (Appendix L) with Mr CC after I realized that both my students and I were benefiting by and learning from our actions as the study progressed. I wished to know whether his research participants would benefit and learn anything from his study. Mr CC was conducting a study into the: *'poor performance by level-1 Engineering Graphics Design undergraduate students at WSU'*. According to my critical friend, there should be an intervention in a form of a model after the recommendations. Normally, however, with traditional scientific enquiry recommendations come at the exit level of any inquiry. He explained to me that his methodology allows him to do the intervention while he is still collecting data. I felt that his study was taking an action-research direction. Part of our second conversation reads as follows:

Mr CC: *Intervention will be done while I am still a doctoral student as part of data collection.*

Paul: *Your study is taking the direction of action research, why, because (1) of your intervention and (2) action-researchers we identify a problematic situation, imagine the possible solutions, take action to implement the solution and lastly evaluate our actions.*

Mr CC: *It looks like you do have a model already.*

Paul: *No, what are you talking about?*

Mr CC: *Yes, you do I will show you.*

A model as he defines it, is a better way to do things, an intervention strategy he must establish to analyse data and solve the problematic situation. After explaining to him my ideas about how I intended to improve my practice and facilitate my students' improving their practice, we agreed to turn my spiral reflexive-action cycles into a model. I was puzzled because none of the action-research studies, including self-study inquiries that I reviewed, emphasizes 'models' as a strategy for solving 'problematic situations'. What I discovered during literature review was that action-researchers emphasize developing an individual 'methodology' with which to address their 'concerns'. I wish we had had more conversations like this; unfortunately Mr CC was busy with his doctoral thesis.

## **6.5 SECOND METHOD OF DATA ANALYSIS - DECONSTRUCTING AND INTERPRETING EPIPHANIES**

I am entering a crucial stage of my thesis. At this stage I must use the above narrative transcripts of data to test the validity of my claims to have influenced the learning of my students and improved my practice. Earlier on in my thesis

(paragraph 6.1.1) I indicated that, when judging whether the situation has improved, I will link my criteria with my values. Throughout the thesis I describe very well the main focus of the research question which is (1) improving students' practice (studying and learning skills) and (2) improving my practice (teaching and instruction skills). Whitehead and McNiff (2006) see practice as a thoughtful educational engagement. The two statements of intention were aimed at achieving the aim of the study which is: (1) shift from lecture-centred and content-oriented approach to student-centred and process-oriented (instruction dominance), and (2) posing and handling questions efficiently and encouraging students to ask questions (lack of questioning).

The analysed data is organized into a structured system of criteria that assisted me, and, it is hoped, the reader also) to understand clearly what the narrative transcript has revealed. I followed what Stringer (2004) calls deconstructing and interpreting epiphanies. According to him, epiphanies must be deconstructed in order for the academic audience to understand the nature of the experience. This process involved virtually formulating joint accounts of our experiences and making connections between events and ideas. It was not an easy process. I had to search for the sentences or various parts of the sentences that spoke directly to each criterion. I realized that certain phrases belonged to more than one criterion. That presented no problem as my criteria address the same issue: teaching-learning procedures at a higher institution of learning.

In the next section I used my academic values and the practical outcome of my actions to explain whether my criteria have been met. I also show how the critical feedback from my students and colleague enabled me in evaluating practice against my criteria. First, I constructed narratives out of students' learning portfolios, chats, and questionnaires. Second, I constructed narratives of our (critical friend and my) second conversation.

### **6.5.1 Construction of composite narratives**



Earlier on in Chapter Four I indicated that data analysis followed a narrative logic which is a specific type of qualitative design in which action-researchers capture events or actions in the form of a written text. The narratives (although presented here in the form of extracts) drew on the facts of descriptive response of the student-participants in the chat transcripts, interwoven with portfolios of learning, questionnaires and from my reflective journal (Samuel & Van Wyk, 2008). As with Samuel and Van Wyk (2008), the process of constructing my narratives in this thesis may be described as 'factionalization' and fictionalization. I describe it as 'factionalization' because our narratives represent both the individuals and the collective account of our adventure. Individually I reflected on my teaching strategies and on the process of collaborative action-research; wrote in my reflective journal my ideas for building a story. My student-participants also reflected on their learning strategies and the course materials in general, and noted this in their individual portfolios of learning. Collectively, we wrote our story. This was a construction of composite narratives (fiction) during our group reflections. Our story is authentic. We restricted ourselves to writing what was actually happening, rather than what we imagined or remembered had happened – that is, we remained true to ourselves. On July 11/2011 I wrote in my reflective journal:

*Am I aware that data analysis in each of my action research cycle has taken reflective data analysis principles? This calls for honesty. No problem, besides being strict I know I am an honest person. Though is not going to be easy, as Gray (2009) noted that reflexivity involves the realization that the researcher is not a neutral observer and is implicated in the construction of knowledge.*

I was guided by what students felt about my teaching-learning strategies.

### **6.5.2 Narratives of students' portfolios**

As I went through students' portfolios, two things became apparent. One is lack of structural clarity in their argument. I was satisfied, however, with those who, at least, divided their work according to the steps discussed with them (plan, act, significance, observe). Secondly, their inability to write in English affected the quality

of their portfolio structures. However, I had no problem in comprehending the essential meanings of their ungrammatical sentences and paragraphs. I was also reassured by Hussein's (2008, p.2) findings that adult students may not need "advanced language to give expressions to their lived experience". I found quotes that speak directly to the actions taken by students to improve their learning and study skills, and quotes that speak directly to my actions in trying to improve my teaching skills.

#### **6.5.2.1 My learning and teaching strategies – how students experienced them**

Once again, I gave students some questions to guide their thoughts when writing their portfolios of learning. One of the questions required students to monitor their progress. The learning and teaching strategies employed ensured some progress as the following extracts revealed:

*...as from March up to May I gained a lot, then there was a strike...I like this chapter because I understand it...my learning is to attend all the classes and do all the activities...*

One student, looking at his or her progress in the course wrote:

*...this is a nice module but not for lazy people... if you are not a lazy person you will enjoy it...*

Reflecting on the good and the bad moments of each day's tutorial lesson, students really appreciated my teaching strategy of using a teaching aid. They wrote:

*...that was a fantastic day in class because Mr Mokhele used a projector...today's lesson was a very interesting lesson ever... We saw the symbols bright and clear on the projector...everything was clear for me...*

The bad moments were usually brought about by the introduction of calculations:

*...we did calculations and it made me uncomfortable...*

I also requested students to reflect about instances where they learned something new or interesting. They wrote:

*...my lecturer teaches well...our lecturer motivated us and also guided us on how to make learning easier and enjoyable...I feel more confident because I get what I want from my lecturer...because our lecturer is patient, it makes it easy to ask questions...*

Their learning portfolios showed how they were gaining confidence in asking questions. I attributed this to my asking many questions and that they really enjoyed working in groups. As the following extracts indicated:

*...the lecturer also asks us if we understand the subject well...where are you lost?...why you don't get it?...what makes you don't understand the chapter...*

I do not know when I have ever asked so many questions. I was happy I was asking questions. Some of my students wrote in their portfolios about group discussion as a teaching-learning strategy:

*...the other person who helps me is my classmate...my co-students and I help each other by group discussion...what makes it easier is group work...*

Others said:*...we prepare questions for the lecturer...*

Group discussion played an important role in persuading students to prepare questions for myself and other people. Through group work my students gained the confidence to ask questions in public. *...I asked my sister...*

#### **6.5.2.2 Students I could not 'reach'**

"The research is in the action, whether the action goes as we hope or not. The learning is in action" (McNiff & Whitehead, 2002, p.71). I opened with this quotation because as teacher educators, most of the time we hope for a positive response from our students. If they do not offer this response we are disappointed. I had some such students in my group and accordingly, I reacted unhappily. Here I

present a story of two students who, in my opinion I was unable to assist, owing to time factors and ethical issues. The first student I could not reach owing to ethical issues. Because of ethical considerations I could not search for this particular student whom I discovered resided far from the university and from other group members. She/he wrote in her/his portfolio of learning:

*...on Sunday I did my assignment alone because there is no one to help me as I am staying far from the university...She/he certainly felt happy to be enrolled in the course. The following excerpts bears testimony to this:*

*...I feel good and listen well because my lecturer teaches well but I don't know what my problem is...I am always afraid even to talk to my lecturer...*

This was revealed in the second group of students' portfolios handed in October 2011. I was concerned that she/he might be the one of the two students who did not pass the final examination.

The story of the second student was a result of industrial experience versus university's teaching procedures. This left her/him being confused and unhappy. The next extract came from her/his questionnaire when responding to the following questions:

Question 3: Do you feel the lecturer created opportunities for you to ask questions?  
*...yes, but he does not answer immediately and he answers what he thinks it is right...*

Question 5: Do you feel that your questions and contributions were welcomed and valued? *...yes, because the lecturer responded to my questions though he doesn't answer immediately...*

This led her/him saying I had no influence on her/his academic life. I believe students like this should be guided and assisted early on how to put theory into practice or vice versa. Owing to time factors and the ethical issues I could not search for her/him and intervene. I shall not be bound by all these factors in future when I meet this group in searching for and assisting them. My study will continue after writing the report until I 'reach' them.

### **6.5.2.3 Learning and significance**

As a general summary, the narrative reflections of the students revealed the overall feelings that: (1) teaching aids can bring the greatest level of understanding and excitement; students, no matter what their age, learn best by seeing and not imagining things and (2) for the creation of an environment conducive to teaching-learning both students and lecturer need to work hand-in-hand. Teaching aids may be used more often to make the lesson interesting. The significance of learning is that students need a lecturer to support, advise, and guide them, in order to shape their academic life, while the lecturer needs students to give him/her genuine feedback about his/her teaching and assessment methods. The following feedback was given to me by my students as suggestions:

- Apropos the calculations, it was suggested that I should do more examples;
- About actualization of pre-knowledge, I should first ask questions from the previous lessons; and
- About my lecturing method, I should not take too much time talking and making jokes.

I have also learned that students who come to the institutions of higher learning from the industry have certain expectations emanating from their practical experience. If these expectations are not fulfilled, this may lead to great dissatisfaction.

### **6.5.3 Narratives of student's questionnaire**

The ten questions were divided into three sets. The first set (1-4 questions) are examining the questioning aptitude of the students, the second set (5-8 questions) views the new teaching-learning strategies, and the third set (9-10 questions) looks at the academic life influence.

### **6.5.3.1 Students' experiences of the course in 2011**

First set – creation of learning opportunities. Students indicated that the period they felt positive was between July and October-2011. This was because:

*...we started these new teaching-learning strategies...that is when I started understanding the content...I understand the chapters...*

This is the period during which I created opportunities for my students to ask questions and I showed respect when reacting to their questions. The following excerpts capture this well:

*...everyone was given a chance to ask and develop questions...he is professional by all means...this thing of developing questions assisted us when we wrote the tests...he showed respect by making sure all our questions are answered...the lecturer showed some qualities of caring and respect...asking questions boosted myself esteem and prepared me for becoming an effective teacher...*

As a result, other students felt confident to ask questions in public and/or in the lecture-room. In this extract students show that they can ask questions in public:

*...not anymore when I don't understand I ask...I don't feel afraid to ask questions because they help me understand better...between us and the lecturer questioning brought a lot of co-ordination, we work as a team...I now know everyone in classroom...questioning helped me to talk to my lecture-mates about my weaknesses...*

This confirmed that I had facilitated improvement, not only in the creation of learning opportunities but also in interpersonal relationships. According to Maslow, certain needs must be fulfilled before proper learning can take place. In this case, the need for belonging of some of my students was fulfilled. Belonging needs include effective relationships and the need to belong to a group or a family.

Second set – experiences of new teaching-learning strategies. Students were required to share their experiences of the new teaching-learning strategies. How did

they find them? Which strategy assisted them in improving and acquiring new study and learning skills? They indicated that they felt confident to try the 'question and answer' method as a new learning strategy. They reflected:

*...I like answering questions... it makes things easy when we are given questions as we learn how to answer them for the tests...*

According to the students, the new teaching-learning strategies brought excitement and team-learning. Some wrote:

*...I was excited because of the interaction and our contributions being accepted... it is always exciting to try something new...I learned that working together with other students is important...I have learned to contribute and participate in class and ask for clarity...asking questions emphasizes on my learning...group discussions taught me how to work with other students...*

They also felt that I showed fairness in my instruction, something that leads to effective learning. They wrote:

*...I saw the fairness of the lecturer to give us the opportunity to practice teaching...*

One student also learned the necessity of involving learners during tutorial presentation. She/he reflected:

*...I have learned that involving fellow students during my lesson presentation is effective and assisting...*

Some students were not happy with 'reading and summarizing' as a learning strategy. This was partly because they had come across the strategy for the first time when I introduced it to them. They reflected in their learning portfolios:

*...I did not like reading and summarizing...I was not happy with reading and summarizing at all because I have never been taught in that way...*

As I have indicated already, I chose an example from a different study material. I was comfortable doing this, but my students were not.

Third set – academic influence. I wanted my students to tell me how my new teaching-learning strategies influenced their thinking and learning. How did I shape their academic life? What they wrote puzzled me:

*...he managed to mould us to become the students we can be...he solemnly explored the opportunities for us to think critically...I have some few ideas of what kind of a teacher I want to become...my lecturer is a motivator...I have learned how to behave as a teacher...Mr Mokhele is always in a good mood...he motivated me to be a critical thinker...I will be a confident teacher now that I know how to develop and answer questions...we are now both academically and socially literate...*

I was puzzled because I was not aware that I am a motivator, an inspirer. I don't even know what I said to inspire and motivate my students. I am glad, however, that I had this effect on the students. My video clip shows me using many caring responses such as 'much better', 'lovely', 'wonderful', and 'that is really good', when responding to students' questions; these words could have motivated them.

### **6.5.3.2 Learning and significance**

The purpose of the questionnaire was to give students an opportunity to reflect on their new learning skills and thinking pathways that they had acquired and to share their experiences of the course with me. I acted responsibly by opening a dialogue between my student and myself to discuss matters relating to the course. The significance of learning is that the two learning methods were appreciated by students, because by means of these methods they became critical thinkers and formed a learning family. Those who have expressed reservations about the other method were reserved because they were never introduced to the method; they felt more comfortable studying by means of rote learning. My reflection change takes time, I should allow students the space to come on board and 'sail' with us; we are still at the beginning of our learning journey. I acted in a sensible way (showed responsibility) by allowing these groups of students to learn in the way in which they felt comfortable. The significance of learning is that students cannot be forced to change their learning method especially if they feel they are progressing well in their



studies using that particular method. The questionnaire left me with the feeling that they would make better teachers. This is how I influenced their academic lives.

#### **6.5.4 Narratives of our chats**

I did not want my students to rely only on every item of study material I presented to them. I wanted them silently and sometimes openly to ask: Why are we learning in this way? Silently, they would go to the library and search for more information on the materials, discussing different study and learning skills at the university. Openly, they would ask for other people's ideas. Did they do this? I started chatting with them to find out. Our chats, as with any other interview were guided by some questions. I used chats as an open response interview to allow students to express their experiences in their own language and thinking by means of their feelings about my teaching-learning methods. Realizing that the questionnaire and the second learning portfolios would have to be submitted at the end of the academic year, our chats ensured prompt feedback. The first two questions I called 'entry level' questions. I wanted to find out their expectations. The other two questions were aiming at checking how they were reacting and responding to the new teaching-learning strategies.

##### **6.5.4.1 Students' views on the new method(s) of teaching and learning**

Every time I bumped into a student I would start a conversation, being guided by the questions. The following emerged from our chats:

Question 1: How do you find the course? *...Not bad especially because I am from an FET college, I have received most of the content... Another said...I am studying with a group and I am improving on the things I did not understand...*

Question 2: What would you like to see in this course -- something that can assist you to succeed? *...I do not know if I will experience any problems, the level of*

*difficulty of the subject is not like (previous course)... Another student confirmed my earlier suspicion that some students need assistance with regard to putting theory into practice. ...I am from the industry so I must study hard and never take things for granted...*

Question 3: Today in class did you learn anything? *...The idea of trying the method of question and answer is really a good one...I learned a lot about (content), I was really battling...*

Question 4: How do the changes affect you? Did you feel satisfied with the changes? The following excerpts indicate students' experiences of the new changes:

*...I am always on my toes, even my fellow-students will go to the library read further and try to develop assessment questions...now we are participating and it is becoming interesting...in the past I used to go through my notes like reading a newspaper, now I read and summarize....the method that we are using now I think we are on the right track...I am happy I am improving...you gave us a test and we did well that is why I say you satisfy us by the way you teach...*

Reflecting on our extra-special day, they said: *...having two lessons per week, you are really fast...the changes will help you finish the syllabus...*

As I was chatting with one student after using the question and answer method, the student made it clear that she was confused with the way I conduct my teaching:

*...I am from an old system, you see when I was still a student there was no OBE...what can I say this is how things are today but sometimes I become confused especially with group discussions and then reflecting afterwards about the lesson...*

Outcomes-based education (OBE) is a mode of delivering curriculum 2005 (abbreviated, C2005), which was the adopted curriculum by the South African education authorities after the fall of apartheid-education system in South Africa. This curriculum was introduced in Grade 1 in 1998, and subsequently revised after teachers and other people who have an interest in education complained about it. The revised national curriculum statements (RNCS) were then introduced in the context of two curriculum systems being operative until the end of 2004, i.e. NATED

550 and C2005 (South African Teachers' Union, SADTU, 2001). I have indicated earlier that the current curriculum is the NCS Grades R-12.

#### **6.5.4.2 Students I could 'reach' – the story of two girls**

I am happy that many students were opened to the changes and allowed me to influence their academic lives in a positive way. Here I want to present the story of two girls in whom I saw the changes to their academic lives. I enter their story in my journal of September 2011, calling them Girl A and Girl B. Girl A normally sat in front and did not answer nor ask questions in 'public' for the better part of our academic year. She enrolled at the university straight from a technical high school; as a result she seemed to lack confidence among her 'senior' co-students. I was thrilled to see her asking and responding to questions in the lecture-room. I remember asking myself this question: Am I making an impact on this young student's academic life? I openly congratulated her; I could not contain my happiness.

The following week another student (Girl B) who normally sat in the second row made a point to be the first to respond to my questions. She had also come from a high school having no industrial or college background. As with Girl A, she kept quiet for the better part of our academic year. After responding to my first questions she smiled at me – maybe to get my attention. She seemed to be saying: 'Can you believe that I am answering questions?' I guess it was because I congratulated Girl A in public; that is where she found encouragement.

I could only guess the answers to what I noticed happening in my lecture-room. To find the true answers I wanted to do 'forced' chat by asking both of my girl-students to visit my office so that I could confirm this with them. Owing to ethical considerations, however, I could not. I made a promise that I would only chat with students who voluntarily visited my office and/or the ones I would 'bump' into at the university corridors. This I did. I was happy with the little improvement that I saw. I took comfort in the words of McNiff (2002) that improvement does not mean perfection. She puts it aptly: "Any improvement is still improvement, no matter how small" (p.16).

### **6.5.4.3 Learning and significance**

The significance of learning is that students understand that we are in 'this' together, 'this' meaning the changes that will help me improve my practice as much as they will help them to improve their learning and study skills. They view the new ways of carrying out my instructions (lessons in this case) as motivational and keeping them on their toes. They felt satisfied by their significant improvement in their academic achievements. One student who disagreed with the use of group discussion as a learning strategy did not complain about her academic achievement. Whichever method she was using ensured her progress. I respected that. I viewed this as a sign that she needed some space to get used to the new system. It is my value to allow students to be responsible for their learning; to learn in their own way. Students should be allowed to learn in their own way especially if they feel they are progressing well in their studies using that particular method. I wish we had had more conversations like this with my colleague; unfortunately he was busy with his doctoral thesis. I must admit that were it not for my critical friend I would not have known the important role a research model played in any kind of scientific inquiry. Owing to his advice and persistence I turned my reflexive-action research cycles into a model.

### **6.6 USING MY CRITERIA STATEMENTS TO JUDGE THE SUCCESS OF MY PERFORMANCE**

Here, I make judgements based on my criteria, but these are not what constitute the final analysis. My collaborative action-research process involves questioning my claims to knowledge in the validation process. This is something I will get back to later. In this section I used my criteria statements to judge the success of my performance and to produce evidence that I created opportunities for my students to improve their practice; and at the same time improve my practice. McNiff (2002, p.18) has written: "Your data will turn into evidence when you can show that it meets your nominated criteria". My criteria consist of two components – criteria statements and the indicator statements. As I have indicated earlier (see 6.1.1) I

used my criteria statements to judge the success of my performance and my indicator statements are the phrases from the participants themselves.

### **6.6.1 Student-centred approach**

Criterion statement 1 - Allow students to lead the lecture-room discussions

In terms of a student-centred approach, the majority of students highlighted the following issues as indicators of how I had afforded them opportunities to lead the lecture-room discussions and the feelings they had experienced:

- acceptance of students' views;
- maximum participation;
- he does involve the class;
- us becoming effective teachers;
- become a critical thinker;
- acceptance of our contributions;
- involving fellow students is effective and helpful; and
- the lecturer was fair by giving us a chance to practice teaching.

It is clear from these indicators that I had allowed my tutorials to be student-centred. For me this was a change in attitude and behaviour; a paradigm shift from being an autocratic lecturer to allowing students a greater role to play in their education. One of my academic and life values (fairness) was highlighted by some students. This value became clear when I allowed students to lead lecture-room discussions. It was not an easy thing to do – my being an autocratic lecturer, however, students also came to realize that new knowledge cannot be accepted without being critically analyzed. It shows students' practice improves by asking critical questions such as: Who said this? Who discovered that? How was the new knowledge arrived at? Allowing students to lead the lecture-room discussions enabled them to share ideas and learn as a 'family', as opposed to learning as individuals.

### **6.6.2 Active engagement**

Criterion statement 2 -Make the lesson (instruction) a two-way process

The following issues were highlighted by students as indicators of how I actively engaged them in their own learning.

- our lecturer does involve the class;
- maximum participation;
- we work as a team;
- co-ordination between us and the lecturer;
- acceptance of our contributions;
- he ask us if we understand the chapter well;
- everyone was given a chance to ask and develop questions;
- we were approached;
- he listens to us; and
- he is responsible in every way

The above indicators confirm that I allowed my instruction to be a two-way process by actively involving my students. Being able to involve them to lead their own learning was viewed as a sign of being responsible. This confirms that I lived this value in my practice. Involving students can develop feelings of satisfaction and enthusiasm. Involving students when deciding and planning a tutorial lesson can also be effective and can assist slow students to grasp new content quickly. Students were able to attend the lectures fully prepared.

Involving students actively taught me to listen more – consider new ideas from students. To them, my listening indicated my welcoming and valuing of their contributions. I can listen and take ideas from students. My listening left them with a feeling of satisfaction. In summary, as far as I am able to judge, I have met the

criteria. My practice has improved; the students' practice has improved; they no longer rely on rote learning when studying.

### **6.6.3 Questioning aptitude**

Criterion statement 3 -Students can develop and respond to questions

The bullet points below are the points mentioned by students apropos the opportunities created for them to develop and respond to questions.

- we prepare questions for the lecturer;
- everyone was given a chance to ask and develop questions;
- asking questions boosted our self-esteem;
- don't feel afraid to ask questions anymore;
- I know how to develop and answer questions;
- I like answering questions;
- questions help me talk to my lecturer-mates;
- we can develop questions;
- I ask my sister; and
- when I don't understand, I ask.

The indicators reveal (1) students can develop questions and explore their answers and (2) they are no longer afraid to ask questions. Those who are still afraid to ask questions were those who lacked confidence. However, most students have embraced the new learning method. They use questioning as the main study method. Some indicated that questioning also challenges cognitive thinking – test knowledge and understanding. Their practice has improved. My criteria of students formulating questions and exploring answers have been met.

Through questioning, students came to realize the importance of asking questions. To make meaning of learning and to understand the tutorial material, they appreciated practicing how to answer each other's questions. This allowed them the

opportunity of getting to know each other better. They have come to realize that the new learning methods make new ideas and content clearer; it encourages them to make a contribution and to seek clarity.

#### **6.6.4 Process-oriented**

Criterion statement 4 - I created space for my students to learn

The bullet points below indicate how my students responded to the space I created in which they could learn.

- developing questions assisted us to learn;
- I have learned how to behave as a teacher;
- he managed to mould us;
- he explored opportunities for us;
- I will become a confident teacher;
- guided us on how to make learning easier;
- assisted by group members;
- taught by other students;
- teaches well and shows respect;
- lecturer does involve the class; and
- my lecturer is a motivator.

In terms of a process-oriented approach to teaching and learning students valued the responsibility given to them to teach one another; they appreciated my mentoring role. This became clear when students responded to each other's questions in a caring manner. My mentoring role led to my students calling me a motivator and an inspirer. They felt that the various teaching-learning strategies created opportunities that would ensure academic success. They are now in a position to complete their academic studies without difficulty. It gives me great pleasure to know that I gave them study methods that would make their university



studies 'friendly'. I left them with a positive attitude towards solving real-life problems and becoming responsible teachers. Out of the process-oriented approach emerged two values: respect and cooperation. I welcomed this. Nothing strengthens the relationship amongst adults more than respect and working together. My responsibility value was realized in allowing students to present sub-topics from tutorial materials to their co-students in their own language, thinking and understanding. In summary, as far as I am able to judge, I facilitated my students to learn and/or improve their acquired practical skills.

## **6.7 DISCUSSIONS OF THE KEY FINDINGS**

I closed my reflective journal (November 23, 2011) with this quotation from Bel Kaufman: *'Education is not a product: mark, diploma, job, money – in that order, it is a process, a never ending one'*. I hope the influence on my students in the past few months will be felt for many years to come, that the wisdom I shared with them is echoed in every corridor and corner of the education sector where they find employment. I will take pride if they become creative, innovative, and independent thinkers; take on the teaching profession with pride and compassion, and take initiatives to solve difficult problems plaguing their communities.

I wanted my students to develop a questioning attitude so that they could cope with life without exploitation – being excluded when important decisions that affect their academic lives are taken. To arouse students' interest and appreciation in developing their learning and studying skills, these skills were integrated into their tutorial learning materials. In what follows I write my concluding thoughts as the issues and/or lessons I have learned throughout my reflexive journey and from data analysis. These constitute the key findings of my thesis.

- do not teach students – facilitate for them to learn and/or improve their acquired practical skills;

- students need to develop a questioning attitude so that they can go through their academic life without exploitation (used selfishly to advance one's career);
- students need an opportunity to be involved in their own education by allowing them to choose what they want to learn and how to learn it;
- teaching style of the lecturer-educator should vary from lecture content to lecture content, and from lecture-room situation to lecture-room situation; there can never be the best teaching strategy;
- questioning aptitude can enable students to link new concepts and ideas to existing personal experience;
- students can voice their own opinions about issues that affect their learning in a democratic lecture-room climate;
- students learn best in a community of caring;
- students learn best when new concepts are explained by fellow students;
- university students always seek to learn content knowledge that will help them when they enter the world of work;
- students cannot be forced to change their learning method, especially if they feel they are progressing well in their studies using that particular method; and
- student-centred tutorials encourage maximum participation and open a dialogue among the students and lecturer-educator on the lecture content.

## **6.8 SUMMARY OF DATA ANALYSIS**

My interpretive data analysis involved two processes. In the first phase of data analysis, I searched for illuminative moments or epiphanies in our narratives. During the second phase of data analysis I searched for sentences or parts of the sentences

that spoke directly to my criteria. That process involved identifying, interpreting and deconstruction of epiphanies.

In summary, through an analysis of epiphanies I was able to identify my 'story' (a descriptive narrative) by searching for the sentences or different parts of the sentences that directly speak to my academic values and criteria. I had a great deal of data from portfolios, chats, group reflections, questionnaires, reflective journals and audio-visual camera images of students and me collaborating in lecture-room activities. The question was: how do I select, simplify, and transform data in such a way that it makes meaning – evidence that indeed the initial situation has improved. McNiff and Whitehead (2009, p.149) remind me that "... evidence is in those pieces of data that directly show the processes involved in transforming a research question into knowledge claim". I found that my data has been selected, simplified, and transformed in accordance with the questions that directed our actions; this made it easy to identify, select, deconstruct and interpret epiphanies. Through an analysis of epiphanies I was able to capture the concepts, meanings, emotions, and agendas that may be applied to the problems affecting the development of teaching-learning skills at higher learning institutions. This process also enabled me to reduce the voluminous amount of data into manageable 'piles'.

In the next chapter I analyzed data further by looking at the implications of my enquiry and offering some concluding thoughts.

## **CHAPTER SEVEN**

### **CREATING MY LIVING EDUCATIONAL THEORY**

#### **7 INTRODUCTION**

In this chapter I present my claim to knowledge and show how my methodology contributed to practice improvement. I look back and explain step by step how I influenced or at least tried to influence my students and critical friend in a positive way. The question: 'What are the implications of my research for me and for others?'

is the main question in this chapter. The focus of this chapter turns to judging the quality of my work. That is, I show how the quality of my work has improved, in support of my claim to new knowledge; I explain why my claim to knowledge should be believed. I also put forward my theoretical stance vis-à-vis teaching and learning at HEIs.

I look back at the specific strengths of the enquiry and ask whether my data helped me to answer my research questions. I look at the emotions my enquiry provoked; I explain how my story becomes my 'living educational theory'. I also provide an action account as evidence of the way in which I lived my ontological values. I explain how conducting collaborative action-research and testing its validity, has enabled me to claim that I have achieved my values-based aims of contributing to the development of teaching-learning at higher institution of learning. My claim to knowledge is judged in terms of its potential, how it is affirmed by my colleague and students in their academic lives.

I look at the limitations of my methodology. I also say something about limitations owing to the time factor and ethics. I provide a future action plan to show that my study is continuous. Lastly, I reflect on our eighteen-month long journey.

### **7.1 MY KNOWLEDGE CLAIM ABOUT OUR PRACTICES**

One of the main ideas on the action-research approach, as seen by McNiff (2006) is that, as action-researchers we are always trying to improve something; this may be our understanding, or it may involve an aspect of the social situation. But then how do we 'know' that something has really improved? I emphasize the word 'know' because of the two questions from McNiff & Whitehead (2009) that shook the world under my feet. "Who is the knower? What counts as knowledge?" (p.181).

I need to approach the two questions with caution, in order to gather my ground. Let me look at the first question: Who counts as a knower? McNiff and Whitehead (2009) remind me that it is up to me to show that I am capable of speaking multiple dialects, by demonstrating the achievement of the highest levels of the standards

appropriate to judging the quality of my work and in my field. Throughout my thesis I demonstrated the power of my ontological academic values as standards of judgement in setting the criteria to judge the success of my performance. I make a claim that I know my own educational development in creating self-knowledge as I bear in mind McNiff and Whitehead's (2009, p.184) view that: "To achieve access to equal entitlement and full recognition, the first thing to do is to appreciate fully that your life is your contribution to human well-being". My academic contribution is in a sense contributing to the development of teaching and learning at higher institution of learning. Avebury (1905, p.56) writing in praise of libraries more than hundred years ago, asks: "Why should not everyone, moreover, add something to the sum of human knowledge".

Regarding the second question: What counts as knowledge? I make a claim that my practical knowledge has been acquired as I immerse myself in the experience. What this means is that I can generate self-knowledge by developing theories grounded in my practice. This is what counts as my propositional knowledge. Propositional knowledge means, knowing about what is acquired after the process of learning. I take propositional knowing and situate it in my academic life and collaborative action. McNiff and Whitehead (2009, p.29) argue that: "Data gathering and evidence generation can be problematic because there is often no direct link between the claim to knowledge and evidence". However, I bring my lived experiences in relation to my life and academic values as standards of judgement about the claims I make about my practice and students' practice. I agree with McNiff (2002, p.6) when she said that: "Because these standards are part of the lived realities of people's lives, they become living critical standards of judgement". One famous old quotation on knowledge generation and/or knowledge acquisition says: *If you have not lived through something, it is not true* (Kabir, n.d.). In having researched my practice I am now able to make connections between my practice and the educational theories such as constructivism, living educational theory, and grounded theory as well as locating my practice within progressive education. I can now make the following claims to educational knowledge:

- ❖ I recognize that a lecture-room of equals creates opportunities for lasting interpersonal relationships and opens a dialogue between the teacher-educator and students. As teacher-educators we should always create a climate of lecture-room discussions. I agree with Van de Venter and Kruger, (2003) that a positive lecture-room climate manifests itself in listening, openness, critical questioning, and a feeling of being cared for. Our point of departure should be to involve students as partners in their learning.
- ❖ Students should be allowed to learn in their own ways, especially if they feel they are progressing well in their studies using a particular method. I am putting forward this claim because learning is a change in behaviour, thoughts, and feelings as a result of experience (Train, Ahmed, & Bandawe, 2007). We must ensure that tutorial materials used and teaching strategies employed will influence appropriate learning skills and study habits. Students have their unique styles of learning; implementing various learning styles afford students an opportunity to find a style that matches their own.
- ❖ The best teaching-learning practice is the one developed and agreed upon between the lecturer-educator and his or her students. Be flexible – be mindful of diversity. What works with one group of students will not necessarily work with another group. The best teacher-educator is constantly seeking ways of improving the learning experience of his or her students.

In the next two sections, I discuss the above claims by examining the way in which I have improved my practice and helped my students to improve their learning and study skills, as I generate my living educational theory. Whitehead and McNiff (2006, p.29) argue that knowledge claims by definition contain explanations because when you say: "This is the way things are, you are also implying that you can explain why things are the way they are". In the next two sections I offer explanations for why I "know that" our practices have improved (McNiff, 2002, p.28). According to her, "know that" is linked with the idea of E-theories, and refers to bodies of public knowledge which are external to the knower.

### **7.1.1 My practice**

In saying that I have influenced my situation for the good; I am making a claim to knowledge. However, I must state that the claim I am making about my practice is greatly influenced by the outcomes of my actions, my convictions, and confirmed by my students and critical friend. Gray (2009) puts it succinctly when he said that an individual action-researcher is not in a position to say whether his or her actions have had an impact – it is for participants in the project to judge for themselves. Putting my values, ideas, and beliefs under the scrutiny of other people has contributed to my propositional knowledge. I use my propositional knowledge to explain why I know that my practice has improved.

My students not only used rote learning as their main method of learning, but also depended on me for knowledge. Avoiding the creation of dependent students, I stopped dominating the lecture-room discussions. I used to encourage this by allowing my expertise to dominate my students' ideas and views about the content of the tutorial materials and how this content should be learned. I am no longer doing this because I am more open to criticism and I value the right of students to be responsible for their own learning. I involve students in choosing projects that are relevant to their interests. I also improved on certain aspects. First, I am no longer a bureaucratic lecturer because I teach from a progressive, critical perspective. Progressive educators realize that adult students must be involved in formulating not only the course of study but also the outcomes of those lessons (Kohn, 2009). I no longer dominate lecture-room discussions or assert my superiority, seemingly indifferent to my students' prior knowledge. That is, I encourage students to go to the library and search for information, giving them an opportunity to share with the rest of their learning partners what they have discovered.

Second, my academic and life values have become my practice. I am now able to offer caring responses to student's questions. I hope to do this even outside my academic life – it is my value to respect other people's feelings and views. These two values: 'respect, and listen' are my emerging values. I refer to them as emerging values because they were noticed by my students in our daily encounters. I can now claim that my academic and life values are my guiding principles; the way I conduct

myself among my colleagues and students. I no longer dominate lecture-room discussions; I listen more, and pause for answers from students. I improved my own practice when I started listening to my students. It is the first time since I became university teacher that I have heard from students that I teach well. My critical friend (Mr CC) also confirmed that I am good at delivering the lesson and sharing my wisdom with students. Over the course of this enquiry, I have learned the new teaching-learning techniques suitable for a higher institution of learning. I embraced the idea of active lesson-planning, active engagement, non-competitive environment, and student-centred approach. I accepted the transition in my pedagogy. I understand pedagogy as teacher-directed approaches. In my conclusion (section 7.9) I explain how beneficial and rewarding it was for me to enquire 'with' and not 'on' the research participants; by offering answers to the questions that were constantly with me throughout my enquiry.

### **7.1.2 Students practice**

At the beginning of my reflexive-action cycles I had hoped for my students not only to take away the knowledge content of the lessons but also to take the skill of articulating their own learning experiences in a reflexive, emotionally responsive way. As Gray (2009, p.323) argues "... successful action-research projects are not just about bringing about change in organizations, communities or networks, but about changing and empowering". My strategies of helping students improve their practice included: (1) the use of the questioning method and (2) students reflecting on the processes of learning and making a summary. Their level of asking questions has improved. They have gained the confidence to ask questions in public. Part of improving their practice was to accept my pausing between the questions. I explained to them that pausing was to give them a chance to think about the answer. I respect their experiences – the knowledge they bring into the lecture-room. I agree with Galbraith (1998) that the types of question and the techniques used in questioning can create reflective active students. My students were enthusiastic about being able to develop questions and about exploring their answers. Some students even applauded themselves after standing in front of their



fellow mates and presenting some teaching lessons. I interpreted that as a sign of an individual inner satisfaction.

I was encouraged and humbled by the level of discourse being produced by those students who, at the beginning of our journey, seemed shy and lacking in confidence. They found great success studying in a lecture-room climate that fostered a caring community rather than an individually competitive environment. They have embraced questioning as their main study and learning method. They no longer depend on rote learning. I was greatly impressed with their performance in the end-of-year examinations with only two students repeating the course and four qualifying for the supplementary examination. I felt excitement and fulfilment that I had achieved something. I wish that I had started earlier with my research study, past groups would not have repeated the course in large numbers, forcing some students to change the course.

## **7.2 MY ENQUIRY IS CONTINUOUS**

As much as I wanted to improve our practices, at the end of my enquiry I felt too focused on myself. I have learned that it does not matter how wonderful our values are, there is always another side; other people may not necessarily agree with our values in that particular context. My value of responsibility (inviting students to be responsible for their own learning) was not a favourite among some of my students who were used to relying on their teachers for knowledge. As a result they demonstrated their own values. I am referring here to values such as respect, compassion, and helping others, listening, which were demonstrated by my students. This is my next inevitable step – to determine what is most valuable to my students and use this to equip them with suitable learning and study skills. I must ask myself this question: what are the common values that university students share and how can they be used to develop and arouse in students suitable study and learning habits? "... there is a genius inside all your students. If you determine what is most valuable to each one of them, you will awaken that genius and unleash potential for greatness that will have a ripple effect and impact on future societies"

asserted Demartini (2011a, p.20). It is essential to discover the way in which students' common values may be used to encourage communities of learning, and hence improve students' learning and study skills suitable for a university.

My inherited past also played a major role in the negation of my values. This is how I describe my past: the teacher knows best; the teacher answers all the questions; he brings information to the classroom; learners are the recipients of information; the school and university syllabuses and the lesson content should be developed for the learners; and the teacher-educator should be in control of the classroom situation. Practice improvement meant that I had to revisit my inherited past. It was like bringing the two worlds together. In my future teaching I hope to be more of a facilitator of learning by practicing the following: asking for feedback, giving feedback, providing guidelines, supporting from behind, and adapting my learning experience 'in mid-air' by steering it to where my students wish to create value. I overlooked the role of multiple intelligences (MI) – in particular mathematical intelligence and verbal intelligence which can play a role in promoting good learning and helpful study habits among university students. This became apparent when some students complained about not having the opportunity to develop calculations questions (mathematical intelligence - MI). Mathematical intelligence includes classifying, inferring, categorizing, and calculating (Pienaar et al., 2011). Others seemed happy with peer teaching and enjoyed speaking and listening (verbal intelligence). This may be the end of my report writing, but it is not the end of continuing to improve my teaching skills and my students' study and learning skills.

### **7.2.1 Action plan for the future**

I feel obliged to acknowledge that my enquiry revealed some interesting questions. On the basis of my research findings I put forward the following future plan:

- ❖ I must study theories of personality and teaching in order for me to understand: *Why do I teach the way I do?* I agree with Mwamwenda (2004) that, as a result of studying personality, I shall be in a better position to understand myself and also the behaviour of the students I teach;

- ❖ Look at Gagne’s (1985) cognitive view of learning and integrate his views in my lesson plans. I believe that his three principles of learning, namely, outcomes of learning, processes of learning, and conditions of learning, hold the answer to the following question: *Why are my students learning the way they do?;*
- ❖ I also plan to answer this question: *What are the common values that university students share and how can they be used to develop and arouse in students suitable study and learning habits?* I believe the answer is in establishing and recognizing those common values that students share; and
- ❖ Lastly I shall search for the answer to this question: *What role can MI play in promoting good learning and helpful study habits among university students?*

### **7.3 DEMONSTRATING VALIDITY AND TRUSTWORTHINESS OF MY KNOWLEDGE CLAIMS**

My collaborative action-research process involves questioning my claims to knowledge; how do I ensure that my work is rigorous and valid, and why should my thesis be believed? Wilson (2009) explained that establishing validity is about explaining why one’s claim to knowledge should be taken seriously. It is also about ensuring quality in action-research project. He further contended that action-research is regarded as a public knowledge-generating process. Now, how do I ensure that my work is rigorous and valid, so that the knowledge I generate may be believed by the academic audience? I am guided by his questioning methods in what he termed process validity, describing this as the generation of new knowledge using sound and appropriate research methodology. His methods under process validity are depicted in the table 7.1.

**Table 7.1 Assessing the validity of action-research**

<ul style="list-style-type: none"> <li>❖ Does the research focus on a problem that is of practical concern to the teachers involved?</li> </ul>
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- ❖ Does the research involve gathering data from the various points of view, for example the teacher, an observer, and students (triangulation)?
- ❖ Does the research enable the teacher to call their existing stock of professional knowledge (tacit theories) into question, and to test it against evidence gathered in their practical situation?
- ❖ Does the research extend teachers' understanding of their situation in a way that opens up new possibilities for action?

(Adopted from Wilson 2009, p.199)

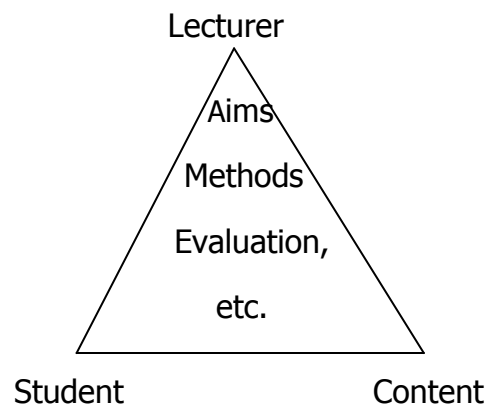
I find his validity process the criterion on which to weigh up the rigour and relevance of my enquiry, consequently establishing the validity and trustworthiness of the thesis. "A living theory methodology includes the processes of validation" (Whitehead, 2011a, p.5). In ensuring that I make appropriate judgements on the quality of my thesis; I am rewording his questions as is indicated by the following subheadings. I find his principles of rigour helpful and useful; however, I have reworded them because they are not specifically designed for my thesis. Wilson (2009) saw reliability as referring to the rigour, consistency and above all, trustworthiness of the research. He further warned that a reliable study may conceivably still be invalid if it "ends up answering a different set of questions to the ones it claims to do" (p.116). Mishler (1990, cited in Samaras, 2011, p.218) shares a similar view about trustworthiness: that it is "the degree to which we can rely on the concepts, methods, and inferences of a study or tradition of an inquiry, as the basis for our own theorizing and empirical research". In the next sections I should like to claim validity and trustworthiness (reliability) of my knowledge claims by showing how these have been legitimated in various reflective discussions – social validation and personal validation. Whitehead and McNiff (2006) are of the view that it is the responsibility of practitioners to establish the validity of knowledge claims, which usually takes the form of personal validation and social validation. Social validation took the form of meetings I had with my critical friend and the TES critical team. I used my reflection (personal validation) to validate that my work is authentic. In the

next sections I show how I combined the two processes to make appropriate judgements on the quality of my thesis. These are shown below.

### **7.3.1 My thesis focuses on a problem that is of practical concern to me**

My primary purpose is practical; I identified a gap in my practice as the lack of interactive teaching. The teacher, students, and the content (subject matter) have always been identified as the main components in a lecturer-room. These three components are normally represented in the form of a triangle.

**Figure 7.1 Andragogical didactic triangle**



(Adapted from Fraser, Loubser, & Van Rooy, 1993, p.11)

The student needs the teacher to 'provide' the means of understanding the content. I emphasize the word provide because this is how teaching and learning should take place between adults – their education encounter is defined as andragogical education. According to Fraser, Loubser, and Van Rooy (1993) andragogics studies educational activities as they occur between adults (between a lecturer and students) in a tertiary teaching institution. It is further argued that andragogy is based on a humanistic conception of self-directed and autonomous learners and teachers as facilitators of learning. I provided the learning resources for my students and directed their learning towards discovering the meanings of the new content. For the content to make meaning, the aims and evaluation procedures must be part of the lesson planning. As much as I understand the andragogical education process

– two adults coming together to share knowledge, sometimes I failed to outline my evaluation procedures and aims of my lesson to the students. I am concerned because this may be one of the contributory factors to my students' taking time to grasp the meaning of new content.

I interpreted andragogical education in the following way. I planned an introductory lecture for my students in which I explained to them collaborative action-research as an approach I intended to follow in order to close the gap. I requested them to collaborate with me in the journey I later called 'learning how to learn'. I explained 'learning how to learn' to them as a journey in which we were all going to learn how to improve our practices – teaching and learning skills. My immediate objective at that moment was to make my lectures interactive and to improve the didactic andragogic educational triangle. I described my research problem (in Chapter One) as a values-based problem. This was after discovering that I have a set of values that I deny myself in my practice. Being an 'autocratic' lecturer – providing direction all the time to students bears testimony to the fact that my values were negated in practice. My values are my standards of living in my educational life. I recognized my students as an important component in this didactic andragogic educational triangle.

### **7.3.2 The research study 'employed' triangulation as the main data gathering approach**

As I have indicated in Chapter Five to ensure that I produce a valid and reliable account, I used triangulation. Triangulation is an approach that permits the use of multiple methods. As Samaras (2011, p.218) contends, establishing trustworthiness is strengthened by using multiple and varied data sources – i.e., triangulation. She asserted: "Essential to your quality study is that your data are derived from multiple and varied sources and perspectives..." (2011, p.213). Validation of my enquiry was conducted through chatting with some students, observation by my critical friend, and the completing of an open-ended questionnaire by all students. I also sought

expert opinion by engaging my critical friend as well as chatting with experts (such as Jack Whitehead of the University of Bath) in the field of self-study research.

Embracing the importance of a critical friend, Samaras (2011) notes that qualitative action-researchers often miss the opportunity to consider critical friends as a data source when triangulating their data. I wanted a person who would offer an honest opinion about my practice; give me a pat on my shoulder in instances where I lived my ontological values and give a hard 'slap' every-time I negated my values in my practice. I agree with her that a critical friend can show you something that may be present all along but not obvious. After reading my concluding thoughts (findings) of my thesis, my critical friend agreed that I had met the objectives I had set for myself at the beginning of my enquiry. This is social validation – which usually takes the form of meetings with the critical friend or validation group (Whitehead & McNiff, 2006).

I had my reflexive action cycles as the means with which to reflect on my practice. On the advice of my critical friend, these became my model – an intervention strategy. I shared my final data analysis and concluding thoughts with my critical friend. He shared his opinions and offered some guidelines on the findings of my enquiry. After reviewing data analysis of my enquiry he commented: *Just ensure that all students' responses are reflected as reports unless in action research you do it otherwise. But it is a good narrative; you really took me through a learning classroom journey.* Sometimes he would act like my co-supervisor, making some corrections before I sent out my work to my two supervisors. See Appendix P on how my work was scrutinized and corrected by my critical friend.

I have also received many guidelines from our TES critical friends, especially from our international self-study experts, guests such as Whitehead (2011). During my conversation with him (see figure 7.2), he made it clear that my living educational theory should answer the question: *How am I contributing to the development of teaching and learning at a higher education institution?* See Appendix M for the full conversation. This was after he reviewed my research question. This question assisted me later in judging the value of my actions and clarifying my role as a teacher-researcher. My role is to facilitate my students' improvement of their study

and learning skills. Permission was sought and granted (Appendix S) from Jack to use his/our photograph in my thesis.



(Figure 7.2 Image of Jack Whitehead and Paul conversing – July, 2011: Photo, Paul Mokhele)

I also received divergent views from the TES critical team that assisted me to shape my and focus my ideas. "Working with colleagues helps extend and transform an individual's understanding" (Samaras & Roberts, 2011, p.43). I regard TES critical team members as my validation group, because they were able to make professional judgements on the validity of my report; and to offer critical feedback (McNiff, 2002). After hearing my presentation in an organized forum held in Durban in September 2012, the validation group listened carefully and read through the power point slides I had prepared for them. I noted in my reflective journal their comments on how to move my ideas forward. The validation group agreed that the methodology used is appropriate in that it enabled me to answer the main research question. They commented: *Interesting problem which applies to many institutions. A useful study with some interesting methods.* However, some members felt: *Some care needs to be taken over the use of terms like "appropriate" or "suitable for university standards" because these are not fixed notions - they are contested notions that involve assumptions that need to be unpacked.* I took their concerns seriously and decided to replace the words 'appropriate' and 'suitable' with 'good learning' and 'helpful study habits'.



I chatted with my students about our 'actions' – lived lecture-room experiences. My decision to use this method is supported by (Briggs & Coleman, 2007, p.211) who commented on the use of chats in collaborative action-research: "people will tell interviewers things in a chat they might not in a formal interview". This method fitted with my research methodology: trying to create an open and non-intimidating environment in which my students could tell their experiences of the teaching-learning methods in their own language and thinking. Some of my action lessons were videotaped, and in some instances an unstructured observation checklist was used to observe my action lessons. The use of a video enabled me to review and reflect on my teaching style and to consider the ways in which I can improve it. I kept a reflective journal as part of my conviction of the validity of my own interpretations and explanations – this is part of personal validity (Whitehead & McNiff, 2006).

### **7.3.3 The research study enables me to modify my concerns and beliefs**

The rigour of collaborative action research taught me to look at my lecture-room in a new way, and to rethink all the intuitive pedagogical knowledge I had built up in my thirteen years of experience. Whitehead and McNiff (2006, p.118) put forward the following argument with regard to the modification of one's concerns, beliefs or ideas: "I should have done that differently. Next time I will, and I will check how the modified practice may be better". This is, according to Samaras (2011), an alignment of beliefs with practice and the contemplating of the influences on backgrounds, experiences and culture on teaching.

Marsha Sinetar (n.d.) once said: "Change can either challenge or threaten us...Your beliefs pave your way to success or block you". Let me look at my beliefs and their contradiction. By contradiction I mean that I am challenging my existing ideas. I have always believed that:

- ❖ Questioning skills come with listening skills – a good student listens and asks appropriate questions.

I recognize that students should be taught how to listen in order for them to ask questions. I am avoiding the use of value-words such as: good, and appropriate. I am no longer subjecting myself to the level of classifying my students as 'bad' or 'good'. One of the guidelines for listening as proposed by van Deventer and Kruger (2003, p.166) is to use certain responses to indicate your interest or empathy: a nod of the head, "yes" or "I see". Listening emerged as one of the important values in my lecture-room; when students hear me using caring words such as: It sounds as though... Perhaps you feel... You feel... because... etc. The second word 'appropriate' denies my students an opportunity to ask simply any question that crosses their minds. To lay fertile ground for teaching and learning we should allow students to ask questions related to their practical experiences.

- ❖ Dominating lecture-room discussions is a way of establishing teacher-educator authority.

The teacher-educator, by virtue of his or her expert power is in authority. Expert power comes with the superiority of knowledge and skills. That cannot be disputed. Here, I learned that my authority and my expert power should not suppress students' views and ideas about what should form part of the content. I describe my authority relationship with my students as assistance towards proper self-determination.

- ❖ Students should not tell the teacher-educator what they wish to learn and how they wish to learn it.

After our (students and my) critical reflections, it became clear that for me to improve my practice I should embrace the idea that students are capable of learning and, they will always learn what is important for them. My duty was therefore to teach them everything, and allow them the space to take what is important for them.

My students' ideas on how to actualize pre-knowledge challenged my thinking and helped me to modify my beliefs about how to begin a lecture. It was my belief that adult students are always ready to begin a new lecture – for me it was a waste of time to try to link new concepts with old. I should have begun my lectures by having

some discussion on the previous lectures. In future I shall open a dialogue with students as a platform on which they may share their ideas, and beliefs about my lectures, so that I can learn more about best teaching practices, in particular how to actualize their pre-knowledge – linking the new lecture content with their already acquired knowledge. Looking at the age diversity of my students, I was caught up between a pedagogical model and andragogical model. Pedagogy may be defined as the art and science of teaching children. In this model the teacher has full responsibility for making decisions about what will be learned, when it will be learned, and if the material has been learned, observes Knowles (1984 cited in Hiemstra & Sisco, 1990). Andragogy has been used in many parts of the globe as an alternative model to improve the teaching of adults. My 'younger' students tended to depend on me for information. My older students were more serious about their learning; they did not approve of my taking too much time telling jokes and sharing my life experiences with them. In future I must plan my lectures in such a way that I cater for age diversity. Diversity may be described as the differences in terms of socio-economic background, language differences, sexual orientation, learning styles, and age differences. I ignored the role this concept can play in the education of adult students. In future I shall be more sensitive, especially with jokes. This is what I have learned from working with adult students.

#### **7.3.4 The research study extend my understanding of my situation**

At the second TES workshop (2011), Pithouse-Morgan asked a very important question: Are our universities prepared for our students? All along I thought that schools should prepare students for universities. I reflected on this in my weekly reporting (July 29, 2011). I wrote: *I need to check how prepared I am for the seemingly unprepared students.* Throughout my study I demonstrated how other people were involved in shaping my ideas, as validators of my actions, and as participants in conversations. I am the author of my thesis, but these people influenced my thinking and my text. Without their comments and criticisms my thesis would have been poorer and less authentic. I learned a great deal from their

reflections on how to live the values I hold. I believe that this is what led to the creation of rich creative experience that extended my understanding of my situation.

Every time I was criticized I would feel offended, especially when this was by students whom I firmly believed should take orders from me. I was able to express myself about who I was. But now I understand that students should be allowed to voice their own opinion on issues that affect their learning. In asking me questions, the students were giving voice to their concerns. The more time I spent with them the more I realized that they needed to be independent of me in order for them to become critical thinkers and to challenge any learning theory I imposed on them.

Through the reflective action cycles I took part in, I found that I could also participate in the debate on academic controversies surrounding the rigour of action research, as opposed to scientific inquiry. Here, I learned that the major difference is that action-researchers generate knowledge through working 'with' participants, themselves participants – to them knowledge is 'in here'; while scientific researchers generate knowledge through research 'on' the participants, themselves being detached from the setting – to them knowledge is 'out there'. However, knowledge is knowledge, regardless of which procedure has been followed in acquiring it.

Also, I found that critical reflections led to a clear understanding of teaching for me and learning for my students. This was for me a practice improvement. My understanding of teaching is: teaching brings about learning. This understanding led me into asking further questions about the pedagogy of teaching and learning at the HE, and seeking alternative interactions [to challenge my existing theoretical knowledge about teaching]. Questions of the kind: Why are my students learning the way they do? Why am I teaching the way I do? These are inevitably my future questions.

#### **7.4 IMPLICATIONS OF MY RESEARCH FOR ME AND FOR OTHERS**

Generalizability of my enquiry may be extended beyond my lecture-room "by providing evidence that you are aware of the key issues in your proposed research

and ways of dealing with these..." (Samaras, 2011, p.221). "Providing a rich description of the context and the research process promotes its generalizability to others" (Samaras, 2011, p.221). The action-research approach is less concerned with the universality of findings; more value is placed on the local collaborators. As Koshy (2005, p.123) reminds us "The intention of the action-researcher is not to make generalizable claims, but to tell a story which is of interest to other practitioners who may want to learn from it, or to replicate the study or apply your findings to their situations". However, I agree with McNiff and Whitehead (2009, p.166): "Through your capacity for knowledge creation, you are enabling people to think for themselves". I also agree with Stringer (199, p.11) that if action-research is not able to be generalized in order to create changes "then it has failed to achieve its objective". Initially my colleague said (in conversation 1) that he would collect the questionnaire from the research respondents, analyze data and that would be the end of it (in conversation 2). He would establish a model to assist his students to solve their problematic situations. I do not know what made him change his mind; perhaps it was the realization that he needed an intervention strategy to help his students improve on their achievement; a realization after our conversations, not to leave his students with poor results at the end of the year. This is how I influenced my colleague. "You need to show the line of influence between what you believe in and whether these values had an influence for good in other people's lives" submits McNiff (2002, p.98). As with my colleague I hope that other practitioners can learn from my account as they debate my claims to knowledge.

These are the implications for the educational settings in the form of suggestions:

- ❖ Practitioners will learn from my study how to involve adult students in their own learning;
- ❖ They will also learn which methods are appropriate for collecting authentic data from research participants such as students in collaborative action research studies;

- ❖ The study may be used to encourage other practitioners to self-reflect in their current practices, so as to improve their professions using the self-study collaborative approach; and
- ❖ I must look at how age diversity among adult students impacted on the effective teaching-learning methods. The two models (pedagogy and andragogy) may be further explored in order for us to develop a new learning-teaching theory/model on how to cater for age diversity among adult students.

## **7.5 LIMITATIONS OF MY ENQUIRY**

I feel obliged to acknowledge the limitations of my enquiry as a preparation for the assessment of my D.Ed. thesis. I have divided the limitations of my enquiry into (1) limitations with regard to methodology and (2) limitations with regard to time factors and ethics.

### **7.5.1 Methodological limitations**

I defined in Chapter Three my methodology as the processes that I used to answer the research question(s). These processes addressed the how and what of my data collection; as well as from whom. That is, my methodology concerns the way in which I went about acquiring the knowledge. I argue that methodology is not only research tools but is the descriptive techniques that one uses during an enquiry process. My methodology enabled me to problematize 'self' and set out an enquiry plan to investigate my contribution towards what I later came to understand as ineffective use of teaching-learning methods at HEIs. My study was limited to my own lecture-room setting, and level of the course of study. I also encountered my own limitation as I began conducting my enquiry. As a university teacher I had to 'employ' progressive education principles in my teaching by abandoning my previous notions of teaching and learning. Progressive education principles encourage a different approach to teaching-learning – including hands-on learning, multi-age

classrooms, and mentor-apprentice relationships (Kohn, 2008). This is how I understood the 'imperfections' of my teaching-learning strategies. I realized that I had fallen short of the ideal teacher researcher I had imagined myself before. I only realized afterwards, that I should have researched the topic thoroughly before attempting to introduce the new teaching strategy (in particular, reading and summarizing). I also fell short in recognizing these important features in the learning of adult students when designing my lesson plans: they should be involved in the selection of methods, resources and materials. While I have looked at the meaning of the concept of reading and summarizing tutorial materials I could have observed how they responded to the tutorial materials I brought into the lecture-room. I see this as the start of the next phase of my enquiry. In future I must revisit the literature on how to plan lessons that cater for age differences among adult students, in order for me to plan realistic lessons.

### **7.5.2 Limitations due to time factor and ethics**

During the analysis of the second set of students' learning portfolios I realized that I had in my group students who were finding the material very difficult. I wanted to search for them, but then I remembered that research participants have the right to remain anonymous; they have the right to confidentiality. I had established a rapport with my students so I could not betray them. The second portfolio of learning was handed in October 2011 shortly before my students answered the questionnaire. I believe that these limitations may be transcended in the creation of living educational theories that can contribute to the betterment of teaching-learning skills and improvement of practices.

## **7.6 ARTIFACT OF MY ENQUIRY**

The research artifact is a mere tool to prompt a person's inner or private speech and to take it outward to an audience for feedback and support (Samaras, 2011). Pedagogically, an artifact is a tool with which to assist in articulating an enquiry that

is situated in practice. Here, I share the symbolism of my research artifact in the analogy of a weaver bird's nest. I see my eighteen-month journey in the life of this species.

**Figure 7.3 Image of a weaver bird nest**



(Down loaded from Wikipedia, March 7, 2012)

In sharing the symbolism of my chosen artifact, I followed some writing prompts as suggested by Samaras (2011, p.105):

❖ Explain why you chose this object.

Well, the nest metaphor helped me to understand in a non-linguistic way, the eighteen-month, long hard work I put into my thesis.

❖ Share what the artifact represents or symbolizes about your research.

It symbolizes hard-work, dedication, long trips between the two South African provinces – Eastern Cape (where I am work-based) and KwaZulu-Natal (where I attend TES workshops). Most importantly, as does a male weaver bird search for a twig that fits with the rest of the twigs, so I searched for evidence in every piece of data I had collected. Usually the male weaver birds weave their nests and use them



as a form of display to lure prospective females. No data was treated as unimportant; I avoided filtering data through the biases of my knowledge.

- ❖ Express an emotion that this artifact brings forth for you. Describe the source of that emotion.

Looking back at the journey (learning how to learn) that I took with my students, I became overwhelmed by two emotions: (1) fulfilment and (2) uncertainty. My fulfilment is aroused by the realization that my effort, dedication and commitment are at the brink of declaring me a doctor of education. However, I am not sure how convincing the quality of my thesis is to the academic audience and the evaluators. As a female weaver bird inspects, evaluates, and searches for a quality nest in which it can lay its eggs, sometimes tearing down any nest that lacks quality, I invite the academic audience to debate my theory and pronounce my work worthy of a doctorate. The ability to choose and maintain good nest sites and build high quality nests may be selected for by females in the species. I embrace the idea that self-study research should necessitate a disposition of openness to outside views, questions, and critique. I agree with Devon (1975, p.15) that “the distinguishing feature of an academic mind is not the number of ideas it has absorbed, but its openness to consider more”. I will accept any criticism with an open mind, being prepared to redefine my theory. If the evaluators agree that my thesis displays objectivity and honesty, I shall feel confident in continuing to develop the work on a properly legitimated basis.

## **7.7 REFLECTING ON MY JOURNEY – THE STORY THUS FAR**

After being introduced to self-study action research approach by Thenjiwe Meyiwa, a leading member of the TES project I saw this as an opportunity for me to set for myself a study to improve my teaching skills and the learning skills of my students. According to the action-research model this would require an action plan. My action plan was carried out in two steps that involved collaboration between my students

and me. The reason I chose collaborative action-research as my enquiry approach. Step one involved an analysis of data from the initial observation; the process which enabled me to understand perspectives and to initiate appropriate actions. Step two outlined strategies followed to improve my practice and set for my students to improve their learning and study skills. The strategies led to the development of the reflexive action model which I used as a basis on which to initiate appropriate actions.

Reflection occurred at every stage of my enquiry. The journey comprises reflecting on the weekly reports to my supervisor, and our conversations with my colleague and Jack Whitehead. My weekly reports helped me to “find success faster” (James, 2011, p.2) because they ensured that I took notice of the details that helped – as I acted and reflected on my actions. Coghlan and Brannick (2005, p.52) call the reflective journey “a weekly selection and analysis of critical incidents”. The aim of reflecting on my journey was two-fold: to monitor what I was doing, and to clarify my role as an active participant in my own lecture-room. Conducting a collaborative action-research was the beginning of a painful but exciting life-affirming academic journey. My thesis was ‘speaking’ to me in a friendly voice, requesting me to stand back while questioning and reflecting on my actions. Every-time I wanted to discontinue the research, I would hear this friendly voice reminding me of one of my life principles, adopted as I was a small boy: *Faint heart never won fair lady – the timid cannot hope to succeed*. Again, “Self-study research requires openness and vulnerability since the focus is on the self” (Samaras & Freese, 2009, p.8).

### **7.7.1 Lessons learned from collaborating with students and a colleague**

Here, I attempt to answer the question: “What has doing your research meant for you?” (McNiff & Whitehead, 2009, p.156). In trying to answer the question there are two issues that come to mind, (1) what I have learnt from collaborating with students and my colleague in writing my story and (2) the mixed emotions that came through, emotions I cannot describe in words.

Let me first look at how the journey started. It was because of the need I felt to try to improve my work as a university teacher. Preparations started with an extensive literature search on the studies on practice improvement or self-improvement. It became clear from the literature that practice improvement would need other people, people who would be able to say something about my practice. The students and I were learners together; collaborative action-researchers in developing our teaching-learning skills. Collaborative action-research is an approach that persuaded me to work with others in improving my practice. Through this approach I began to see that my work was not only to provide opportunities for my students to improve their skills, but also to contribute to the improvement of inter-relationships and open a lecture-room dialogue. Students were excited about this, especially about the idea of becoming independent thinkers. I managed to allow them to manage their own learning and university life for themselves.

I am glad I involved my colleague as a critical friend right at the beginning of the journey, when I realized the need to improve my practice. The significance of the learning from my conversations with my critical friend is that a research, any kind of research, should arise from the motive to want to solve a problematic situations and the research methodology should determine the approach. If the situation is such that there is a need to collaborate with research participants in solving a problematic situation, then the approach will be collaborative action-research.

### **7.7.2 Collaborative action-research involves emotions**

Let me say something about my/our emotions. The Collins English dictionary defines emotion as any strong feeling, such as joy, sorrow or fear. Train, Ahmed, Bandawe (2007) argued that our physiological and cognitive components of our experience of emotion are internal expressions of emotion, while our external expressions of emotion are gestures, body posture, vocal intonation and verbal utterances. One

moment I thought I was ready to reflect on my academic life, at the next moment I would feel uncomfortable. I witnessed my students going through the same emotions. They had registered for the course not knowing that their lecturer would request them to reflect about their learning and study skills. The methods they were using to go through the study materials were practiced over their entire schooling career. They experienced shock. McNiff and Whitehead (2009, p.129) have this to say about self-reflection: "Ideas about objectivity now get destabilised and new ideas emerge". The process of reflection disturbed our vulnerability as it created a great deal of discomfort. My students were not ready for this journey. I think I was, but having to teach from a democratic progressive approach in most cases left me unsettled. It was to me a call to replace my inherited embodied knowledge with propositional knowledge. I felt happy when some of my students acknowledged that *I taught well*.

### **7.7.3 Refining and changing my topic**

May I also say something about the period when I fine-tuned my topic and why? After reading some related literature and presenting my research proposal in the research seminar, I decided to modify my topic. I moved from one topic to the other until I was satisfied that my topic represented my concern. As Koshy (2005) contends, in the light of what we read it may be necessary to refine or even change our topics. The topics were as follows:

- ❖ How can I alter my technology education practice so as to improve myself and influence others? The reflective beginner on an action-research study;
- ❖ How can I improve my technology education practice "to shape myself" and influence others? The reflective beginner on an action research study;
- ❖ An action-research reflective study on improving technology education practice at a higher education institution; and
- ❖ Developing teaching and learning skills at a higher education institution: A collaborative action-research study.

The following question after meeting Whitehead (2011b) in Durban, South Africa: *How are you contributing to the development of teaching and learning skills at a higher education institution*, made me change my topic for the third time, the reason being that his question 'speaks' directly to my concern: making students and my teaching and learning methods better. Noticeably, the word 'improve' (to make better) is common in my initial topics and also the acknowledgement that I was conducting a self-study research for the first time. The concept 'reflect' also became the guiding principle of my thesis – critically think about teaching-learning at a higher institution of learning. At the end of this reflective journey I conclude: Self-study research is examining the change of behaviour overtime – you observe and reflect on this change. Self-study research encouraged me to note and reflect on the things happening in my lecture-room. Through collaborating with my students I was able to identify my 'story' (a descriptive narrative) by moving forward and backward between my reflexive action cycles. This is my story thus far. It was a wise decision to employ the collaborative action-research approach to improve my practice and create opportunities for my students to improve their practice. As Demartini (2011b, p.4) contends: "Every decision we make is based on what we think will give us greater advantage over disadvantage, greatest reward over risk to fulfil our highest values or priorities".

## **7.8 MY LIVING EDUCATIONAL THEORY**

According to Whitehead and McNiff (2006, p.32) as action-researchers we gather data and generate evidence to support our claims that we know what we are doing and why we are doing it (theories of practice). But "because you are alive, and your practice is alive, this becomes your living theory of practice" (McNiff & Whitehead, 2009, p.21). I adopted a 'grounded theory' to produce a rigorous account of my enquiry as I developed my educational theory. Grounded theory was suggested as an approach at a time when qualitative studies were widely considered to have little objective merit (Tober, 1997, cited in Wilson, 2009, p.216). I like his argument that grounded theory was developed as an approach to make non-experimental and qualitative studies more rigorous. I have highlighted in Chapter Four that one of the

criticisms leveled against the action-research approach is that it lacks rigour. This is the reason I adopted grounded theory to inform my living educational theory. I was encouraged by this theory to draw the concepts, relationships, and findings from analysis of the collected data. As Wilson (2009) contends, grounded theorists look to produce models that are grounded in data; models that derive from an analysis of empirical evidence collected in the research.

My point of departure was identifying a concern which leads to questions I found worth researching. That is, I did not start with a pre-formed hypothesis; instead, I allowed ideas to build from my day-to-day encounter with my students, in an attempt to reach an agreement on the best teaching-learning methods. Bless and Higson (1995, p.56) argued that the idea of solving action-research problems “should never come from social researchers who believe (rightly or wrongly) that they know what is best for a particular community and set out to demonstrate to the community the best way to proceed”. I believe as Fox (2008) does, that personal experience is a source of valuable knowledge, knowledge that reflects real life. My point of departure was therefore exploring (discovering) the suitable teaching-learning approaches to our situation. However, I find the grounded theory the ultimate approach to exploratory research as it takes the “open-ended nature of the study very seriously” (Wilson, 2009, p.219). She further highlighted an emergent design as one of the features characterizing a grounded theory. My living educational theory emerged along my enquiry as I acted, reflected, and searched for the significance of learning in the outcomes of my actions. Through this theory I was able to identify one main idea about teaching-learning methods on which I based my educational living theory. The theory that you generate should reflect the values that inform your practice (Whitehead & McNiff, 2006). My living educational theory is influenced by my underlying ontological values and principles that inform my work as an educator-lecturer at HEIs, mentoring and developing student teachers, as evidenced by my reflections in Chapter Six. As with Roberts (2003) I framed my living educational theory as a set of questions I have been asking myself sub-consciously since I started with my thesis, which I have succeeded in resolving – see the last section (in conclusion). He (Roberts) is of the view that these questions

should be based on potential contradictions and paradoxes that one comes across during the enquiry process. The following are the questions that were constantly with me throughout my reflexive journey:

- ❖ How did I adapt my teaching-learning strategies to create an environment that engages students' imagination?;
- ❖ How did my concern relate to my beliefs and assumptions about teaching-learning at HEIs?;
- ❖ How did I encourage students to strengthen their learning?; and
- ❖ How did I develop an educator-student relationship that led to a dialogue of equals?

These questions form the basis of my theoretical stand: *The best teaching-learning practice is the one agreed upon and developed by the teacher-educator and his or her students, through a dialogue of equals*. This is what I take and I have learned from working with students. Hergenbahn (2005, p.17) views theory as "merely a research tool, as a result it cannot be right or wrong, it is either useful or it is not useful". Theoretical insights should lead to practice improvements. I am hoping that my theory will at least be useful for me. In the next section I demonstrate how I intend to use my theory to improve my future practice and assist students in improving their study and learning skills. My theory is about me changing as a result of my research striving to live my ontological values consistently.

## **7.9 CONCLUSION**

I feel that I should conclude my thesis by offering answers to the questions that were constantly with me; questions I used to frame my living educational theory. However, I decided to present them here as statements, for the obvious reason that I succeeded in resolving them. I realize at the end of the journey (learning how to learn) that throughout my enquiry I was asking myself some questions. I argue that self-reflection may be maximized by asking oneself questions, and by exploring their

answers. Questions form the basis of true reflection. When turned into statements, my questions read thus:

**Adapting my teaching-learning strategies to create an environment that engages students' imagination:** It was not easy either to evaluate my weaknesses, or to admit to them but every human being does rejoice in his strengths. My weaknesses (times I negated my values) and strengths (times I lived my values in my practice) constitute a framework which can help me contemplate the nature and direction of my future professional development. At this stage suffice it to say that I interacted with my students and the lecture content amid the fear raised by Steinert (1999) that undergraduate students, because of their limited knowledge, cannot participate in an interactive lecture. I was open-minded about new ways of communicating and teaching adult students; combination of strategies – for one strategy can never be enough to strengthen students' learning.

**Encouraging students to strengthen their learning:** Learning cannot take place until a student is able to communicate verbally what has been learned. I encouraged this by allowing my students to explain what they had learned to one another. Communicating verbally what has been learned can stimulate the brain to process and store the new content into the long-term memory. Ausubel (1978 cited in Mwamwenda, 2004, p.214) refers to this learning theory as meaningful or verbal learning, which "controls the frequency with which rote learning is used not only at primary and secondary levels, but also at the tertiary level". Lastly, it was a serious challenge to try to convince my students to take on the new role of being co-researchers – to inquire into their learning and study methods. While they thought they were learning and studying in the correct way, I made them aware that they were not. Some of them were not happy. I did not despair; my experience taught me that it takes courage and dedication to adapt and embrace new ways of behaving.

**Developing an educator-student relationship:** Involving students in their own learning and assessment, raised their level of confidence. My students were not threatened by the assessment (test, assignment, project, etc.), instead they looked forward to any assessment activity. I did not assert my superiority; instead, I openly



welcomed ideas and concerns from my students. I agree with Tillman (2000, p.214) that "cooperation requires recognizing the value of everyone's part and keeping a positive attitude". As a form of encouraging cooperation and legitimizing my enquiry, I reflected on what they were telling me before I could bring myself into the picture – to share my beliefs and ideas about the best teaching-learning practices at HEIs. In this way I established for us a conducive, teaching-learning environment – an environment that brings out the most and the best in everyone.

**Relating my concern to my beliefs and assumptions about teaching-learning at HEIs:** There is neither 'good' nor 'bad' teaching. I have learned to replace these words with 'appropriate' and 'inappropriate' matching of teaching methods to the lesson objectives, circumstances, subject matter, and student's pre-knowledge. Some lessons were best (I thought) suited to be taught and learned using 'questioning' – comprehension of knowledge rather than my students' approach which was 'Reading and summarizing' – putting together information to form a whole. That is, there were instances when I would align my lesson delivery with a certain teaching-learning method, only for some of my students to use a different approach. Students need the freedom to decide what to learn in a way that is best for them. This view also accepts that my educational knowledge will change as I engage with students' and colleagues' ideas on the best teaching-learning practices at HEIs. Lecture-room situations do not remain fixed.

My personal experiences of collaborating with students while bringing to the lessons the power of my academic values to improve teaching-learning skills at a higher institution of learning are the inherent components of collaborative action-research. When collaborative action-research is used to combine different course materials, then the focus turns to ascertaining the impact of collaboration among the educator lecturers. Such a focus would go a long way in promoting the idea that everyone has a stake in improving educational practice, rather than lectures being isolated in closed lecture halls and laboratories. My enquiry demonstrates how beneficial and rewarding it was to learn in a caring community. I gained a better understanding of how best to develop my practice by collaborating with students and my colleague. I can say that collaborative action-research gave me a platform on which to reflect on

my practice and to understand it better through bringing ontological values live into the influence I have had on my students and them on me. My commitment to my values “count as a reason to explain” my actions (Phillips 2011, p.59). Therefore, my thesis is an account of the way in which I have improved my practice, and how I have created opportunities for others to improve their practice(s) through continual learning and problem solving. I have also learned that ethical problems in collaborative studies may result from one member acting without due consideration of the other members’ views. I did not discuss with student-participants a suitable approach for introducing ‘reading and summarizing’ as a teaching-learning strategy. Some students were not happy about this. According to Gray (2009) collaborative action-research seeks to develop and maintain non-exploitative social and personal relationships and to enhance the spirit. My students and I understand that learning is a skill that we need continuously to ‘learn how to learn’. Learning is a journey; a never-ending one. The self-study methodology enabled me to express freely my influence in my educational life with others as a lecturer educator; as I continue to improve teaching and learning methods at higher education institutions.

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## **APPENDIX A**

## Faculty of Education

### Research Ethics Committee



Nelson Mandela Drive, Private Bag x1, Mthatha, WSU, Eastern Cape, South Africa

Tel: 047-5022723/ 5022327. Fax: 047-5022595

Email: @wsu.ac.za

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### APPLICATION FOR ETHICAL CLEARANCE

#### IMPORTANT

This form must be completed by those who intend using human respondents as sources of information for the research projects.

Applications are only considered once approval is granted by the Faculty of Education Ethics Committee and all documentation is submitted.

### 1. RESEARCH PROJECT INFORMATION

<b>NAME OF STUDENT</b>	<b>Paul R. Mokhele</b>
<b>REG. NUMBER</b>	<b>211122122</b>
<b>FACULTY</b>	<b>Education</b>
<b>E-mail</b>	<a href="mailto:pmokhele@wsu.ac.za">pmokhele@wsu.ac.za</a>
<b>Professional status</b>	<b>Lecturer</b>
<b>TITLE OF STUDY</b>	<b>How can I improve my technology education practice to improve myself and influence others? The reflective beginner on an action research study</b>
<b>SUPERVISOR/ PROMOTER</b>	<b>T. Meyiwa (Prof)</b>
<b>SUPERVISOR E-mail</b>	<a href="mailto:tmeyiwa@hsrc.com">tmeyiwa@hsrc.com</a>
<b>RESEARCH PURPOSE</b>	<b>Advancement of knowledge at higher institutions of learning</b>
<b>Honors</b>	

<b>Masters</b>	
<b>Doctoral</b>	<b>D.Ed (Doctor of education)</b>
<b>Non-degree purpose</b>	

<b>ANTICIPATED FUNDING</b> (if any)	<b>No funding</b>
<b>FIRST APPLICATION</b>	<b>1. Yes*</b> <b>2. No</b>
<b>RESUBMISSION</b>	<b>3. Yes</b> <b>4. No*</b>

**5. RESEARCH OBJECTIVES** (Please list – use a separate sheet if necessary)

The purpose of this research project is to analyse and improve two aspect of the researcher's teaching style viz: (1) shift from lecture-centred and content-oriented approach to student-centred and process-oriented (instruction dominance), and (2) posing and handling questions efficiently and encourage students to ask questions (lack of questioning), while at the same time he becomes familiar with educational research within the lecture-room (or classroom research).

Again the study will contribute to the advancement of knowledge in higher education by: (1) assisting students with lack of basic study skill develop appropriate study skills suitable for university standard and (2) the researcher will learn new teaching and hence improve his practice. Action research is concerned with improving practice.

**6. SUMMARY OF THE RESEARCH** (maximum summary 250-300 words)

Through descriptions and explanations of the researcher's educational practice, the proposed study outlines how a process of action and reflection will be carried out. It is epistemologically and methodologically distinct in that it is based on the researcher's values as an educator and ideas about what constitutes teaching-learning educational practice. The researcher also discussed several methods to establish control in action research, like: validation, rationality, dialectic as a technique for collecting data, and the theoretical influence.

The educational standards of reflective practitioners differ from traditional, linguistic standards because its standards are embodied in the lives of practitioners and require ostensive definition to communicate their meanings. The study is therefore a collaborative resource in which people (the students and the lecturer) act and learn as participants. The proposed study consists of two cycles: cycle 1 student's work in groups and individually to develop a set of questions in a given topic, and cycle 2 the lecturer reflects on his teaching-

learning methods and how he managed to influence his students to approach their learning differently.

## **7. SOURCE OF DATA**

### **4.1 Human participants**

4.1.1 How many participants will be used in the research study?

1. 28 students

4.1.2. How will the participants be selected?

2. Purposive sampling

4.1.3 Are there incentives offered to participants?

1. Yes
2. No

If yes, please specify

4.14 Has permission been obtained from relevant authorities (e.g. school, hospital, clinic, etc.)?

3. Yes
4. No

If yes, please specify

## **5. INFORMED CONSENT**

*A copy of consent form(s) must be attached = must be on the official letterhead of the department within which the research resides.*

6. Yes

*In cases where participants are under the age of 18 or mentally and/or legally incompetent, how is their assent obtained and from who is proxy consent obtained?*

1. No minors in the population

*If participants are under 18 years, or mentally or legally incompetent, how will it be made clear to the participants that they may withdraw from the study at any time?*

1. No minors in the population.



**2. CONFIDENTIALITY/ ANONIMITY**

*How will anonymity of the participants be protected?*

**3. Assign numbers or symbols to research participants.**

*How will the confidentiality of information be assured?*

- Participants will not be required to write their names on the questionnaire.

**4. DISSEMINATION OF RESEARCH RESULTS**

*To whom will the results be made available?*

**5. To the scholars (students and lecturers) who are looking at improving their teaching-learning practices.**

*In which format will the results be made available (e.g. thesis, dissertation, scientific articles, radio, etc.)?*

**6. Both the thesis and scientific journals.**

**7. ANY OTHER INFORMATION**

*Please describe any other information that may be valuable to the committee when reviewing your application.*

<b>8. ATTACHMENT CHECKLIST</b>	Indicate by x
<b>Compulsory:</b>	
Research Proposal	X
Questionnaire/ Interview schedule	X
Letter of informed consent	X
Permission from relevant authorities	X

**9. DETAILS OF SUBMISSION**

**Applicant/ Researcher:**

Surname: Mokhele

Initials: R.P

Title: Mr

Signature:

Date:

**Supervisor/Promoter**

In my view, the proposed research is ethically acceptable.

Surname: Meyiwa

Initials: T

Title: Prof

Signature:

Date:

# APPENDIX B



**WALTER SISULU UNIVERSITY**  
**DIRECTORATE OF POSTGRADUATE STUDIES**  
**INFORMED CONSENT FORM**

Title of the project How can I improve my technology education practice  
'shape myself' and influence others. The reflective beginner  
Name of Researcher: PAUL MACHELE  
Researcher's Institution: WSU Phone: 047 401 6114  
Name of the main Supervisor (in case of students): Prof T. CHISANGA  
Purpose of the study/research(if research is for a qualification, which one?): BEd

### PARTICIPANT INFORMED CONSENT

The purpose of the study and the extent to which I will be involved was explained to me by the researcher or another person authorized by the researcher in a language which I understood. I unreservedly agree to take part in it voluntarily. I understand that I am free to withdraw from the study at any time at any stage at my own will. I am aware that I may not directly benefit from this study. I am made aware that my responses will be recorded anonymously and that I may be audio- or video-taped for the purpose of this research.

For participants who are under 18 years (minors): I have explained to my parents/guardian that I am willing to be part of this study and they too have agreed to it.

Signed at (place) Butterworth on (date) 03-03-2011 by (full name) Muduhla Rubelo of (address) 7-114 Zizanele  
Butterworth 4960

Witness: Name: M.A. LUDIDI Signature: M.A. Ludidi Date: 05-03-2011

### ENDORSEMENT BY THE HEAD OF THE PARTICIPANT'S INSTITUTION

Name: S.D-KHOZA Signature: [Signature]

Office Stamp:  
**WALTER SISULU UNIVERSITY**  
OFFICE OF THE H.O.D.  
DEPARTMENT OF TECHNICAL EDUCATION  
PRIVATE BAG X3182, BUTTERWORTH 4960  
Sign: \_\_\_\_\_  
Date: \_\_\_\_\_  
TEL: 047 401 6112 FAX: 047 401 6114

## APPENDIX C

Application letter to WSU Registrar

Dear Sir/Madam

### **Application for permission to conduct research at WSU:**

Mokhele R.P. – Doctor of Education Student.

**Topic:** How can I improve my technology education practice “to shape myself” and influence others? The reflective beginner on action research study

I am a Doctoral Student at WSU; I kindly request for permission to carry out research with my undergraduate first year students at Ibika Campus as part my D.Ed studies. I am calling on my students to research together with me through action and reflection to establish an environment conducive for everyone to flourish.

**Expected starting date** : April 2011

**Expected date of completion:** November 2011

**Mode of data collection** : Questionnaire, Chats

**Target group** : First year undergraduate students

**Sample** : 28 students

Your permission will be highly appreciated.

Yours faithfully

R.P Mokhele

## APPENDIX D

Application letter to WSU Registrar

Dear Registrar

**Application for permission to conduct research at WSU:**

Mokhele R.P. – Doctor of Education Student.

**Topic:** How can I improve my technology education practice to improve myself and influence others? The reflective beginner on action research study

I am a Doctoral Student at WSU, I kindly request for permission to carry out research with my undergraduate first year students at Ibika Campus as part of my D.Ed studies. I am calling on my students to research together with me through action and reflection to establish an environment conducive for everyone to flourish.

**Expected starting date** : April 2011

**Expected date of completion** : November 2011

**Mode of data collection** : Questionnaire, Chats

**Target group** : First year undergraduate students

**Sample** : 28 students

Your permission will be highly appreciated.

Yours faithfully

R.P Mokhele



16/03/2011

Approved  
18.03.2011.

## APPENDIX E

### Completed Observation Checklist 1

Criteria: Classroom control (student management, discipline etc.)

Observer comments:

The lecturer managed the lesson with no struggle. Students were quite most of the time. No practical project, no group work to challenge the lecturer's ability to control students.

Lesson delivery (student engagement, ending the lesson etc.).

Observer comments:

At the end of the lesson no activity was given to students. Lecturer talk dominated the lesson, I do not know what could have been the situation had the lecturer given students a chance to speak during as well as at the end of his lesson. Learner engagement was mainly through writing down lecturers' notes.

Criteria: Classroom climate (recognition of prior knowledge, student contributions welcomed, questioning techniques etc.)

Observer comments:

The lecturer is good at sharing his wisdom with the students. One worry though, students do not ask questions, and also there is a lack of questioning on the side of the lecturer. The classroom climate was tense, may-be it was because of my presence.

Date: 21February 2011

Observer's signature: SD KHOZA

## APPENDIX F



### LESSON PLAN A – CYCLE 1

### TEHNIICAL EDUCATION DEPT

Level and Subject: Intro-Electrical Technology Level 1

Group: Electrical

Content: Power supply

Date:

Context: Calculations applying Ohm's Law

**Objective(s):** If I let students work in pairs on a certain activity using their own language and thinking, developing and answering each others' basic five questions (what? where? how? which? when?) they will develop a questioning attitude?

**Competencies:** Ability to ask and develop questions, ability to calculate using an oscilloscope

Lecturer Activity	Student Activity
Introduce the activity in detail Monitor and facilitate lecture-room discussions	Work with a partner to read a given topic and develop questions Exchange the questions with another pair Report to the rest of the class
Facilitate group reflections Collect questions from students Prepare students for the next activity	Do group reflections Take notes for the next activity

**Reference(s):** Electrical Technology Grade 10, Electrical Trade Theory N1

**Enrichment:** Additional worksheet

**Assessment/Assessment tool:** Assignment; assignment rubric

**Lecturer Reflection:** Students show interest in the work. They do not struggle to develop questions, though some were not about only asking questions of the type how, which, what, who, where; they included questions starting with action words. Next time I think I should allow them to develop deep level thinking questions using action words such as: mention, name, discuss, explain, evaluate, elaborate etc.

## APPENDIX G

### Completed Observation Checklist 2

Teaching style: Does the lecturer invite students to take part in the lesson activities?  
If yes, how? If not, what seems to be the problem?

Observer comments:

Yes he does. His facilitation method was more of question and answer method where students were responding based on their pre-knowledge.

How do students respond?

Observer comments:

Students were responding to questions posed to them referring to the pamphlet that they had and a general pre-knowledge that they possess.

How is the interaction among the students?

Observer comments:

They argue by sharing ideas with one of them giving their own views based on their knowledge of voltage and electricity, and their understanding.

An overall impression (lecture-room climate, questioning techniques, lesson flexibility, etc.)

Observer comments:

On the 14<sup>th</sup> July 2011 Mr Mokhele invited me to his lecture-room with a group of his students to do a second observation. It was not difficult to do this kind of an observation since he provided me with an observation checklist. I also video-taped his lesson. I was impressed by among other things: him being able to set the mood right before he started with the lesson. He gave students prepared handouts and instructed them to develop the questions using the following five basic questions: Where? How? Which? What? Why? I think I should try this method: 'Question and Answer' as it really encourages maximum participation in the lectures.

Date: 14 July 2011

Observer's signature: SD KHOZA



## APPENDIX H



### LESSON PLAN B – CYCLE 1 CONTINUES TECHNICAL EDUCATION DEPT

Level and Subject: Intro-Electrical Technology Level 1

Group: Electrical

Content: Wiring of the premises

Date:

Context: Perform basic tests

Objective(s): If I release too much structure in my approach and give students a freedom of asking questions that starts with action words such as: mention; state; outline; evaluate; discuss; reflect; identify etc., they will be able to develop and formulate their own questions with ease?

Competencies:

Lecturer Activity	Student Activity
Introduce the activity in detail Monitor and facilitate lecture-room discussions	Work with a partner to read a given topic and develop questions Exchange the questions with another pair Report to the rest of the class
Facilitate group reflections Collect questions from students Prepare students for the next activity	Do group reflections Take notes for the next activity

Reference(s): Electrical Technology Grade 10, Electrical Trade Theory N1

Enrichment: Additional notes and practical work

Assessment/Assessment tool: Assignment; assignment rubric

Lecturer Reflection: I was really impressed by the amount of questions that came from students using action words.

## APPENDIX I



### LESSON PLAN C – CYCLE 2

### TEHNNICAL EDUCATION DEPT

Level and Subject: Intro-Electrical Technology Level 1

Group: Electrical

Content: Cells [primary and secondary]

Date:

Context: Calculations

**Objective(s):** If I step back in my lessons by giving students sub-topics after introducing the major topic to prepare and present in the next lesson(s), they will not only ask and answer questions from the presenters, but develop teaching skills?

Competencies:

Lecturer Activity	Student Activity
Introduce the major topic and let the presenter(s) present their chosen sub-topics	Selected student present the sub-topic
Control the lecture-room discussions Allow group reflections	Comments and clarity seeking questions from other students Take notes Reflect in small groups

**Reference(s):** Electrical Technology Grade 10, Electrical Trade Theory N1

**Enrichment:** Volunteers to prepare the lesson topic to present to the whole group

**Assessment/Assessment tool:** Assignment; assignment rubric

**Lecturer Reflection:** Students really enjoyed this moment especially when they are listening to their co-students presenting. Their engagement is really encouraging in the sense that they are not afraid of asking and responding to their questions rather than me standing in front of them all the time. I am happy for them to allow me to step in and provide direction during those difficult moments of the lesson – instances where presenters could not answer questions from co-students.

## APPENDIX J

### Conversation 1: Making my intentions clear

My critical friend (Mr CC) was asking persistent questions about my intentions as well as the cyclic nature of my data collection when will it all 'end'. This led to our first conversation. Look at the following extract of our conversation at the beginning of the second phase of data collection (April 2011).

Mr CC: *When will all this end, I see you are moving from one cycle to another. Really is this what you mean by collaborative action research.*

Paul: (my Christian name) *Yes, my data is cyclic in nature. Action research is like a never ending affair, as action-researchers if we do not get the expected results in one reflexive cycle we search in another cycle.*

Mr CC: *Listen; with me I am going to give my research participants a questionnaire. Once it is returned, I will analyse data and that will be the 'end' of my data collection.*

Paul: *As action-researchers we are not worried about 'ending' our data collection, but rather practice improvement.*

Mr CC: *Wait, Mr Mokhele, how you will know that you have achieved your goal of improving practice.*

Paul: *You and my research participants (students) will tell me – laugh*

## APPENDIX K

### Completed Observation Checklist 3

Critically look at my responses (instances where I showed respect, sensitiveness

Observer comments:

Since the lesson was group oriented, the lecturer's responses involved the students for instance, when one student asked a question, the lecturer needed the views of fellow classmates before he could respond. According to me, that was evaluation at its purest sense.

Posing of the questions (am I patient or impatient – was I successful in allowing students to answer one another's questions).

Observer comments:

Like I said above, students' participation and involvement was of a high quality. The lecture's idea(s) of involving students was to get them on board to the lesson with a lot of patience.

An overall impression (lecture-room climate, questioning techniques, lesson flexibility, etc.).

Observer comments:

The visits I made to Mr Mokhele's class were so useful. I actually did not know how to implement those (methods) as a lecturer in my classroom, especially group-work method that he used. The application of such methods really reduces the so-called stand-in-front kind of a method as he calls it. I was not so sure how to apply them especially in technology classes in a higher institution of learning.

In conclusion am really impressed by the questioning techniques and tactics where the entire members of a group were involved. This turned out to be which group is the most competent in terms of responding to questions that made it more interesting and competitive. He also gave clarity to ambiguous questions so as fellow students can have clarity and thereafter respond and that to me was pure self-empowerment.

Date: September 2011

Observer' signature: SD KHOZA

## APPENDIX L

### Conversation 2: Improving our students learning skills

This conversation 2 came at the end of my data collection.

Paul: *Through action research, there are a number of issues that my students and I as participants uncovered and learned from them. In your traditional research inquiry do your research participants learn anything?*

Mr CC: *In a small way I think. Listen; in any kind of research, this should be encouraged.*

Paul: *Action research enabled me to devise plans to deal with the issue of students who lack appropriate learning and study skills.*

Mr CC: *Well in my research study, there will be an intervention after the recommendations.*

Paul: *This is nice, how and when are you going to do the intervention.*

Mr CC: *My mode of inquiry requires pre-test and post-test.*

Paul: *Are you going to do it?*

Mr CC: *Intervention will be done while I am still a doctoral student as part of data collection.*

Paul: *Your study is taking the direction of action research, why, because (1) of your proposed intervention and (2) self-study researchers we identify a problematic situation, imagine the possible solutions, take action to implement the solution and lastly evaluate our actions.*

Mr CC: *It looks like you do have a model already.*

Paul: *No, what are you talking about.*

Mr CC: *Yes, you do I will show you.*

Paul: *Thank you for doing justice to your research participants. Both of us conduct our studies with people and not machines; we therefore need strategies to help them better their lives.*

## APPENDIX M

### **My conversation with Jack Whitehead – July 2011**

Our conversation took place at a time I was still battling to understand the difference between the creation of a living educational theory and a claim to knowledge.

Paul: *Do we state our claim to knowledge and our living educational theory in a narrative form. If so which structure or form should they take.*

Jack: *Your living educational theory is an explanation; it is a claim to know something – a claim to knowledge.*

Paul: *Can you elaborate more please? I am still trying to figure out what you just said.*

Jack: *Your living educational theory should answer the following question: How am I contributing to the development of teaching and learning skills at a higher education institution.*

Paul: *I thought you will say If/then format or hypothesis format.*

Jack: *No Paul only you know your story. What is needed is for you to say what you did and why.*

Paul: *Wow – my story is actually my living educational theory. Thank you Jack.*

## APPENDIX N

### ACTION WORDS BASED ON BLOOM'S TAXONOMY

LEVEL	ACTION WORDS	
<b>1 Knowledge</b> recall remembering previously-learned information	Define List Match Name	Outline Recall State Give
<b>2 Comprehension</b> understand grasp the meaning	Describe Support Explain Give examples Identify	Paraphrase Report Summarise Tell
<b>3 Application</b> generalise use learning in new situations ▪	Apply Illustrate Manipulate Use	Organise Solve Sequence Show
<b>4 Analysis</b> break down break down an idea into component parts so that it may be more easily understood	Analyse Characterise Classify Categorise differentiate	Compare Contrast Distinguish Examine
<b>5 Synthesis</b> compose putting together to form a whole	Combine Construct Develop Invent Produce	Compose Design Formulate Plan Propose
<b>6 Evaluation</b> judge judge the value for given purpose	Appraise Argue Assess Compare Criticise Decide evaluate	Justify Judge Prioritise Rank Recommend Summarise Support

Source: FET Institute, 2010. UWC.



## APPENDIX O



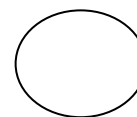
### Presentation – Score Sheet

**Student Name:**..... **Student Number:**.....

**Level and subject:**..... **Date:**.....

**NB: Circle the appropriate rating for the following categories**

<b>Categories</b>	<b>Score</b>				
Effective use of LTSM, Technology equipments, charts etc.	05	04	03	02	01
Engaging the learners (eye contact, allow and ask questions etc.)	10	08	06	04	02
Individual teaching style (readiness level)	05	04	03	02	01
Actualisation of learning content	10	08	06	04	02
Delivery and language usage	10	08	06	04	02
Conclusion (wrapping up, allow questions)	10	08	06	04	02
<b>Total score</b>	<b>/50</b>				



**Lecturer' signature**.....

## APPENDIX P

### My critical friend's comments – March 2012

#### 5.6.3 Questioning aptitude

Criterion statement 3 -Students can develop and respond to questions

Bullets pointed below are the points mentioned by students about the opportunities created for them to develop and respond to questions. *Present students responses as reports, that is, insert (")*

- we prepare questions for the lecturer
- everyone was */is* given a chance to ask and develop questions
- asking questions boosted our self esteem *and confidence*
- we don't feel afraid to ask questions anymore
- I know how to develop and answer questions *can't you say: One student said "I know how to...."*
- I like answering questions *same with this one*
- questions help me talk to my lecture-mates
- we can develop questions
- I ask my sister
- when I don't understand, I ask *these are good Mr CC but I am of the opinion that since they are the students' responses, present them as such, e.g. put inverted commas and make them sound like its an interview report*

## APPENDIX Q

### RESEARCH QUESTIONNAIRE

#### A. Instructions

- **I respect your right to anonymity; please do not write your name or student number on the questionnaire.**
- **Answer all questions as honestly as possible.**
- **If the space provided is not enough feel free to write out your responses at the back page(s) and number your answers accordingly.**

#### B. Purpose

The purpose of the questionnaire is to complete the journey (learning how to learn) which started few months ago to give you (student) an opportunity to reflect about the new learning skills and thinking pathways you may have acquired, and share your experiences of the course with your lecturer.

#### C. State your opinion in relation to each question on how you experienced the course.

1. When did you feel positive as a student in this course? Feb-Jun / Jul-Oct 2011, how do you know?

Your response \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2. Are you still afraid to ask questions in public (lecture-room)? If yes, why? If no, why not?

Your response \_\_\_\_\_  
\_\_\_\_\_

---

3. Do you feel that the lecturer created opportunities for you to ask questions?

Your response \_\_\_\_\_

---

---

4. When answering your questions, was the lecturer caring or showed respect in his responses?

Your response \_\_\_\_\_

---

---

5. Do you feel that your questions and contributions were welcomed and valued?  
If yes, why? If no, why not?

Your response \_\_\_\_\_

---

---

6. What do you think about the opportunity to answer one another's questions in the lecture-room?

Your response \_\_\_\_\_

---

---

7. How did the new teaching-learning strategies affect you? Do you feel confident to try the new learning and study methods?

Your response \_\_\_\_\_

---

---

8. What did you learn about the learning and study methods in this course?

Your response \_\_\_\_\_

---

---

9. What influence if any, did your lecturer have on you?

Your response \_\_\_\_\_

---

---

10. How did your lecturer shape your educational and life pathways and thinking?

Your response \_\_\_\_\_

---

---

Thank you for your time and cooperation.

## APPENDIX R

Mail Message

N

  Reply  Resend  Read Later  Delete 

Mail Properties

**From:** Mokhele  
**To:** tmeyiwa@wsu.ac.za  
**Subject:** Late report, Mokhele

Monday - April 4, 2011 8:40 AM

Hi,  
I hope you had a wonderful time with the kids back at home.

Business now: At the recent workshop I picked up what I call two emerging concepts - Self study AR and Collaborative participatory AR. Self study is a study of one's self, one's actions, one's ideas. While collaborative participatory one research with the participants in trying to improve one's self one is also aware that one does not exist in isolation, whatever one does he/sne will influence others either positively or negatively. Mine is collaborative.

The best part was for me the idea of photovoice. Take a picture and give message. e.g a picture of a shower could mean: life, refreshing or relief. As for taking peoples photos, the protcola is "Doing least harm" and "Doing most good".

Ta,

rpmokhele

## APPENDIX S

70 Bloomfield Avenue

Bath BA2 3AA

UK

07/06/12


email – jack@actionresearch.net

### RE: Use of a Photograph including Jack Whitehead

To whom it may concern

This letter gives my permission to Paul Mokhele to use a photograph which includes my image in his thesis.

Yours truly,

A handwritten signature in blue ink that reads "A. J. Whitehead". The signature is written in a cursive style and is positioned above a horizontal dashed line.

**APPENDIX T**



WALTER SISULU UNIVERSITY

DIRECTORATE OF POSTGRADUATE STUDIES

MANDATORY CONSENT FORM: ELECTRONIC THESES & DISSERTATIONS (ETD) AND PLAGIARISM  
REQUIREMENT (For postgraduate research outputs from 2009 September)

TEMPLATE FOR THE STUDENT AND SUPERVISOR CONSENT FOR PUBLICATION OF ELECTRONIC RESEARCH  
OUTPUT ON INTERNET AND WSU INTRANET.

FACULTY \_\_\_\_\_

QUALIFICATION NAME \_\_\_\_\_ ABBREVIATION \_\_\_\_\_ YEAR  
\_\_\_\_\_

STUDENT'S FULL NAME \_\_\_\_\_ STUDENT NUMBER \_\_\_\_\_

TYPE OF RESEARCH OUTPUT: RESEARCH PAPER/ MINI- DISSERTATION/ DISSERTATION/ THESIS (TICK ONE)

TITLE OF THE RESEARCH OUTPUT  
\_\_\_\_\_

CONSENT: I HEREBY GIVE MY CONSENT TO WALTER SISULU UNIVERSITY TO PUBLISH MY RESEARCH OUTPUT FOR THE QUALIFICATION ABOVE ON THE WSU INTRANET AND INTERNET. I CERTIFY THAT TO THE BEST OF MY KNOWLEDGE, THERE IS NO PLAGIARISM IN THE RESEARCH OUTPUT AS SUBMITTED. I HAVE TAKEN REASONABLE CARE TO ENSURE THAT THE RESEARCH OUTPUT MEETS THE QUALITY LEVEL EXPECTED FOR THE PRESENT QUALIFICATION LEVEL BOTH IN TERMS OF CONTENT AND TECHNICAL REQUIREMENTS. I FULLY UNDERSTAND THE CONTENTS OF THIS DECLARATION.

\_\_\_\_\_

SIGNATURE OF STUDENT

\_\_\_\_\_

DATE



ENDORSEMENTS BY:

SUPERVISOR:

FULL NAME: \_\_\_\_\_

SIGNATURE \_\_\_\_\_

DATE \_\_\_\_\_

CO- SUPERVISOR(S):

1. FULL NAME: \_\_\_\_\_

SIGNATURE \_\_\_\_\_

DATE \_\_\_\_\_

2. FULL NAME: \_\_\_\_\_

SIGNATURE \_\_\_\_\_

DATE \_\_\_\_\_