

My living theory of developing a pedagogical praxis in textiles technology through place-based learning

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SOLEMN DECLARATION

I, Florence Sebele, student number 29657733, hereby declare that the doctoral thesis entitled: My living theory of developing a pedagogical praxis for textiles technology through place-based learning is my own work and has not previously been submitted for assessment or completion of any postgraduate qualification to another university.



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SUMMARY

In this self-study narrative into my practice, I illustrate and explain my living theory of developing a pedagogical praxis for textiles technology through place-based learning. I explain how I experienced a disorienting dilemma leading to self-examination regarding using pedagogies that confined students to a classroom environment that did not expose them to real-life issues facing them and their future learners. I wanted to find a way to connect their learning to community realities. Through critical reflection on my practice, I realised I was contradicting my values of love, care, respect, and equity by adopting a traditional didactic approach to teaching. My aim was to explore how I could improve my teaching to better prepare students for practice. Place-based learning provided me with an opportunity to enable students to find out how they could make their own teaching of textile technology more relevant to community needs. I substantiate my learning through excerpts from video recordings of my teaching practices, my reflective journal, and reflective assignments of my students. I have generated a personal living educational theory on teaching students specialising in textiles technology to gain self-knowledge and become critical, reflective, innovative, and entrepreneurial as, skills necessary for professional success in the 21st century. The emergence of these pivotal skills expands the theoretical knowledge about the use of place-based learning in teacher-education. Whilst place-based learning was found to have its own challenges, such as time management and difficulties in accessing communities, students gained life skills and skills for facilitation that will benefit their future teaching practices. I hope my living theory will inspire students and colleagues to employ self-study action research in their own practice in the future.

Key words

Living contradiction, living theory, ontological and epistemological values, pedagogical praxis, place-based learning, self-directed learning, self-inquiry, teaching practice, textiles technology

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LIST OF ABBREVIATIONS

AR:	Action research
CNE:	Christian National Education
DL:	Deeper learning
EFA:	Education for all
MHTEISTED:	Ministry of Higher and Tertiary Education, Innovation, Science and Technology Development
P21:	Partnership for 21st Century Skills
PBL:	Place-based learning
REC:	Research Ethics Committee
SoTL:	Scholarship of Teaching and Learning
T.P:	Teaching practice
TL:	Transformative learning
TLT:	Transformative learning theory
TT:	Textiles technology
UCCSA:	United Congregational Church of Southern Africa
ZINTEC:	Zimbabwe Integrated Teacher Education Course
ZPD:	Zones of proximal development

CHAPTER 1

SETTING THE CONTEXT TO THE STUDY

1.1 Background to the study

Upon waking one morning, I was inspired by the following text message I received from a colleague,

The things you do for yourself are gone when you are gone, but the things you do for others remain as your legacy. Be sensitive to other people's needs. Love deeply and think deeply about life. Be loyal, honest and true. The simple things you sometimes offer people mean the most to them. The purity of your heart makes you who you are. Arise, shine, and make a difference in someone's life today.

As I drove to my job as a lecturer in a teacher education college in Zimbabwe, I pondered on this message. It mentioned many of my values, but I was disconcerted as I became fully aware that I was not upholding them in my academic journey. Oftentimes I have heard people talk about leaving behind legacies, but that did not really make any impression on me. However, the words "the things you do for yourself are gone when you are gone" resonated deeply with me and made me think of what I was doing to leave my own legacy. I concluded that I needed to change how I conducted my life and teaching if I wanted to make a difference in the lives of my students and others in my sphere of influence. I thus decided that my PhD study would be an action research (AR) study in the practitioner self-enquiry genre (McNiff, 2014) to enable me to improve my teaching of students specialising in TT through living the values that guide my life. I will now outline the main values that I would like to be evident in my teaching.

1.1.1 My ontological values

In a self-study, consideration of ontological values is a necessary starting point as these values emerge and inform efforts to improve educational practice (Whitehead, 2018). My ontological values are linked to how I perceive myself in society, including how I relate to others. These are embodied values, which I should reveal through my practice and application of theories (Whitehead & McNiff, 2006). In my academic career, this has implications on how I view myself in relation to the students I teach. I

believe that individuals are unique and that everyone deserves love, care and respect, no matter their age and background. I therefore try to apply the dictum from the message, “The simple things you sometimes offer people mean the most to them.”

I now hold myself accountable for the actions I take in my practice, and, therefore, attempt to express my values of love, care, respect, and equity with a “life-affirming energy” (Whitehead, 2018, p.94) in my everyday interaction with textiles technology (TT) students. These are my embodied values that deeply connect me with my students. In this study, I endeavoured to make them external and explicit in my practice and theory (Whitehead & McNiff, 2006) by loving and caring for my students unconditionally, respecting their knowledge and capability, and including all in the teaching and learning process (equity). By doing so, I watched my ontological values transform into my educational commitments (Whitehead & McNiff, 2006) of inclusiveness, democracy, and participation. In other words, a socially just praxis constituted the foundation on which I based my ontological stance in my practice and social justice became the living standard by which I judged the strength of my teaching practice and quality of my work.

I am of the view that I should teach to the best of my ability and aspire to develop teachers who will be mediators of social justice in the classroom. Social justice is a buzz term that has permeated 21st century education the world over. I scrutinised my context and I saw that the learning process for my TT students was anchored in propositional logistics of pouring knowledge into the purportedly ‘empty vessels’. I travailed in this situation, yet professed values that support student-centred learning. I realised that by caring for my students and by creating an equitable space for them to experience deep learning, I could better live out my values. I then resolved to improve my teaching practice by making it more socially just by providing student experiences that were democratic and participatory. I aimed to show how I value the uniqueness of all students by providing an open space for them to grow personally and professionally to become lifelong learners, while encouraging them to value the knowledge and input of their peers. I hypothesised that this would better enable them to “teach different profile learners so that everyone can be an advocate for social justice,” (Reynolds & Brown, 2010, p. 408). At the heart of my practice is the belief

that teachers should not only become effective pedagogues, but also advocates for social justice.

To attain this, my practice must be inclusive, where I am not the all-knowing figure of authority, but where I create space for students to share their knowledge and experiences, so that we generate new knowledge together. Our interaction is inclusional, dialogical and democratic to enact the curriculum as natural, emergent, and living, while generating knowledge in the relationality that exists between us (Whitehead, 2006). I acknowledge all students as knowers because if education is to enable people to control their own discourses as suggested by McNiff and Whitehead (2006, p.4), then it “must be informed by a model of democracy that promotes participative and inclusional values.” Therefore, through theorising my practice in this way, I can show that my practice is one of inclusion and democracy, of all by all.

1.1.2 My epistemological values

My epistemological values comprise how I view knowledge creation. While I appreciate that much factual knowledge appears in propositional form (McNiff, 2014), I have always been against the concept of acquiring knowledge and skills through rote learning and demonstrations, and favoured acquisition of knowledge and skills through experiential learning (Kolb, 1984) or “learning through reflection on doing” (Patrick, 2011, p. 1003). Experiential learning is distinct from rote or didactic learning in which the learner plays a comparatively passive role. The view that appeared to be dominant in my teaching practice was that knowledge is propositional. However, when I reflected on my practice, I was disconcerted to discover that I was what Whitehead (1989, p.49) calls a “living contradiction”. Although I espoused these values, I was not practising them in my professional work. Engaging in this study enabled me to realise that this propositional knowledge could be challenged, recreated, and contextualised. I support the view by Boyer et al. (2014) who stress that teaching should not be a process in which an educator is the main source of information; rather the students and teacher should construct knowledge through discussion and dialogue. I now view students as key drivers of knowledge creation, while I facilitate and scaffold the learning process. In the

following paragraphs, I present my educational concerns as a TT teacher educator at a primary teacher education college, which informed the study reported in this thesis.

1.1.3 My concerns

My need to reassess my teaching practice arose from experiencing a disorienting dilemma between my usual daily practices and my values. This realisation began in 2015 when I started engaging in Scholarship of Teaching and Learning (SoTL). The message I received as I was in the process of planning to engage in this study further inspired me to act. I became concerned that my values were not realised in my practice, as I was not giving my students an opportunity to identify their learning needs as well as set goals that they wish to attain at the end of the programme. I believed this to be so because the system within higher education is very hierarchic. I felt obliged to abide by the processes and values advocated, which position the lecturer as the expert that students must learn from. I was concerned that this practice continued to disempower students in an era where self-directed and lifelong learning are regarded as vital life skills (Zuber-Skerritt & Teare, 2013).

My initial concern was further intensified by the realisation that I was teaching TT students *isolated from real life* and the social issues facing them and their learners. My lectures were theory-based and did not relate to students' real lives. I relied mostly on textbook knowledge and Western cultural examples, which are not always contextual to students' experiences and settings. When interacting with students during their orientation programme, I observed that they come to college with a burning curiosity to learn. Yet, this curiosity begins to fade once lectures begin. Reflecting on discussions I sometimes hold with students in lecture rooms regarding their prior learning and former roles, it became evident that the course requirements and structure are taxing. It is difficult for them to gain epistemological access (Morrow, 2007), given their prior experiences and knowledge. I concluded that this was because of the "hurry along" curriculum (Dadds, 2001, p. 49) that is linear and loaded with formal assessments. This type of curriculum does not foster the competencies that are becoming increasingly important for succeeding in the 21st century, such as self-directed learning, critical thinking, creativity, innovation, productivity, knowledge creation and transfer (Bailey & Mentz, 2015). I began to

question the system that I was part of as it contradicted my educational commitment to a socially just praxis. I wanted to introduce a novel pedagogy that would enable the TT subject matter to be related to students' social and cultural contexts, as advocated by global educational organizations (UNESCO, 2017).

Another concern that emerged in my teaching practice was that I did not cater for the *diversity of my students*. Students that enrol for the primary teacher education course in the Zimbabwean teacher education college where I work are of diverse ages and come from different educational backgrounds, and prior learning experiences. Whilst admission policies accommodate such diversity and are cognisant of the aims and goals articulated in the United Nations (2015) document to ensure "inclusive and equitable quality education and promoting lifelong learning opportunities" (p. 17), I was not providing space in my teaching for inclusion and achievement of equity. I had not made enough effort to know my students better in terms of the social and academic challenges they encountered that often forced them to defer tertiary learning for decades after their secondary education. I became very impatient when students had not performed to the standards set by a prescriptive curriculum that defined what ought to be done (Ellis, 2004). Although, I professed values that required me to give priority to those students at risk of social exclusion, incorporating those with special learning needs, I was not doing so. In other words, I had been practising what Griffin (2000, p.12) has termed, "moral bullying" of the lifelong learning discourse in presenting myself as a living contradiction by not appreciating the ambiguities of students' issues.

I began to challenge and question the way I related to my students. I considered the obstacles that hindered their educational progress, and the difficult situations they faced as adult learners. Being able to do so enabled me to understand students' behaviour and engage in dialogue to create a more productive learning environment. This change in attitude enabled students to learn for the sake of their personal and professional development, not just to pass examinations (Vargas, 2017). Based on these concerns, I intended to develop a more socially just pedagogy by being inclusive and embodying values of love, care, and respect in my teaching to influence my students to do likewise in their future practice. In the process, I redefined my role from director of learning to core learner. Through this redefinition

of my role, I sought to re-envision the episodes of teaching as encouraging, enabling, and empowering mature adult learners, rather than further marginalising them by treating them as objects that must learn specific knowledge to pass examinations. To help the reader understand my reasoning, it is important that I first explain the contexts within which I live and work.

My professional context

I am a teacher by profession who spent ten years as a teacher of textiles technology (TT) in secondary schools before I was upgraded to the post of a TT lecturer at a primary teacher education college in Zimbabwe in 2003. I have been a teacher educator now for eighteen years. The primary teacher education course in Zimbabwe is a three-year programme, which follows the 3.3.3 model of training. Students are at college for three terms in an academic year, then proceed via distance learning (whilst doing teaching practice) for another three terms and return to college for three terms to complete the course. The structure of the TT syllabus (see Appendix J) apportioned what students should learn over the three phases of the course, and, as Apple (2001) suggests, such structure seems to suggest that there is a limited scope for the lecturer to make discretionary changes. I found myself heavily relying on traditional didactic pedagogies that do not result in deeper learning (DL). DL is a process for developing 21st-century skills with an intention of transferring what has been learnt in one situation to new situations (National Research Council, 2012; Van Zyl & Mentz, 2019). The TT syllabus outlines learning outcomes that are largely technical with underlying propositional assumptions (see Aim 2.2 in Appendix J) and the assessment methodologies heavily rely on formative and summative assessment scores as consistent methods of determining students' cognitive abilities. The education system in which I work does not regard 21st-century skills, interpersonal and intrapersonal skills as pointers to future success. A performative culture eager for excellent results led me to pursue high marks as a standard of excellence and blinded me to the need for inclusivity and democracy in the classroom. In enacting this curriculum, I acted in ways that denied my values.

Nine months after I first started asking how I could improve my practice to be more in line with my values, His Excellency, the President of Zimbabwe on 20 September

2018, delivered a keynote address to the nation on a new development thrust in higher education anchored to innovation, necessitated by the National Critical Skills Audit conducted in 2017. The audit revealed that even though the country prides itself in a 95% literacy rate, the essential skills availability was 38% (Tagwira, 2018). This meant that it was pertinent to restructure higher education for development of critical skills. This led to two new pillars being added to the traditional three of teaching, community service and research (Education 3.0), namely innovation and industrialisation (Education 5.0). This implied that students from higher learning institutions graduate with skills that empower them to transform their societies through production of innovative goods and services utilising locally available materials. To serve the best interests of my “clients”, I needed to re-examine my practice to see how it aligned with the new reforms. I began to appreciate that learning is more than just acquiring knowledge and skills to pass examinations; it should be more holistic and develop the person as a whole, encouraging lifelong learning through the ability to think critically and creatively as well as cultivate the aforementioned 21st-century skills for life.

I argue that essential skills are difficult to teach through traditional teaching and learning practices in which a student tends to be, more or less, a passive recipient (Schleicher, 2012). I realised that such skills require active, learner-centred pedagogies and learning activities that use practical learning opportunities from the real world. I endeavoured, therefore, to modify my practice to one anchored to providing a real-life context for enacting the curriculum. I saw the possibility of teaching in ways that aligned with my educational values and enabled me to contribute to the knowledge base of educational enquiry.

1.2 Conceptual and theoretical frameworks guiding the study

In my search for a framework to improve my practice as a teacher educator, and specifically in the teaching of TT, I came across the concept of place-based learning (PBL).

1.2.1 Place-based learning as a conceptual framework guiding the study

Although PBL is a teaching method with roots in the medical field, it has been adapted for other fields such as education. Smith and Sobel (2010, p. 13) explain PBL is “learning rooted in what is local”. This implies that the community is the context in which learning takes place and the resources for learning are obtained from the community. Learning tasks given to students are tailored towards meeting community needs and interests. This pedagogy involves students in a conscious act of acquiring knowledge from a real-life context to show that they are not learning skills for the sake of learning, but to use them to contribute to a more just society through their teaching and the influence they have on others. I was convinced that with proper planning, this strategy could win wide acceptance in the education sector, especially in technical subjects since the methodology is very ‘hands-on’.

Another concept important in this study is praxis because it requires developing an intellectual relationship to practice (Marie, 1997; Smith, 2002). Praxis in simple terms is acquiring knowledge through action (Kemmis, 2010). Through PBL, students will be able to link theory and practice (Arnold & Mundy, 2020). I adapted this study to reflect and take action, to reflect on the actions taken, adjust thinking and actions, and foster a pedagogy that will engage students fully. My assumption was that PBL would enable me to live up to my values of inclusiveness, democracy, and participation because it would intensify student engagement and achievement, as well as expand their sense of responsibility for their surroundings and for fellow human beings (Smith & Sobel, 2010). I realised I was habitually denying students’ opportunities to participate in their learning, treating them as empty vessels that I need to fill with knowledge. I participated in an unjust situation that contradicted my educational values of a more democratic education for students.

1.2.2 Transformative learning theory

The aim of this study was to transform my practice and contribute to the field of pedagogical knowledge. I, therefore, adopted the transformative learning theory (TLT) as a framework to this study. This theory is premised on the assumption that individuals do not just acquire knowledge but make sense of one’s life experiences and beliefs, reflect on them and find alternative approaches to problem solving

(Mezirow, 1991a). Dirkx and Smith (2009) also acknowledge that transformative learning is far more than mastering a body of content. It refers to the transformation of one's foundational frames of reference. This is in line with the writings of Freire (2000, p.95) who enticed teachers to adopt an approach to "liberate students from unjust social structures and empower them to transform their culture." Concisely, this theory liberates students to think more critically. As mentioned earlier, students enrolled to pursue the primary teacher education course are of diverse ages and come from different educational backgrounds. The TLT is, therefore, relevant to this study as it deals with how adult learners make sense or meaning of their experiences, how social and other structures influence the way they construe that experience, and how the dynamics involved in modifying meanings undergo changes when learners find them to be dysfunctional (Christie et al., 2015). On the other hand, the TLT is significant to my praxis adaptation in that I would transform the teaching-learning process from passing knowledge down to students assuming that I have more power and knowledge, to providing space for students to acquire knowledge through social interaction within a particular learning community (Zeichner, 2007). In the process, I would be fulfilling my ontological values of love, care, and respect, which consequently translate, to my educational commitments of inclusiveness, democracy, and participation.

1.3 Purpose of the study

By undertaking a self-study on my teaching practice as a teacher educator, I wished to explore how I could live my ontological values of love, care, respect and equity in my practice to generate my living theory (Whitehead, 1989) as a TT teacher educator. My intent was to guide students to explore and embody similar values to enable them to become more democratic and inclusive in their own future teaching, thus promoting social justice through education.

1.4 Guiding research questions

As I searched for ways of conveying embodied values into reality in my everyday practice, I asked:

- How can I improve my teaching of TT through adopting PBL as a pedagogical strategy?

In addition, I asked more practice-based questions of this nature:

- How can I uphold my values of love, care, respect, and equity in my practice?
- What guidelines for using PBL in TT can I derive from my learning?

I systematically address the following questions to help me to convey my narrative in a structured manner as suggested by McNiff (2014):

- What are my concerns/rationale? (Chapter 1) Why am I concerned? (Chapters 1 & 2)
- What can I do about it? (Chapters 3 & 4)
- How can I ensure my findings and conclusions are fair and appropriate? (Chapter 5)
- What did I do? How can I validate my claims to knowledge? (Chapters 6 & 7)
- What significance do my claims to knowledge have for TT teacher education and for theory? (Chapter 8)

1.5 Research methodology

Research methodology is the scientific method that is used to generate data (Struwig & Stead, 2001). My choice of methodology was largely dependent on the values that influenced my choice of paradigm, which in turn influenced my choice of approach and design, which further influenced the methods of data collection used. I begin by outlining my paradigmatic assumptions.

1.5.1 Paradigmatic assumptions

A research paradigm is a basic set of beliefs that guide action on how problems are solved (Creswell, 2009; Lincoln et al., 2011). All research relies on assumptions and principles of ontology and epistemology (Neuman, 2014). Since I aimed to emancipate and transform myself as a researcher and teacher and influence the learning of my students (Mertens, 2009), I adopted a transformative paradigm. In the

following paragraphs, I explain how the ontological and epistemological assumptions of the transformative paradigm guided my research design.

1.5.1.1 Ontological assumptions

In a transformative paradigm, the ontological assumption is that reality is manifold and socially constructed (Mertens, 2007). Therefore, it is pertinent for researchers to be explicit about the social, political, cultural, economic, ethnic, racial, gender, age, and disability values that define the multiple realities (Mertens, 2007). Engaging in this study, I assumed that my students and I have different characteristics that could result in different realities and injustices. Therefore, awareness of societal values and liberties became critical in shaping the reality that upholds social transformation and augmented social justice.

1.5.1.2 Epistemological assumptions

The basic belief in a transformative paradigm concerning epistemology is to know reality, the researcher should have an interactive relationship with participants, as knowledge is socially and historically located within a complex cultural context (Mertens, 2007). Engaging in PBL, I assumed that students would learn with and from each other through acting and sharing different tasks with community members and would not be solely dependent on my teaching, but that I would take part in the teaching and learning process as a core-learner who students could question and oppose during the interactive process. Therefore, in this study, a clear understanding of culture, awareness of power relations and, a reciprocal relationship became highly esteemed.

1.5.2 Action research design

My study is a self-inquiry, that is, a genre of AR that results in the development of a living theory (Whitehead, 1989). My conceptualisation of self-study AR is that it is a type of research that is dedicated to action for improvement of practice. My study is positioned in my understanding of how I desire to act to advance my crucial consciousness as the floor for developing new pedagogies to persuade students to appreciate their unlimited capability to know and to think for themselves (McNiff,

2007). My study consequently becomes an explanation of an emerging praxis, which is moral, informed, and committed action (McNiff, 2013). I embarked on this inquiry, not merely with a vision to transform my teaching practice, but to contribute also to the development of informed, responsible citizens who, as teachers, will in turn make a similar contribution in their classroom practice (McNiff, 2005; McNiff et al., 2013).

1.5.3 Qualitative approach

To describe my teaching practice and to understand the effect of my educational intervention (PBL), I adopted a qualitative approach. A qualitative research approach takes an exploratory dimension and places emphasis upon exploring and understanding “the meaning individuals or groups ascribe to a social or human problem” (Creswell, 2014, p. 4) and supports social transformation and revolution (Lincoln et al., 2011). In the study, I explored and evaluated my actions as a teacher educator in the field of TT with the intention to liberate the students from traditional didactic pedagogies and give them voice.

1.6 Research methods

Research methods are techniques employed in administering any form of inquiry (Walliman, 2011) and entail participant recruitment, data-generation strategies, and data analysis methods.

1.6.1 Recruitment of participants

Since this is an AR in form of a self-study, aimed at improving my practice, I was part of the research and primary participant (McNiff, 2014). In the view that my study falls within the SoTL, I needed feedback from the students that I teach to inform and improve my practice. I therefore invited TT students to participate. I did not personally invite students to participate in the study as their pedagogical instructor because I did not want them to feel intimidated. I asked an independent person to explain that I wished to use their reflections, assignments, and artefacts to improve my own teaching practice, which could influence their learning.

1.6.2 Data generation strategies

Data generation was done over a period of ten months in a well-organised and purposeful manner (Whitehead & McNiff, 2006) in the sense that I adhered to an action plan. Since the aim of this study in Cycle 1 was to generate data on how I could live out my values of love, care, respect, and equity, I needed to employ data generation strategies that would capture emotions such as video recordings (Whitehead, 2009b). Video recordings of my teaching practices enabled me to see how I was presenting my lectures and my educational influence on students' learning. The documentation technique (reflective journal) served as a tool to monitor observations and practices (Birks & Mills, 2011). Data generated in Cycle 2 focused on my educational influence on students' learning. The students kept a praxis notebook (see Appendix O) in which they recorded and reflected in and on their interactive engagement with community members during PBL. I observed entries made by the students in the praxis notebook to determine my educational influence. Document analysis, secondary sources, and structured focus group interviews) were also employed to give insights on the collaboration process. The data generation strategies are discussed in detail in Chapter 5 (see 5.6.2).

1.6.3 Data analysis

In view of the fact that the study is cyclic in nature, generating data and analysing it simultaneously enabled me to move on smoothly to the next cycle. I adopted the most commonly used approach for analysing qualitative data; the thematic data analysis approach because of its easy, less time-consuming, and flexible approaches (Merriam, 2009). I used the deductive approach to identify the themes because of the nature of my research questions that already had a predetermined structure. In the next section, I highlight measures to ensure validity and reliability because transparency is a critical element of any action research study (Stringer, 2014).

1.6.4 Ensuring validity and reliability

Validity and reliability in AR focus on knowledge that is generated during the research process and was not known before (McNiff, 2014). In Chapter 8, I make

claims to new knowledge. I initiated validity tests to show that my claims to new knowledge are believable using Habermas's (1987) social criteria of comprehensibility, truthfulness, sincerity, and appropriateness. This implied that the contents of the report have to be "understandable, authentic, truthful and told in a critically reflective way" (McNiff, 2014, p. 151). Since this is a self-study, I needed to show that these claims to knowledge were not only my opinion by engaging a critical friend and a validation group from the outset. My critical friend became acquainted with the aims and objectives of my study (Costa & Kallick, 2004) and listened to my account of practice and critiqued the thinking behind the account (McNiff & Whitehead, 2006). His input enabled me to reassess my views to form the most robust argument. I convened regular meetings with my critical friend in the form of one-on-one consultation sessions. My promoters constituted a validation group and provided critical feedback and insights that made my study reliable, authentic, and trustworthy. More so, my values as a researcher-practitioner were used to validate my living theory. Therefore, I am held responsible for the knowledge that I generated as I explained my learning (Whitehead, 2011), that is, a living theory of my practice as a TT practitioner. My values of love, care, respect, and equity became the "living standards of judgement" (Whitehead, 1989, p. 42) against which I evaluated my actions and the research process.

1.7 Ethical considerations

This study was approved by the Research Ethics Committee of the Faculty of Education of the North-West University (NWU-00869-19-A2) and was conducted according to the ethical guidelines of this committee. Although this research is a self-inquiry, I carried it out in a social context where I was working with students. I made students aware that I was the focus of the study and the aim was to improve my practice. As pedagogical instructor, issues of power could have led to passive responses. I therefore needed to review and restructure my power and authority relationships (Mills, 2003), de-role and act as a core-participant. An introductory letter from North-West University assured the institution where I conducted the study that the information sought was strictly for academic purposes only. An independent person explained to the students their rights to voluntary consent, privacy, and withdrawal of their material from the study at any stage. I assured students that I will

keep video recordings of my teaching and students' narratives of their backgrounds, perceptions, and feelings confidential. Students received an invitation with a cover letter informing them about the research. Informing all participants thoroughly was ideal for "respect for the rights of persons," a main ethical concern as stipulated in Ohio Legal Assistance Foundation (OLAF) Guidelines on Investigation Procedures for OLAF Staff (2013, p.6).

1.8 Summary of the Chapter

In this chapter, I explained how I came to realise that I was living in contradiction to my professed values. I motivated how a self-inquiry, i.e. a genre of AR, could help me to develop my living theory of a pedagogical praxis for TT to enable me to live out more fully my values. I suggested PBL, as a strategy that could enable students to learn from a real-life context, resulting in deeper learning. The purpose of the chapter was to explain the educational concern that motivated me to question my practice. The next chapter will set forth my personal context in terms of my profession and conduct to explain in more depth why I felt compelled to undertake this study.

CHAPTER 2

MY PERSONAL AND PROFESSIONAL CONTEXT

2.1 Introduction

In this chapter I set out my personal and professional context and values that inspire me in my profession and that I intend to use as a standard of judgment in my practice. I relate pertinent issues in the construction of the self as they have a considerable influence on what I value. I believe that the self is socially constructed and reconstructed (Mead, 2012). Experiences I have had during my life nurtured and, in some instances, inhibited my personal and professional development. I was born in a rural home and raised in an extended family; there are values instilled in my childhood, which I still hold today that underpin my practice and the way I relate to others. The most important values are love, care and respect for others. In my family, my mother loved us all equally. This contributed to me regarding all individuals as equally valuable, and worthy of care and respect, no matter their circumstances. She would spend the better part of the day working in the fields and walking to distant farms to sell old clothes to raise enough money for our schooling. Had it not been for her love and my family's support, I could not have reached the level that I am at now. My mother's tireless efforts to work extra hard gave me the motivation to follow suit and work to reach my potential. These are some of the values that have remained as major concepts of my ontology of practice. I begin by looking at the broader context of teacher education in Zimbabwe and then narrow the discussion to my own personal and professional contexts against this background. Finally, I look at how my core values have influenced my practice up to this point.

2.2 The socio-historical context of teacher education in Zimbabwe

Education is always bound to historical, social, economic, and political factors that affect it directly or indirectly. Since Zimbabwe has a history of colonisation, I explain the trajectory of teacher education in Zimbabwe both before and after independence.

2.2.1 Colonial teacher education

During the colonial era (1890-1980), the United Congregational Church of Southern Africa (UCCSA) missionaries, in an attempt to spread their influence among the indigenous people (Kanyongo, 2005), provided education for Africans in Zimbabwe. As demand for education among indigenous people began to increase, the Ministry of Education introduced a per capita support for black learners, although it was far less than that accorded to the white population (Ministry of Education, Sport and Culture, 2001). During this era, missionary education perpetuated the elite cultural values of the British colonial society, values that fostered racism and ethnocentrism (Shizha, 2005). South Africa used the same approach by drawing its educational policies from Christian National Education (CNE) that was Calvinistic in nature and promoted racialised policies (Turner, 1980). The influence of CNE was also evident in the South African Education Policy Act (Act 39 of 1967), which made clear reference to the Christian and national character that was to permeate South African education. By detailing some similarities, I want to show that in that period in African countries, educational policies were essentially the same and education remained a tool to maintain oppressive systems to persecute black schoolchildren and create passive citizens who would accept authority unquestioningly (Eeden & Vermeulen, 2005).

Zimbabwe adopted its initial model for teacher education from America. The model consisted of a three-year campus-based program that included a phase of teaching practice (T.P.), where students would go and teach in schools under direct supervision of a full-time classroom teacher. The first teacher training colleges in Zimbabwe (then Rhodesia) were missionary institutions. Black teacher education in the hands of the missionaries was disjointed and piecemeal, in generally small, isolated, inadequately staffed and poorly funded schools. They were coordinated and organised by teacher educationists with limited professional knowledge and skills (Niven, 1976; Siyakhwazi, 1978). Teachers graduated with “low-level skills, knowledge and little professional qualification” (Niven, 1976, p. 235).

The greater part of teacher education during the colonial period was characterised by teacher *training* as opposed to *teacher development*. Students were trained in the

use of pre-prepared scheme books similar to scripted lessons that prescribed content to be taught, methods to be used by the teacher, activities to be done by learners as well as questions to be asked by the teacher and answers to be expected from learners (Trevaskis, 1967). This approach did not give students the initiative or ability to think critically. The system suffered from “narration sickness” (Freire, 2006, p.1) with students only receiving, filing and storing the deposits – a perfect example of the “banking system” of education (where teacher knowledge is transferred to learners without critical analysis. After completion of the course, students were to adhere to the methods therein without “deviation and experimentation” (Trevaskis, 1967, p.40). So-called instruction managers would at some point, qualify a teacher to deviate from the pre-prepared schemes of work if they felt that the teacher was now able to work more independently monitored teaching. In line with Ball’s (2003, p. 2016) comments, I interpret these expectations as “terrors of performativity” and “displacing educators” values. Such expectations reduced the quality and quantity of what these teachers taught in schools (McNeil, 2014), severely limited individual teacher creativity and did not consider different situations and circumstances such as learner diversity and the operational environment.

In 1976, a new policy on “African teacher education” was promulgated, providing facilities to produce academically sound, dynamic, resourceful, innovative, and professionally dedicated teachers (Chikukwa, 1977; Chiromo, 2007). The concept of teacher education substituted teacher training, and teachers who qualified from this course graduated with a Certificate in Education, currently Diploma in Education. Teacher education policies and procedures were designed to endow students with knowledge, attitudes, behaviours, and skills required to perform tasks effectively in the school and in the classroom (Imam, 2011). Change of designation meant upgrading the programme from a narrow proficiency in the skills or methods of classroom teaching to a broad professional preparation needed for the highly complex task of teaching in the modern world (O’Neil, 1986). This did not happen as to date. Some elements of training are still prevalent in the system of teacher education. I find myself, together with other lecturers in the institution, using the banking model of lesson delivery that does not nurture self-directed learning.

2.2.2 Post-colonial teacher education

When Zimbabwe attained independence in 1980, the major focus was on redressing the inequitable and discriminatory practices of the colonial government (Zvobgo, 2007). The post-colonial Republic of Zimbabwe government viewed education as a basic human right and committed itself to universal and equal educational opportunity for all (Kanyongo, 2005). It was within this broad policy framework that the government, buttressed by the progressive Bill of Rights in the Independence Constitution (1979), reorganised, democratised and expanded its education system. The Bill of Rights enshrined fundamental human rights and freedoms designed to guarantee equality of opportunity for all regardless of race, colour, gender, creed, place of origin or any other considerations (Shizha & Kariwo, 2011). The principle of equity has guided all policies and strategies for the provision of education in Zimbabwe since independence (Kanyongo, 2005). I hold myself accountable for not having fully embodied this principle in my practice. I had not made a deliberate effort to ensure that all students have equal access to learning and resource materials in TT, a subject that is intense in terms of resource mobilisation.

The new policies resulted in more children enrolling in primary schools. The increase in primary school enrolment meant an increase in the number of teachers needed in Zimbabwe. The government accelerated the training of teachers by introducing the Zimbabwe Integrated Teacher Education Course (ZINTEC) in 1981, a scheme whereby only two terms of the four-year course were spent in college and the remainder teaching in schools. It would appear this model was effective as research indicated that students' specialised knowledge deepened, reflective practice was encouraged, professional development was stimulated, their confidence was heightened, and they were able to link theory with practice (Bourdillon, 1983; Chivore, 1982; Ncube, 1983). All primary teachers' colleges later adopted the ZINTEC model. This meant that most of the course was on-the-job training.

From 1990 to 2000, the general educational reforms focused more on the relevance and quality of education and training through new approaches to content, technologies, teaching methodologies and skills provision (Kanyongo, 2005). To date, however, there has been little significant improvement as access to education,

especially higher and tertiary education, is still defined by a student's capacity to pay. Students from the top wealth quintile (high-income families) are at an advantage compared to those from the bottom quintile (low-income families), regardless of merit. Furthermore, institutional reform efforts have failed to produce institutions that reliably educate the disadvantaged to high levels to bridge achievement gaps (Kanyongo, 2005). Even if the low quintile students gain access to higher education, the historical divide of rich and poor means that it is impossible for the playing field to be levelled. Thus, I would like to increase awareness of this in my teaching practice. I have observed that students who come from less privileged communities often do not have the means to gain epistemological access — that is, access to the knowledge that is needed to enable them to successfully complete their studies (Morrow, 2009). Whilst students have institutional access, the epistemological deprivation (Morrow, 2007) that existed during the colonial era perpetuates. During the colonial era, education in Zimbabwe served to exclude rather than to include. This is still mostly the case to date. Students are physically present in higher education but are set up to fail due to other factors such as lack of study skills and critical thinking, which were not part of their basic education, thus their ability to succeed in higher education is impeded. Epistemological access is enhanced if students view teaching as a co-operative task and have self-understanding in relation to the practice in which they are trying to become participants (Morrow, 1994). If students are subjected to inequality or discrimination, they cannot experience education as “enriching, rearing and developmental” (Dewey, 1966, p. 10). I also felt accountable for failing to give the disadvantaged students a “preferential option” (McLaren, 1995, p. 138) in the form of resources required to help them succeed in their studies.

The post-colonial era had the potential to usher in radical changes in education but aspects of colonialism such as domination of Western academic knowledge in the curriculum continue to linger (Mazani, 2015). The teacher education curriculum has been criticised ever since independence as being narrow in scope and not meeting the needs of society (Majoni, 2014). There is an over-emphasis on theory as opposed to practice (Dilshad, 2010; Lauwevier & Akkari, 2015; Mulkeen, 2010).

Majoni (2014) identified the following deficiencies in teacher education curricula in Zimbabwe:

- Lack of common curricula – Colleges have some degree of autonomy to develop, review and seek approval of new curricula and courses of study from the quality assurance body, which in this case is the Department of Teacher Education (DTE) in the University of Zimbabwe. Colleges are more likely to have their courses viewed in a positive light, and so the focus is on getting teaching to the test, rather than developing critical reasoning and self-directed learning.
- Vague objectives – The curriculum objectives are not clear on what kind of competencies a teacher who graduates with a diploma in education should possess. Objectives such as, “to satisfy examiners in the broad areas of teacher education competencies” (Department of Information, Protocol and Public Relations, 2015, p. 15), are open to differing interpretations. The implication is what might be considered an essential capability in one institution may not be the case in another institution.. The mission-intention of the curriculum should be clear.

These deficiencies are still relevant today. My assumption is that the developers and implementers of the curricula are college lecturers themselves who might lack knowledge and experience in curriculum development. The MHTEISTED promotes teachers from schools to join the Ministry without any special training to qualify them as teacher educators. Next, I focus on my personal and professional context to illustrate how it reflects the Zimbabwean educational context.

2.3 My educational journey

My educational journey began 43 years ago in a rural school during the colonial era. When I was in the fourth grade, Zimbabwe attained independence from the United Kingdom which then spared me from the bottleneck system of education that existed between 1960 and 1979 (Matavire et al., 2013) at grade seven level. This system restricted transition rates from primary to secondary education. According to the policy, only 12.5% of blacks proceeded with academic education up to Form 4 level

(four years of secondary schooling), while 37.5% went through vocational education up to the same level, concentrating on the practical subjects, and minimal theory (Sizha & Kariwo, 2011). This resulted in the graduate becoming a craftsperson or a servant of the elite rather than a qualified artisan (Dorsey, 1989). This was the school-leaving level for the blacks while only the whites progressed through Forms 5 and 6 to sit the A-Level) examination needed for university entrance, and subsequent entrance into the skilled and professional labour market. This two-tier system (academic and vocational) introduced in the Education Act of 1966, was meant to further marginalise Blacks and limit them from accessing secondary education (Zvobgo, 1996).

My seven years of primary schooling taught me that learning was all about cramming facts and reciting them and if you could do so, teachers labelled you *intelligent*. The system did not recognise multiple intelligences (Gardiner, 1983). I was strong in reciting facts and, therefore, I was one of those considered as having intellectual potential. I worked extremely hard to attain a first, second or third academic position in class and receive a reward at the end of each term. The rewards could come in the form of simple things such as a pen or an exercise book, worth very little, but it motivated me to work extra hard to maintain those positions all the time. On reflection, I discovered that my desire to be loved played a significant role in my ability to have a meaningful learning experience. I recall that if you performed well at school, teachers would treat you preferentially and at home, achievement garnered more love.

I attended a boarding school for my secondary schooling. Subjects like History, which required memorising facts, helped me to excel. Nonetheless, other issues such as being born in a low-income family limited my educational progress as my parents failed to raise enough money for my tuition and boarding fee on time. I suffered from an inferiority complex when I had to abandon lessons to go back home due to non-payment. Surprisingly, this happened at a time when the post-colonial Republic of Zimbabwe government adopted the policy of education as a basic human right, committed itself to universal, and equal educational opportunities for all regardless of race, colour, gender, creed, place of origin or any other considerations (Shizha & Kariwo, 2011). Those who had no means of paying remained

marginalised. Compulsory education meant that children of school going age (6– 8 years) were lawfully expected to be in school (Matavire et al., 2015). It became an offence for parents/guardians to deny children in this age group their right to education. Parents would therefore push their children to school with their limited resources to escape such penalties. The message I articulated in Chapter 1 continues to inspire me; *think deeply about life*, and I pause now to do so. Some of those who paid fees on time did not make it to higher education, yet I did, despite my situation. This convinced me that excelling and realising one's potential is all about hard work, perseverance and being honest and truthful in what you do. Argy (in Arthur, 2006) asserts that a good education system should provide opportunities for well-motivated, capable, and hard-working people to get ahead in life and achieve their maximum potential, no matter their social background. I have experienced that social background might not be an obstacle to excelling; but talent, ability, and hard work coupled with caring teaching (Noddings, 1992) can enable academic success. As earlier explained, I used to miss lessons when I was sent home to look for tuition fees, but I would return to school and work hard to make up for the lost time. Despite my low socioeconomic background, I owe my academic success to hard work and caring teaching. My O Level TT teacher practised caring teaching in her class and indeed made a difference in my life. I had lost interest in the TT subject simply because of my poor illustrations and did not intend to register it as one of the subjects to write at ordinary level. My TT teacher encouraged me to write the subject as one of the nine subjects offered in the curriculum. She closely monitored my progress and tried to help me as much as she could to develop the skills that I lacked. Thus, I managed to pass the subject and attain entrance to tertiary education to train to be a TT teacher. This experience now inspires me to show the same level of care towards my students and nurture their potential. I had always considered myself a hard worker and a lifelong learner, having worked hard to attain my goals. I have now come to a realisation of how important the influence of a teacher can be, and this is the reason why I now want to be such a teacher. I am now better able to see how I have shifted from this ideology of hard work alone being enough, towards embracing love, care and respect rendered by others to unleash one's potential. I have realised that the teaching-learning process in a broader sense is pivotal to nurturing a caring society (Noddings, 2002).

2.3.1 My experience as a pre-service teacher

I waited for two years after successfully completing my schooling to engage in tertiary education. When the teaching opportunity arose, I took it as a transitory phase in a quest for opportunities for further study. When I entered the teacher education course, I had my own beliefs and conceptions about the teaching profession. I believed that teaching was all about lecturing and “chalk and talk” - what Freire (2006; 1970) describes as the banking model of education. This approach does not give room for full interaction with students in the classroom as learning consists of mere memorisation (Freire, 2006). As I reflect on the programme used in my teacher education programme, I realise that the pedagogies were essentially transmission-based and stressed hierarchical learning of knowledge and conventional teacher-centred classroom organisation (Osaki et al., 2002; UNICEF, 2009). There was no special provision for more reflective and a dialogic method of teaching as lecturing was done in large groups with no feedback. Such tendencies are still prevalent; suggesting that advocacy of new pedagogies is mere rhetoric.

Furthermore, the year I spent in teaching practice was not an enlightening experience for me. Although there were school mentors and administrators to monitor my progress, I was largely left to learn how to teach on my own. Lecturer visits once in four months tended to be unannounced and mostly concerned with “scores” rather than providing formative feedback to enable development. Although I obtained an above average mark for this phase of the course, I still relied on rote learning to succeed. I can safely conclude that my T.P. phase did not equip me to teach TT in a learner-centred way where learners’ opinions and viewpoints are encouraged and are treated as holistic beings (Freire, 2000). Nevertheless, I graduated with a Diploma in Education and took an appointment as a TT teacher at a secondary school.

2.3.2 My experience as a textiles technology classroom practitioner

When I started working as a TT teacher, I practised the banking concept of education with confidence simply because of the teacher-centred, didactic nature of the teacher *training* programme that I went through. I positioned myself as an expert instructor, not realising that I was stunting learners’ curiosity and appetite for

learning, as they became accustomed to being passive recipients of information (Nasri, 2017). I dictated notes to my learners without explaining the content to them. I sourced material and patterns required for the assessment garment. I would provide systematic instructions and demonstrations until completion of the article. In short, I was centrally involved in my learners' work, while they played a passive role and merely followed my instructions. I was denying students the opportunity to become self-directed learners, which enables them to exhibit their own individuality (Gall'skoya, 2011), and master critical thinking (Kovalenko & Yu Smirnova, 2014). However, because the examination system required learners to reproduce and regurgitate what they learned in class, without due regard as to whether passing such an assessment transformed learners' capacities, knowledge and wisdom, the pass rate for public external examinations for most of my candidates was on average above fifty percent. I was caught up in the culture of performativity (Ball, 2012). In a performance-oriented culture, there is pressure on students to produce work that is "visible and measurable; work that can be exteriorised and translated into results, so that one set of results can be measured and compared to another" (McDermott et al., 2007, p. 248). In such a culture, there is no room for ontological and epistemological exploration (Hanratty, 2010; Hill, 2007). In the eight years I taught TT in secondary schools before advancing my studies by enrolling in a full-time first-degree education programme, I did not question the system as I lacked the criticality and language to do so.

2.3.3 A transformative experience

When I enrolled for a Bachelor of Education degree at university in Family and Consumer Sciences (with a focus on Textiles and Food studies), I was inspired to find that my educational values and commitments were shared by one of my lecturers in the department. In this context, I experienced a more learner-centred way of teaching that gave the student "a relatively high level of active control over the contents and processes of learning" (Schweisfurth, 2013, p. 20). The lecturer would provide a course outline and ask us to choose topics we wanted to put forward for discussion. Through research and interaction, it became easier to grasp what we were discussing, and we had space for inquiry. I observed that the responsibility for creating an empowering learning environment was shared between the lecturer and

students, and the lecturer occupied a peripheral position (Wright, 2011) in relation to a more teacher-centred approach. I learnt that interaction and dialogue were better approaches to learning because they gave students freedom to pose our own questions and ideas. I learnt that teacher-centred methods were dehumanising and led to a decline in learner efficacy (Giroux, 2010; Huerta, 2011). I began to explore the concept of humanising pedagogy, as theorised by Freire (1970).

According to Freire (1970, p. 51), a revolutionary approach to instruction “ceases to be an instrument by which teachers can manipulate students, but rather expresses the consciousness of the students’ themselves.” Developing critical consciousness is “learning to recognise social, political, and economic contradictions, and taking action against the oppressive elements of reality” (Freire, 1970, p. 17). A humanising pedagogy embraces values of respect, trust, relations of reciprocity, active listening, mentoring, compassion, high expectations, and interest in students’ overall well-being (Cammarota & Romero, 2006; Gay, 2010). After completion of this programme, I practised learner-centred pedagogy with zeal. However, this phase in teaching secondary school learners was short-lived. After successfully applying for a lectureship at a tertiary institution in 2003, I was appointed to the post of a Home Economics lecturer in a primary teacher education college.

2.3.4 From textiles technology classroom teacher to textiles technology teacher educator

I joined the tertiary education sector confident in the knowledge that I was there to plant good seeds and to develop students “into transformative intellectuals and not smother them” (Horton, in Aronson, 2008, p. 12). Based on my experiences in the Bachelor of Education Degree, I intended to develop what Cochran-Smith and Lytle (2009, p. 11) refer to as an “inquiry stance” toward teaching. I believed that if I took an inquiry stance towards my work the result was going to enrich the learning opportunities for students. However, being in a new teaching and learning environment, I had to be oriented into teaching-learning processes by the Head of Department. During the orientation programme, I observed that the old school of teacher-centred pedagogies were still the key training approaches at the tertiary institution that I had joined. The lecturer was positioned as the fulcrum of the learning

environment (Wright, 2011), and this conflicted with my new perspective that learner-centred strategies were preferable. However, as a new lecturer I did not want to be controversial and decided to accept that this was how things should be. I consciously chose to do this, in spite of what I had learnt. Therefore, I became a living contradiction (Whitehead, 1989) in that I was not living out my professed values.

However, my commitment to lifelong learning led me to pursue actively a three-year postgraduate degree programme for a Master of Education Degree in Technical Education specialising in textiles, clothing, and design. I opted to specialise in the textiles, clothing and design field because I had developed a passion for it during the early days of my career. I also thought that I should be a specialist in one subject, rather than a generalist. I discovered that at postgraduate level, emphasis was not necessarily on pedagogy, but more on advanced subject content, problem solving and research. The research skills I gained during the postgraduate experience motivated me to contribute to the Scholarship of Teaching and Learning (SoTL) (see Chapter 1, Section 1.1.3). After graduating with a Master of Education Degree, I began to reflect critically on my own teaching. I was reminded that the teacher-centred pedagogies I had conformed to were dehumanising. The publication of my first paper in 2016 motivated me to continue doing research on teaching and learning processes. It became the motivation for my decision to enter into a doctoral programme in education and curriculum studies. In my first meeting with my doctoral promoter, she gave me a book on action research (AR). I walked away from the initial meeting feeling confident that I was where I needed to be and convinced that I should engage in a self-inquiry form of AR. In the following section, I explain my core values as living standards of judgement (Laidlaw, 1996) to which I hold myself accountable.

2.4 My core values and how they influenced my practice

After reading about action research, I could not deny that my values were contradicted by my actual practice. For one thing, I did not cater to the different needs of students. Levitan (2016) assumes that equity recognises that all individuals are unique and, therefore, require specific support to be able to reach a goal, even if it means distributing the resources unequally. TT is a practical subject that may

require extra resources, but I had not made an effort to ensure that all students had access to learning and resource materials. I did not make an effort to know my students better in terms of the social and academic challenges they encountered. I had let students become dependent on me as a delivery system for notes, skills, and assignment guidelines. I was acutely aware that I needed to align my values with my practice.

I was not embodying love in my practice. I did not commit to see each student as deserving of love and respect. I did not focus on the holistic development of my students in my daily interactions with them. When I introduced new concepts to students, neither did I show *agape* love to them by scaffolding the exploration of new ideas nor did I encourage reflection when they felt challenged. I disregarded their individual challenges and expected all to perform at the same level. According to Freire (2000), all humans hold the capacity to learn and leveraging these abilities is fundamental through loving relationships. I concur, as this statement resonates with my experience of having a TT teacher whose love played a significant role in shaping my future. This teacher created an environment where I felt loved and valued. Therefore, love needed to be one of my explanatory principles (Whitehead, 2011). Reflecting on such experiences prompted me to focus on “creating contexts of care” within which my students could learn, “appreciating that their learning is often best enabled through loving relationships” (McNiff, 2002, p. 2).

Love and care had to become a standard of judgment to which I hold myself accountable in my practice. From being a classroom teacher and teacher educator who relied heavily on didactic practice, I had not learnt to relinquish my front seat concerning participation in classroom discussions. I did not take a back seat to open doors for my students to find their voice and power to become full participants. I did not understand my positional power nor did I use it effectively to shape students’ learning. I prescribed work to students should do in the teaching and learning process and never allowed them to meaningfully explore through discussion the tasks to be done. I never adapted my teaching to accommodate the different student needs, in terms of socioeconomic status and prior learning experiences. I never took affirmative action such as diverting extra resources to the underprivileged as a means to ensure equity.

The manner in which I enacted the curriculum did not respect students' capacity to think critically and creatively. I, therefore, needed to advance the learning experiences of my students and help them to become autonomous in their thinking and problem-solving approaches. I did not respect students' multiple intelligences (Gardner, 1983) and tended to focus more on students that I deemed to have a higher intellectual potential. I have now become convinced of the need to foster all forms of intelligence through hands-on activities. I did not engage with students in a way that respected them as co-creators of knowledge by talking *at* them rather than talking *with* them (Roche, 2007, p. 112). I then saw the need to develop a pedagogy that would respect the capacity of students to create TT solutions together with me. A pedagogy where we accept each other's input as equally valuable in the teaching and learning process.

Noddings's (1984 p. 775) philosophy of education has influenced me to value a relationship that has "both cognitive and affective dimensions." The cognitive dimension within my practice implies that I should teach students to construct knowledge and reflect on their experiences (Golightly & Guglielmino, 2015). I needed to reposition myself as a core learner in the creation of knowledge within a caring student-teacher relationship (Noddings, 2012). Within the affective dimension, I needed to stop putting pressure on students to pass examinations with distinctions. In an environment that fosters performativity, students with the highest needs become excluded and further marginalised because of lack of an ethics of care in the teaching and learning process (Noddings, 1984). I needed to learn to encourage a culture of excellence by providing individualised types of support to enable students to compete equally in attaining a diploma in education.

I now realise that from the onset, my teaching practice has focused on the subject matter (content and skills in the curriculum) rather than how to deliver it (pedagogy or teaching and learning approaches). For the purposes of this study, I use the term *curriculum* to refer to the intended plan for learning in TT (see, Appendix J). My focus on the intended curriculum, and less on the enacted curriculum, meant that I could not practice critical pedagogy and fully live out my values. Critical pedagogues (e.g. Dewey, 1938; Freire, 1970; Habermas, 1984; King, 1985; McLaren, 2005) advocate teaching approaches that enable students to question existing beliefs and practices.

My sense of a need to improve facilitation of students' learning in TT led me to consider how I could engage in a teaching and learning process that questions habits of thoughts and connects theory with practice. Hence, the adoption of the transformative learning theory that I discuss in the next chapter. To make clear links between theory and practice, I began to appreciate a "form of conscious, self-aware action, distinct from technical action ... knowing simultaneously with the doing" what Kemmis (2010, p. 10) defines as praxis.

"Praxis" differs from "practice" as there is an element of reflection interwoven in praxis whereas practice is a "more general and encompassing term ... applying to a wide variety of activities and actions in social settings" (Kemmis & Smith, 2008b p. 6). I understand "praxis" to mean acquiring knowledge and skills through reflection on action. Renwick (2015, p. 23) observes that the overshadowing disposition of apparel construction and production following procedures in textbooks without praxis has resulted in limiting the capacity of the profession to "routine and resistance to change and failure to provide students ... with what they really need." Hitherto in my practice, I have unknowingly fostered passivity by foregrounding a technical perspective (practice) in apparel production and excluding thoughtful engagement of the students with the process. As I started out on this research path, I came to a new understanding that focusing primarily on the technical perspective (artefact/apparel production) does not fully address the goals of true education. I realised that changes in these phenomena also required change in the pedagogical practices I employed. Even though there are no policy directions to pursue these outcomes in my teaching context, I committed to creating a learning environment where each student will be able to progress and achieve their full potential, whatever their background, circumstances, and location. In my quest to provide students with an equitable and just educational experience in which they are free to explore their capability to enhance critical skills required in the 21st century, I began to explore suitable pedagogies.

2.5 In search of enabling pedagogies

I articulate in this section how I intended to develop *my* pedagogical praxis in the teaching of TT. The primary aim of a pedagogical praxis is experience (Arnold &

Mundy, 2020), hence, my pedagogy would rely profoundly on relating theory and practice. In my previous teaching philosophy, neoliberalism greatly influenced the enacted curriculum. I have become conscious that neoliberal approaches displace the more critical, praxis-oriented views of pedagogical practice (Giroux, 2010; Hartman & Darab, 2012). To conceptualise and contextualise the term pedagogical praxis, Sirotová (2016) clarifies:

A pedagogical praxis is a form of experience-based and professional learning that enables the students of teaching to develop their professional as well as personal competencies in cooperation with the teachers ... It creates a base for the development of their own teaching style ... it develops the skills for studying the quality and efficiency of own pedagogical activity through the process of self-knowledge, self-evaluation, and self-reflection. Pedagogical praxis creates space for verifying the theoretical knowledge, methods, and procedures directly in the conditions of the student's practical performance in real conditions of an educational process. Thus, it provides the student with an optimal process for the development of his key competencies of his future job. (p. 530)

Such an approach helps students develop positive attitudes towards their future practice, self-reflection capacities, social skills, and all other professional competencies. Sirotova (2016) argues that prospective teachers who embrace this kind of pedagogy gradually acquire basic planning and management skills among other professional capabilities and this is relevant to my study. After synchronising these insights, I chose to define "pedagogical praxis" in the current study as an experiential and reflective approach to teaching and learning that enhances the development of technical and soft skills students would require in their future practice.

My intent in this praxis pedagogy is for students to come up with a plan proposing how they intend to solve the identified problem in real-life contexts. This, therefore, suggests that I will employ an approach which endorses the idea that "the teacher is no longer merely the-one-who-teaches, but one who is himself taught in dialogue with the students, who is in turn while being taught also teaches" (Freire, 1970, p. 80). In my intended praxis, I am beginning to think that it is possible "not to teach" but rather "scaffold" the learning process. To take the initiative, I thought I would

“survey the capacities and needs of the particular set of students” (Dewey, 1997, p. 58) in order to design experiences, which are educative and support them until they are able to work independently (scaffolding). In other words, I must discover the zones of proximal development (ZPD) of my students and structure experiences that reside in those zones (Vygotsky, 1978).

In 2018, the MHEISTED adopted a new curriculum framework (Education 5.0) that stipulates that graduates from tertiary education institutions, institutions of teacher education included, should acquire skills that empower them to become innovative towards societal development through transformative science and technology knowledge application that delivers goods and services (Tagwira, 2018). Education 5.0 is restructuring the higher and tertiary education sector to focus on five missions:

- **Teaching** - The Ministry expects that students make use of simple technology to create innovative products using the local environment. Students have the freedom to use any language to explore concepts clearly and comprehensively while they add to the body of knowledge. I thought this would resonate well with my evolving pedagogy in which I sought to improve my practice through allowing students to interact with the local environment.
- **Research and development** - Students are to research and develop new ideas and innovations. I found this very relevant in my study as I anticipate that in the communities in which students would work, after identifying a need, they would do a patent search to determine products that already exists, their variation or what needs upgrading.
- **Community service** - There is a need to improve radically the relevance to development of the educational community. I found that PBL is an effective methodology for engaging students in real-life learning experiences in the community.
- **Innovation** - All institutions of higher learning are required to establish innovation hubs, in which they would operate to develop, adapt, and adopt technology that would address the country’s socioeconomic needs. I see that in my evolving pedagogy, the community becomes the innovation hub where products would be developed, tested, and recommended for further development in an industrial hub.

- **Industrialisation** – In the Ministry’s vision, after products are developed and certified as prototypes in innovation hubs, they are passed on to the Industrial Park for production of goods and services.

This represents a crucial shift in emphasis to ensure that graduates from institutions of higher learning are able to “innovate and industrialise” for the country to reach a middle-income economy by 2030. While this is a welcome development to enhance essential skills, I challenge some orthodoxies of the new reform such as the standardised assessment methodologies. I realise that this neoliberalism can serve to deny the enhancement of essential skills because standardised assessments that focus on knowledge are still used to judge students’ performance and I see this as a compromise. I argue that the neoliberal approach may not embrace inclusiveness that respects the uniqueness of each student and promote democracy in the classroom, as final formative assessment is the sole determinant of the fate of the learner. I propose that a curriculum that is meant to unlock and unleash students’ potential needs to focus on the true purposes of education (Van der Walt, 2016) which are *Learning to Know*, *Learning to Do*, *Learning to Be*, *Learning to Live Together* and *Learning to Transform Oneself and Society* (UNESCO, 2015).

The US-based Partnership for 21st Century Skills (P21, 2007a), proposed a Framework for 21st Century Learning, which initially identified four essential competencies and skills vital for success in this century as – communication, collaboration, critical thinking and creativity (4Cs). These skills have evolved to seven (7Cs) after the inclusion of the life, career, and media skills (cross-cultural understanding, computing technology and career learning). I agree with Arnold (2018, p. 6) that “we need to cast off the anchor of our former ways of thinking, raise our sail of innovation, and set forth on the sea of 21st century learning.” The 21st century skills are not meant to demean content, but should be applicable across content areas (Arnold, 2018). Below I provide more details on these essential skills and competencies categorised into five pillars of learning by Luna Scott (2015).

- **Learning to Know** - Content knowledge in the 21st century must be sound, integrated, and contextualised. In this study, I introduce a pedagogy that would encourage knowledge creation. Thus, the knowledge created will

become students' own knowledge of their capacity to think critically and co-create solutions.

- **Learning to Do** - Active learning should translate into valuable skills such as critical thinking, which involves accessing, analysing, and synthesising information (P21, 2007a; Redecker et al., 2011). I see that critical thinking would enable students to be good communicators, information literate and be able to examine, analyse, interpret, and evaluate situations. In an attempt to establish a community of inquiry in my teaching practice, I believe I am also fulfilling the ideals of problem solving, another skill that is critical in the 21st century.
- **Learning to Be** - It would appear in educational settings, more thrust is given to cognitive competencies. Affective dimensions are also pertinent in becoming a “good teacher” (McNess et al., 2003, p. 245). From my experience, nurturing such skills would not come by through didactic learning and learning confined to the classroom. It would be ideal to create space for interaction to enhance good social and cross-cultural skills, sense-making skills, meta-cognitive skills, creativity, and entrepreneurial thinking skills.
- **Learning to Live Together** - Where there is teamwork and cooperation, higher levels of thinking prevail, and information is retained for a longer period (Johnson & Johnson, 2018). By encouraging students to share information, I see that they become critical thinkers. Even more significant, they acquire social and cross-cultural skills (Barrett et al., 2014) as they seek and engage the talents and ideas of their diverse peers. More so, students should be aware of their rights and responsibilities (civic literacy) at local, state and national level so that they support the communities in which they will work and add value to them. I had not considered such dispositions in my old teaching practices in enacting the TT syllabus, hence the need for reorientation.
- **Learning to Transform Oneself and Society** - When students gain knowledge, develop skills, and acquire new values because of learning, I envision that they will create lasting change in their institutions, communities, and societies at the same time have the zeal for lifelong learning.

The question then is: What pedagogy is required to stimulate growth of such skills? Researchers have attested to pedagogical approaches such as project-based learning as key to stimulating such growth (Luna Scott, 2015). In this study, I introduce place-based learning as a better pedagogical praxis (see Chapter 4) to enhance essential skills in my students as well as enable me to live up to my values. After developing the praxis, I will judge my claims against the values I have identified in this chapter by addressing questions such as:

- Do I uphold my values of love, care, respect, and equity in my practice?
- Do I demonstrate how I am realising my epistemological values by encouraging experiential learning and critical thinking in my practice?
- Do I show how I am realising my values by practising in socially just ways, so that all students feel valued, regardless of their socioeconomic status and prior learning experiences?

In a bid to address the above questions, I created a living theory that I will use to judge my teaching practice and validate my claims of developing a pedagogical praxis. I will demonstrate how my ontological and epistemological values are embodied in my teaching practice.

2.6 Summary of the chapter

In this chapter, I explained my personal context in terms of my profession and my values as well as the context of teacher education in Zimbabwe. I have demonstrated how I intend to live up to my values of love, care, respect, and equity in my practice. My specific interest and commitment lies in integrating principles of social justice, grounded in values of love, care and respect in relation to the pedagogy I intended to develop. I have also illustrated how these values influence the execution of my duties and my own living theory of practice. I discussed my vision of how I could integrate my ontological and educational values into the teaching of TT. In the next chapter, I explain how the transformative learning theory could help me to integrate my values into my practice.

CHAPTER 3

A CRITICAL DISCUSSION OF TRANSFORMATIVE LEARNING THEORY IN RELATION TO MY STUDY

3.1 Introduction

The purpose of this chapter is to discuss the theoretical framework through which I approached my study. This study aimed at personal and social transformation in education as well as contributing to the knowledge economy. I identified Mezirow's transformative learning theory (1991) as a key framework. I chose to view my study through the eyes of Mezirow despite many other scholars (e.g. Cranton, 2000; Daloz, 2000; Hodgkins, 2008; Kegan, 2000; Mayo, 2003) who have contributed research in this field, because Mezirow focuses on adult learning, which is the context in which I carried out my study. Thus, in this chapter, I detail how Mezirow (2003; 2000; 1997; 1991) explains the transformative learning theory (TLT) and consider how it can help to transform my thinking as well as that of my students. I also explain the concepts of critical reflection, critical thinking, and dialogue as the foundations of TLT. I begin by looking at the key elements of Mezirow's explanation of the TLT.

3.2 An overview of transformative learning theory

Transformative learning (TL) is not a new phenomenon in education. Dewey (1938) first introduced the concept as learning that enables a person to see some aspect of the world in a new way and to value the new meaning. In the contemporary world, the leading proponent of TL, Mezirow (2000) defines it as:

[T]he process by which we transform our taken-for-granted frames of reference (meaning perspectives, habits of minds, mindsets) to make them more inclusive, discriminating, open, emotionally capable of change, and reflective so that they may generate beliefs and opinions that will prove more true or justified to guide action. Transformative learning involves participation in constructive discourse to use the experience of others to assess reasons justifying these assumptions and making an action decision based on the resulting insight. (p. 8)

My desire to understand what changes I needed to make in my practice, required that I first understand the conceptual terms Mezirow uses to explain the TL theory. “Frames of reference” is an important concept that Mezirow (2000, p. 17) explains as “cultural paradigms ... learning that is unintentionally assimilated from the culture, or personal perspectives derived from the idiosyncrasies of primary caregivers.” Frames of reference develop in childhood through the process of socialisation and change as we go through different experiences in our lives (Mezirow, 1997). In the work of Mezirow (1997, p. 5), “a frame of reference encompasses cognitive, conative (behavioural), and emotional components, and is composed of two dimensions: habits of mind and point of view.”

Habits of mind made up of meaning perspectives and meaning schemes, embody the socially acquired values and attitudes embedded in routines that are sanctioned by cultural and social practice and expectations (Mezirow, 1991; 1990). Meaning perspectives guide behaviour and action (Mezirow, 1990) and are dynamic and constantly changing as individuals shape and refine their interpretations (Mezirow, 1997; Moore, 2005). Meaning schemes are the specific knowledge, beliefs, values, expectations, feelings, and judgements people hold that permit them to interpret their experiences and guide their actions (Mezirow, 1996; 1994; 1991). Perspective transformation occurs when people become critically aware of the reasons and manners in which their assumptions constrain the way “they perceive, understand and feel about the world” (Mezirow, 1991). With their heightened awareness, they may alter their assumptions which would make their perspective “more inclusive, discriminating, and integrating” (Mezirow, 1991, p. 167), and their actions and decisions will exhibit their new perspective.

Mezirow (1978, p. 15) further explains perspective transformation as “a praxis, a dialectic in which understanding and action interact to produce an altered state of being.” Perspective transformation entails more than simply recognising the ineffective pedagogies I was using and desiring to adopt effective ones. For perspective transformation to occur, I needed to develop a plan of action to act upon to become a more inclusive and democratic practitioner. Mezirow (1991) identified ten phases of perspective transformation. In Figure 3.1, I illustrate how I used these stages as a guide in transforming my teaching practices.

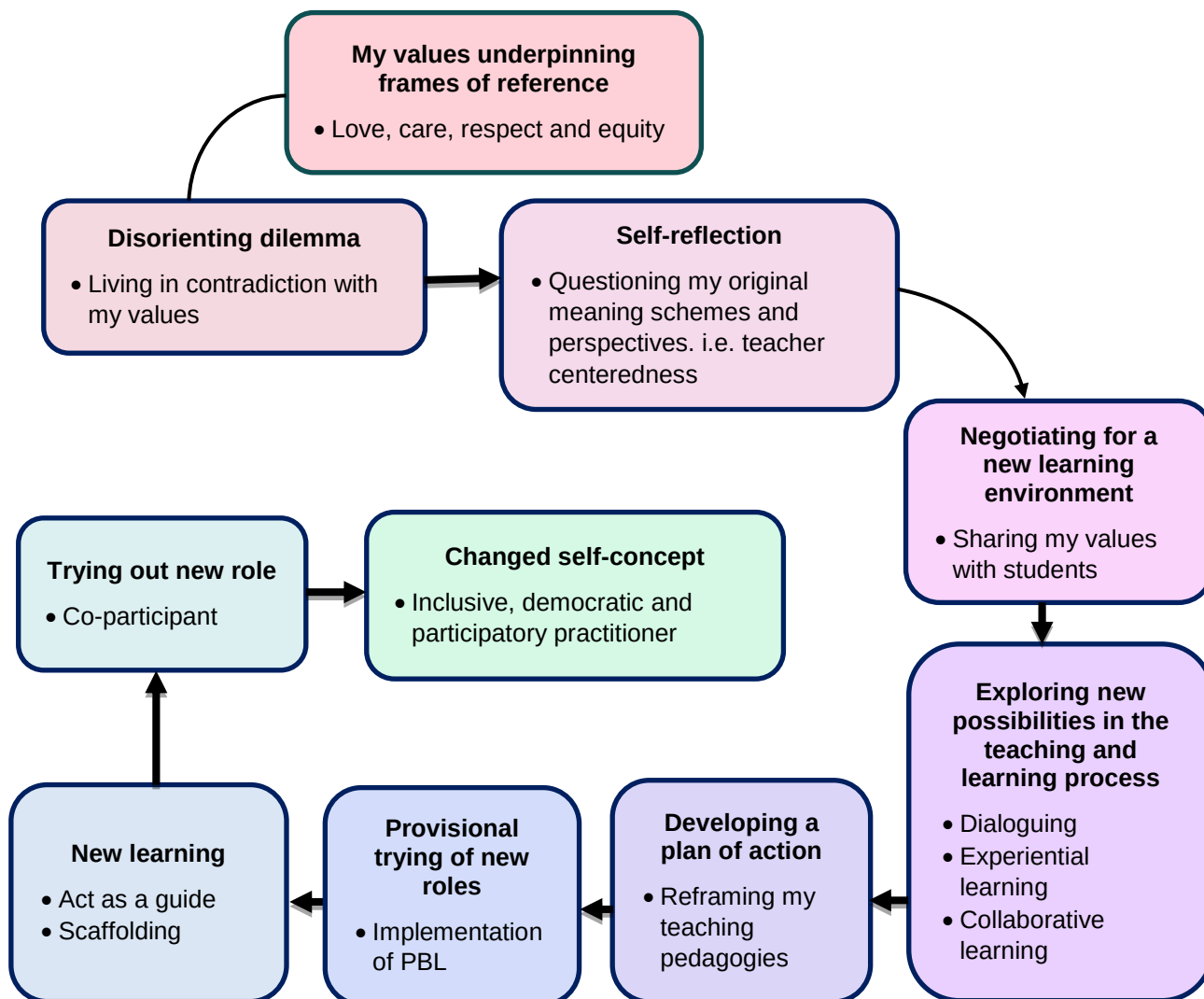


Figure 3.1: *My progression from disorienting dilemma to a transformed practitioner. (Adapted from Mezirow, 1988)*

The process of TL is intensely personal (Freeman, 2015) and therefore I did not have to experience all the ten phases and this did not happen in a linear way. However, it all began with a disorienting dilemma (Mezirow, 1991) when I became aware of the contradiction between my professed values and my practice. Failing to conform to my values, this underpinned my frame of reference and led to a process of, critical reflection resulting in a changed self-concept. As concerns emerged in my practice, I realised that I was a living contradiction, as I was not living out my values in my practice. I experienced dissonance, which made me feel uncomfortable. This led to a process of critical reflection on why my values existed. I questioned the

meaning schemes and perspectives I used to interpret my experiences, which in turn led me to revise the way I thought and acted.

As I explored the new pedagogy I wished to develop, my intent was to afford students an opportunity to be heard in class to enable them to develop critical thinking skills and participate confidently in discussions. In the process, I would be redefining my role from that of being a “depositor” of knowledge to that of a core participant. Through this redefinition role, I sought to reconceptualise the experience of teaching as a positive and enabling influence in the lives of mature adult learners rather than further marginalising them by treating them as objects that must learn specific knowledge to pass examinations.

I therefore planned to take a course of action and implement solutions based on new meaning perspectives by reframing my teaching pedagogies to develop my own living theory (see Chapter 6). In the process of coming up with my living theory, I intended to acquire knowledge and skills that I would use to implement my action plan. I chose the concept of praxis because it would require me to develop an intellectual relationship to my practice (Marie, 1997; Smith, 2002). To provisionally try out the new roles, I thought of implementing PBL. I saw that this would be a channel to practise and reassess my teaching practice. As I play the role of a core participant, I will reflect and take action, reflect on the actions taken, adjust thinking and actions, and foster a pedagogy that will engage students fully. Integration of the new perspective in my teaching practice would result in changed self-concept that would enable me to determine my course of action. In the following sections, I show how the three key concepts in TLT, critical reflection, critical thinking, and rationale discourse, relate to my study.

3.3 The main components of the transformative learning theory

Transformation necessitates decision-making based on full information (Mezirow, 1996). I acknowledged that to experience transformation, I needed to understand how I had come to teach in that way, and how this was affecting the learning of the students and then take an informed decision choosing to transform. I needed to reflect critically on my practice to make a choice to transform. Related to critical

thinking and critical reflection is Mezirow's (1998) concept of discourse. Next, I expound on these components in detail.

3.3.1 The role of critical reflection in transformative learning

Mezirow (1990) distinguishes between reflection and critical reflection. He argues that reflection facilitates improvement in misconstrued viewpoints, while critical reflection involves an evaluation of the assumptions on which one's viewpoints are constructed. Mezirow (1990) considers it essential that where reflection ends, critical reflection and internal dialogue continue. My interpretation of Mezirow's (1990) line of thinking is that being aware of concerns emerging in my practice and intentions to develop a pedagogical practice model that would address these concerns was mere reflection and "an isolated increase in knowledge without a consequent change in attitude and behaviour" (Tervalon & Murray-Garcia, 1998, p. 119). Brookfield (2000, p. 125) asserts that TL cannot take place without critical reflection, but critical reflection can take place without accompanying transformation in perspective or habit of mind. Therefore, this implied that to transform, I needed to reflect critically on my past teaching practices to see what I could change or perpetuate and act. If I were to reflect critically without taking any action, perspective transformation was not going to occur. In order to arrive at "transformative insight", I needed to challenge my ways of knowing through "intentional or unintentional interactions, experiences, encounters, or discourse" (Mezirow, 2000, p. 20). Experiencing a disorienting dilemma led me to realise that my teacher-centred practice was limiting the development of students' learning. Thus, students never had space to express their views about their abilities and demonstrate their skills in a re-entry programme as adult learners (Mezirow, 1978a). My capacity for critical reflection enabled me to understand the limitations of my teaching practice. Critically reflecting on my existing values, attitudes and beliefs about my teaching practices helped me realise that I had to encourage students to be self-directed learners. To be able to achieve my intent, I engaged in the three forms of critical reflection as identified by Mezirow (1991) namely content reflection, process reflection and premise reflection.

Content reflection is reflection on what an individual thinks, sees and acts upon in their day-to-day life (Cranton, 1995). Thus, as I reflected on my day-to-day

interactions with my students, I felt very uneasy about teaching using rote learning and demonstrations instead of providing students with an opportunity to create knowledge through experiential learning. I reflected that this uneasiness does not fit well in my teaching practice and I needed to develop a model for improving my teaching practice.

Process reflection is reflection on actions and what prompted them (Mezirow, 1991). Reflecting on my past interactions with my students to identify specific incidences that prompted me to teach in a didactic way, I realised that the culture of performativity worked against my value of respect for students' knowledge. I now needed to relate with my students differently.

Premise reflection as characterised by Mezirow (1991) is reflection on the presuppositions that underpin an individual's knowledge and is concerned with the validity of that knowledge. I recognised that my feelings of discomfort were rooted in the didactic ways of teaching my own teachers exposed me to as learner, as well as me perpetuating the same methods as a teacher for close to twenty-eight years. I now wanted to question my premises that didactic forms of teaching are the best and find strategies to integrate in my practice that would embody my values of love, care, respect and equity. Premise reflection is critical as observed by Mezirow (1988) because it is a means by which perspective transformation occurs. Nonetheless, I discovered that becoming a reflective practitioner is a process. It is not just reading words and applying them to practice (Roche, 2007) but becoming critical of your actions. Next, I look at critical thinking in TL.

3.3.2 The role of critical thinking in transformative learning

Critical thinking is "reasonable reflective thinking focused on deciding what to believe or do" (Ennis, 2015, p. 32). Critical thinking is assessment of a problem in a focused and logical way with a desirable outcome in mind. Brookfield (2000) speaks of five characteristics of critical thinking, namely: It is creative and productive, it is a process not an outcome, there are variations according to contexts, it is triggered by positive as well as negative experiences, and it is privy to rational cognitive activity.

I see these characteristics as closely related to critical reflection in transformative learning. Critical reflection, as earlier explained, is particularly concerned with processes of examining and making judgements about experiences and solutions.

Mezirow (2006) speaks of the role of critical thinking in TL as that of altering frames of reference so that there could be transformation in perceptions, mindsets and moral values. I began to reflect on my new understanding of critical thinking and presumptions about my students in the past. Moreover, I queried my own initial conception of TT: which valued production over knowledge creation. After I critically reflected on my meaning schemes, I came to understand that a production mindset creates an environment that threatens the future of TT, as it does not embrace critical thinking skills needed in the 21st century. I saw that apparel construction and production, either by following procedures in textbooks or my demonstrations without praxis, weakens critical thinking. I came to an understanding that critical thinking in TLT for students implied developing deep understandings with regards to the purpose of TT and the knowledge and skills it requires. The intention should be to make continuous use of or internalise the knowledge and skills rather than rote learning and retention of information (Oharimehr & Bysouth, 2017). I had never challenged a technical approach in my teaching practices before because my students would produce “perfect” products that all marvelled at. My capacity for critique came from engaging in this study. I realised that critical thinking in TL requires self-directed processes and students can learn this along with the skills that lead to transformation in thought processes. I then perceived that I could modify my pedagogy and introduce praxis that would enable students to acquire skills to think critically and not merely practise the skills. In framing a pedagogy that would meet my goals, I saw that I needed to create space for students to think critically without my coercion. Thus, PBL became relevant as it constitutes significant opportunities for deeper conceptualisation of new concepts (Roth, 2014). The bottom line of critical thinking is the capability to engage in rationale discourse (Mezirow, 1998). Next, I discuss rationale discourse as another element in transformative learning.

3.3.3 Rational discourse in transformative learning

Mezirow (1994) uses the term “discourse” to refer to dialogue. Rational discourse is a “special kind of dialogue in which focus is on content and attempt[s] to justify beliefs by giving and defending reasons and by examining the evidence for and against competing viewpoints” (Mezirow, 1994, p. 222). Pointing to the need for using discourse in TL, Mezirow (1996, p. 115) highlights that adult learners deliberately change their established frames of reference to accommodate a viewpoint that is “more inclusive, differentiating, critically reflective, open to other points of view, and more integrative of experience.” Mezirow’s (1998) work led me to understand what discourse is in educational contexts. I came to an understanding that discourse is not about “dominating” neither is it “airing many views” nor “knowing better than students” in a discussion but is rather sharing thoughts and beliefs for others to test their validity. Therefore, transforming my teaching practices implied that I do not manipulate students in discussions but provide an opportunity for them to engage in rational discourse (Mezirow, 2000).

Essential norms for full participation and full understanding of experience, as viewed by Mezirow (2000, p. 15) include values of “freedom, equality, tolerance, social justice, and rationality.” I became conscious that these values align with ontological values that I hold and I needed to consider discourse as one of the elements in my evolving pedagogy. I saw that if I employ discourse as an approach in the teaching and learning process it would help resolve hierarchies, power dynamics and social stratifications fulfilling my educational commitments of inclusiveness, democracy, and participation. Martin Buber further influenced my intent to apply discourse in the teaching of TT for perspective transformation. Buber, as far back as 1947, perceived education as a connection between two individuals, and illustrated this connection using two terms: *I-It* and *I-Thou*. The relationship that Buber (1947) sees as *I-Thou* positions all individuals on par with equally valued contributions. I then saw that if genuine discourse informed my teaching practice, it would help to create an *I-Thou* relationship that recognises participation.

3.4 Teaching TT from a transformative learning perspective

Having acknowledged a need to transform my teaching, I then needed to commit to action. I needed to unlearn old practices (traditional didactic teaching methods) to experience growth in new practices (an inclusive, democratic, and participatory pedagogy). I saw that I was no longer limited to traditional ways of teaching that dominated the system. I realised that even though I do not have much freedom in deciding what subject matter to teach in TT, I have freedom in the way I execute my lessons. I saw that I am not restricted to certain strategies to cover the prescribed content. I observed that strategies that would change students' self-concept to understand they are neither dependent on me for knowledge generation nor books could include enabling interaction with community members. In collaboration with community members, I envisioned that students would develop new skills to build confidence in the possibilities of their new meaning schemes. Consequently, students would transfer the new habits to a larger context, i.e., the future schools of practice and communities they come from.

Habermas (1984) and Mezirow (1997) agree that for learning to be transformational, it should be instrumental and communicative (Mezirow, 1997). Instrumental learning focuses on learning through task-oriented problem solving and manipulation of the environment. Such learning enables students to make predictions about observable events based upon practical knowledge. This implied that implementing PBL in TT would be transformational as students carry out experiential work to prove its efficiency. I perceived that in the process, students would deconstruct their existing assumptions of being "spoon-fed" and act upon a process of developing new meanings by being technically involved in their learning. Communicative learning is concerned with "learning to understand what others mean and to make ourselves understood as we attempt to share ideas through speech, the written word, plays and the like" (Mezirow, 1994, p. 164). In other words, it advocates gaining knowledge through interaction with others. Interaction, in the work of Stoddard (2010), is one of the seven great human dimensions and connects to place-based education.

In addition to the two basic kinds of learning, Merizow (1991) further suggested that TL could also occur through schemes of meaning in four ways. Students learn new

meaning schemes (reflection on action), elaborate on the new meaning schemes, refine the pre-existing meaning schemes (practice), and transform the meaning schemes resulting in perspective transformation (deeper learning experiences). Alongside my growing awareness of the outcomes of TL, I was convinced that, if put into practice through the medium of PBL, it would encourage students to change their established ways of learning.

3.5 Summary of the chapter

In this chapter, I provided a synopsis of the theoretical framework that informs my study. I looked in-depth at Mezirow's TLT and unpacked the conceptual expressions such as frames of references, meaning perspectives and meaning schemes that he uses to elaborate on his theory. I articulated how I experienced a disorienting dilemma leading to a changed self-concept. My other focal point was on the concepts: critical reflection, critical thinking and rational discourse foundational in TL. I suggested ways in which I could promote TL for wider adoption in the enactment of the TT curriculum. This chapter provides evidence of the lasting nature of the TLT and the value attributed to the theory for adult learning. I considered TLT, with its emphasis on changes of perspectives in an individual's real world, as an effective lens for examining my teaching practices as well as personal and academic challenges students face when commencing with the TT programme. In the next chapter, I turn to the conceptual framework, focusing on the concept, PBL and how it could enhance social justice in my teaching.

CHAPTER 4

PLACE-BASED LEARNING

If you think our future will require better schools, you're wrong. The future of education calls for entirely new learning environments. If you think we will need better teachers, you're wrong. Tomorrow's learners will need guides who take on fundamentally different roles (KnowledgeWorks Foundation and Institute for the Future, 2015).

4.1 Introduction

The above quotation prompted me to think deeply about my teaching of textiles technology and the college within which I worked. I realised that even the infrastructure had become outdated for the pedagogical approach that is required in today's world. The semi-circular barrel roof structures of the administration block, meant to represent the design of a corridor and lecture rooms, were a reminder to me that as society changes, so we need to change how we approach teaching and learning (see Figure 4.1). The 21st century requires a didactic environment that is not limited to a particular space and time (Lemke, 2004; Trilling & Fadel, 2009). Furthermore, students learn better if the knowledge and skills they develop are applicable to their everyday lives (Andrzejewski et al., 2016). I thus committed to creating an educational environment populated by "guides who take on fundamentally different roles," as stated in the opening quotation of this chapter.



Figure 4.1: *United College of Education administration block*

In light of the above, this chapter comprises a literature review on PBL as a conceptual framework for the study and explains how it can support the development of a critical approach to teaching TT with respect to teacher education.

4.2 Place-based learning

John Dewey's ideas have greatly influenced my pedagogical choices. Dewey (1987) believed that education cannot carry value if it is separated from experience. Dewey's (1938, p. 27) "principle of interaction" propounds that learning occurs as a result of the interaction between the student and the environment. As I searched literature for an emergent educational concept in line with Dewey's (1938) ideas, I came across place-based learning and place-based education. Sobel (2006) explains it as:

The process of using the local community and environment as a starting point to teach concepts in language, arts, mathematics, social studies, science, and other subjects across the curriculum. Emphasising hands-on, real-world learning experiences, this approach to education increases academic achievement, helps students develop stronger ties to their community, enhances students' appreciation for the natural world, and creates a heightened commitment to serving as active, contributing citizens. Community vitality and environmental quality are improved through the engagement of local citizens, community organisations, and environmental resources in the life of the school. (p. 7)

Armed with this definition, I considered myself capable to advance my task of teaching TT students in an atmosphere of admiration for and appreciation of their reality. I would be in a better position to hear students' voices, in alignment with my wish to create a democratic space for learning. After studying the definitions provided by other PBL practitioners, I chose to define PBL in the current study as: experiential learning grounded in the local setting, drawing on local knowledge, experience, and needs to make teaching more relevant, useful, and contextualised.

4.2.1 Place in place-based learning

To conceptualise the meaning and implications of PBL as a strategy to adopt in TT, I first needed to understand the concept of place. As I reflected on the concept, I

wondered what I might perhaps say if asked about the place in which I work. I would probably say I work at a teacher education college and I teach TT to prospective teachers who will serve in primary schools and act as resource persons in the field of TT. I would further go on to narrate my other experiences in the teaching profession. I use this example to illustrate that the concept “place” has a variety of connotations and can denote varied things to different individuals. Place in PBL is something we are immersed in (Casey, 2014) and exceeds a site on a map. It has historical events and “expands a cultural landscape to include related ecosystems, bioregions, and all the space-specific interactions between the human and the more-than-human world” (Gruenewald, 2008, p. 143). Resor (2010) describes the three fundamental aspects of place.

Location - All places have an absolute location which can be GPS located. To give a clear picture of the location of my place of work I would describe the relative location of the institution and say it is in the City of Kings and Queens (Bulawayo, Zimbabwe) and is located six kilometres away from the city centre along old Victoria Falls Road. The college was born from “eight Christian churches to pledge itself to academic and professional excellence in pursuit of knowledge, skills and integrity; to rise and stand for the rights, respect and dignity of all” (excerpt from the college anthem). This description denotes “place” as more than a geographic location; it is a place with a lived history (Gruenewald, 2008; Ruitenberg, 2005), grounded in specific values and culture. The starting point for critical awareness, as I engaged in this study, was to consider the values that the institution enshrines. The institution was built on social justice principles, as is evident from the extract from the anthem. I wondered the extent to which a system influenced by neo-liberal education policies could live up to these values. If I were to implement a PBL curriculum that is contextualised and aligned to the institution’s mission, I needed to ask myself three critical questions:

- What is the history lived “in this” location? (the college was birthed by Christian churches, based on humane values)
- What then would suffice “for this” location? (enhancement of social justice principles)

- What should be done “about this” location? (develop a pedagogy that enshrines such principles)

Locale - This next characteristic of “place” is the real location in which people carry out their day-to-day activities. The real location consists of constructions around the place such as roads and actual buildings, furniture, trees and even pictures on the wall as part of the infrastructure. To describe the locale of the institution in which the study was being carried out, I would mention prominent objects that inspire me to remain in the institution such as the lecture room in which I teach and its surroundings. To show appreciation of my place of work, I took up Aldo Leopold’s (1980, p. 237) challenge to incorporate a “sense of love, respect, and admiration for the land and a high regard of its value” by planting Durante trees outside the corridors of my classroom and those of my office. As I pass through the corridors, I feel emotionally satisfied seeing my improvement to the health of the land. The classroom in which I teach is of medium size and can comfortably seat twenty students. Generally, when the enrolment for the whole institution is high, it follows that more students would be enrolled to specialise in TT. Place-based learning should extend the classroom beyond the walls of the institution to enable students to have real-life learning experiences. Such learning experiences overcome the alienation and isolation that the “impermeable walls” (Smith, 2002, p. 593) of higher education have engendered.

Sense of place - This is the most disputed element of place. In geography, sense of place is the subjective and emotional attachment a person has to a place (Resor, 2010). In PBL, sense of place refers to social and personal constructions of meaning, values, memories and experiences around geographic locations that ideally promote stewardship within and love of place (Kudryavtsev et al., 2011). Though the context of place in this study will definitely cover *location* and *locale*, *sense of place* is the most significant in dialoguing for PBL pedagogy. I consider my place of work as my second home. I say so because I have a spacious office housed in the Home Economics flat with all the facilities one can find in a home. Comfort in challenging times of depressed remuneration has enabled me to establish an *I-Thou* relationship (Buber, 1937) with what surrounds me in this institution. I feel part of the greater whole in the institution. Relph (2007, p. 186) says developing sense of place

carries “all the hopes, accomplishments, ambiguities, and even horrors of existence.” This is very true of my experiences. As I fix my eyes on certificates of achievement my students have accomplished in Tertiary Institutions Festival of Arts Zimbabwe displayed on the walls in my office, I feel a sense of pride and achievement. Memories of achievements and experiences around this *location* have promoted within me a love of place, despite the challenges of operating with scarce teaching and learning resources.

I am detailing all this as a way of examining the transformative potential of my students in developing a sense of place during PBL. I understand that developing a sense of place for students would lead them to exercise care and take responsibility to ensure a sustainable future (Gruenewald & Smith, 2008). Understanding place may also enhance students’ ability to think critically about their situations (Azano, 2011). Within their locality, students can look around, see what they can do with what is there, and make the best of local resources to teach TT. As the Minister of HTEISTED said at the institution’s graduation ceremony in 2018, engineers cannot build snowpack roofs in the Zimbabwean context when snow has the remotest chance of occurring. I am convinced that if students exploit what is locally available, the country can become a place of hope, rather than desperation. I project that focusing on the local heritage in the current economic situation in Zimbabwe could counteract what Sobel (2004, p. 9) calls “catastrophe education.” Thus, students graduate with theoretical knowledge and do not use it to improve the community. PBL calls for students to have a more complex engagement with local materials to produce and provide services that are useful and relevant, rather than just created to pass the subject.

4.2.2 Fundamental principles of place-based learning

My intentions to implement PBL did not mean that I would simply let students go out to the community to do some project on textiles. For deeper learning outcomes to occur I needed to be guided by certain principles as observed by other PBL exponents. These principles include using the community as the classroom (Smith & Sobel, 2010; Wurdinger & Carlson, 2010), using a real life context for learning (Smith, 2002) and/or experiential learning (Dewy, 1938), using a problem-solving

process (Freire, 1970), encouraging student interaction with each other and the content (Wurdinger & Carlson, 2010), and reflection on action (Schön, 1983). In this section, I examine these principles and explain how I intended to apply them when implementing PBL in the teaching of TT at teacher education level.

4.2.2.1 *Using the community as classroom*

In PBL, the approach to teaching and learning is different from the traditional style of teaching and learning. In it, students do not learn confined to the classroom but communities of all nature “well-to-do and rough-around-the-edges” could function as classrooms (Sobel, 2002, p. 1). This therefore suggests that PBL is adaptable within different locales. Smith and Sobel (2010) have recognised the worth of connecting learning to the local community.

Place-based education is learning that is rooted in what is local: the unique history, environment, culture, economy, literature, and art of a particular place. The community provides the context for learning, student work focuses on community needs and interests, and community members serve as resources and partners in every aspect of teaching and learning. (p. 23)

I became interested in exploring nearby community institutions such as the nursing, geriatric, and children’s homes and the hospital as suitable environments for learning TT in that the institutes have a lot to do with textile utilisation and disposal. I saw that focusing on the local setting would bring the concept of equity into reality as the gap is narrowed between students who have the economic means to access learning resources that are typically scarce in TT and those with limited access. I would thus need to cultivate and explicitly value the use of local resources and local places in my practice to make it more equitable. I thought I could do this by setting learning tasks that required students to use local resources. However, my intent was not to demean global issues in the teaching and learning process in TT. I agree with Greenwood (2013, p. 94) who says, “local places provide the specific contexts from which reliable knowledge of global relationships emerge.” This is important in my context, as studying local issues would also broaden students’ knowledge of global issues. I saw that moving out of the classroom opens the possibility of connecting students to the real-life context.

4.2.2.2 Connecting learning to real-life context

One of the strengths of PBL is its intent to overcome the separation between institutions of learning and students' lives that predominately occurs in traditional classrooms (Smith, 2002). Therefore, I perceived that worthwhile learning would be learning that uses strategies such as PBL, which connects students to real-life contexts. I envisioned that enacting the TT curriculum in this way would also enable me to live up to my values of democracy. Nagel (1996) suggests that teaching through real world problem-solving is democratic in that students direct their own learning. In such a scenario, my position would then be to create an open space for students to learn, and to provide guidance for the students to make their interactions positive and meaningful (Dewey, 1938). Similar sentiments are shared by Ponzio and Enfield (2004, p. 6) who note that if the teacher does not guide students through the experiential cycle and "encourage the process of inquiry during hands-on experience, students can be cheated out of skills that encourage them to be competent and capable." To enable students to develop skills that would encourage them to be proficient in the TT subjects I needed to employ a problem-solving approach in enacting the curriculum.

4.2.2.3 A problem-solving approach

Freire (1970) argues that students learn best, and have the most humanising experiences, when their learning is facilitated by a series of problems posed by the teacher. Exploring issues that are relevant to their lives presents students with an opportunity to reach a new understanding as knowledge emerges through creation and re-creation of knowledge that "humans pursue in the world, with the world, and with each other" (Freire, 1970, p. 83). I recognised the potential of the design process to be used to provide meaningful learning experiences in TT. The design process or design thinking is an approach to solving problems in novel ways (Pusca & Northwood, 2018). The process is iterative so as to unearth novel designs and address problems in a unique way and includes the following steps: problem identification, generation of ideas, specifications, patent search, design brief, generation of possible solutions, selection and justification of the selected solution, designing, producing, testing and evaluation. Buchanan (2017) categorises these

stages into three discrete phases: problem identification, formulation, and finding of solutions. I needed to utilise these phases in implementing PBL.

For the design process to be relatively unique to PBL and central to the strength of my pedagogy, I needed to add two additional steps: narration and reflection on what students have learnt in each stage of the design process. This suggested that students would have to keep some form of documentation with a particular design on what they did, what they accomplished, what they learned, and how they felt about their performance in the entire process. The design process is not linear and would therefore not require design problems that are well structured and well defined as characterised my past teaching. I needed to employ design problems that are open-ended with no definite limits (Rittel, 2017). I then saw that the major design task for the PBL project would be to provide students opportunities to work in a group and collaborate with identified community members to design and implement a community project. The project would address outcomes in the intended curriculum and students would present their work in the form of a design folio outlining the stages of the design process. This would enable students to process information on a high level and understand it better. This account shows that interaction in teamwork is all embracing in the design process approach. I discuss this aspect next.

4.2.2.4 Encouraging student interaction and participation in collaborative teams

Student interaction and participation is another principle applied in PBL (Wurdinger & Carlson, 2010). Participation in this study is conceptualised as being active and engaged in the teaching and learning process and feeling part of the team. In my old teaching philosophy, I highly esteemed intellectual capabilities and cognitive abilities not realising that teamwork skills such as interaction, active participation and cooperation are fundamentally important in honing cognitive abilities (Redecker et al., 2011). To support this, Luna Scott (2015) says the extent to which students possess good social skills can influence their academic performance. One of my intentions in implementing PBL was to improve interaction and participation to live up to my educational values of an inclusive, democratic, and participatory pedagogy. To

realise this, I needed to create opportunities for peer-to-peer interaction in small collaborative teams that would give students more “power to make decisions” as opposed to learning using “traditional whole-class instruction” (Veldman & Kostons, 2019, p. 77). I saw that implementing PBL and applying the concept of design thinking would advance the process of interaction and participation in many episodes, such as when students collaborate to identify challenges in communities, brainstorming on possible solutions, and justifying them. Bruner (1996) is of the view that a curriculum is enacted most effectively when it is participatory, proactive, communal, and given over to constructing meanings rather than receiving them.

4.2.2.5 Reflection on action as an element in place-based learning

Reflection is also a noteworthy element in PBL as it is an influential approach to examining processes and making adjustments. While engaging in PBL, students scrutinise and philosophise their own learning by reflecting on their actions (Schön, 1983). Grunewald and Smith (2008) are of the view that PBL connects students to the local level and enhances skills and competencies in students such as critical reflection and openness to new ideas. Preddy (2015) postulates that PBL connects well with Kolb’s (1984) model of experiential learning, for the reason that it places more value on hands on experience and personal reflection. Self-reflection results in deeper learning experiences that would enable students to use generated knowledge for life (Schwab & Dustin, 2014).

4.3 Why adopt place-based learning in teaching textiles technology?

I adopt this concept to improve my own teaching of TT and make it more than just another academic subject. I want to change the community’s and students’ views and attitudes about TT. Outside the profession, the value of TT and similar subjects, as well as its potential to contribute positively to the lives of students, is often not recognised (Du Toit & Kempen, 2018). For example, the entrance requirements for schools of nursing require applicants to have five O levels, but TT, technical drawing and wood technology cannot count as one of the five. It would seem they assume that TT is a subject done by low academic performers who can “only sew just like they do at home with no scientific theoretical aspects to it” (Chiweshe et al., 2013, p. 893). It is disheartening to realise that the ramparts between the school and the

community bar community members from recognising that the “new TT” has refocused to be more scientific, innovative, and technological.

I desire to break down these faulty perceptions to show that TT is as important as other scientific subjects and that it has the potential to make a useful impact on the lives of those who study it, including nurses who have to deal with textiles in their day-to-day operations. Drawing on Smith’s (2002) five thematic patterns in PBL, I argue that the TT syllabus has strong synergies with PBL methodologies and aims. I see PBL augmenting, enriching, and broadening students’ understanding of the subject and its delivery without necessarily overloading the curriculum. As I explored Smith’s (2002) five thematic elements of PBL, I found that they cohere with the TT curriculum in the Zimbabwean context as it is supposed to be implemented. The following paragraphs discuss Smith’s (2002) five themes.

“Using local natural phenomena as the basis for curriculum development” (Smith, 2002, p. 588) would enable students to witness the worth of using local resources and local places for learning. The Zimbabwean curriculum in the context of teacher education displaces students from their communities and everyday ways of being as students learn confined to the four walls of the classroom. Although some teachers do incorporate educational excursions into their teaching, they do not really improve student learning. The MHEISTED strategic plan for the period 2019–2023, applauds a heritage-based approach to learning whereby students use local resources to produce goods and services. This aligns well with my new teaching and learning format.

A second significant distinguishing feature of PBL as argued by Smith (2002, p. 593) is the “emphasis on learning experiences that allow students to be creators of knowledge rather than the consumers of knowledge created by others.” I saw that the effect of PBL, when implemented in TT, would be to develop one’s own guidelines on how to work certain processes in the construction of textile products. I therefore considered PBL as not excessively prescriptive, but a methodology that would give some freedom to students to be creative. My students and I have not been privy to this freedom. I saw this as an ideal pedagogy that would see my educational values transitioning to something more aligned with my core values.

The third approach to PBL is “real-world problem solving” (Smith, 2002, p. 589). I realised that in adopting PBL in TT real-world problem-solving would “impart to students a sense of their own agency and collective capacity to alter their neighbourhoods or communities for the better” (Smith, 2007, p. 192). For example, with ever-changing fashion styles, the textile and apparel industry produces sizeable ecological and resource reduction problems in the textile product lifecycle. To act in response to this dilemma, I wanted to encourage students to solve these real-world problems through the practice of sustainability in consumption. Although some measures such as organically produced fibres are generated to sustain the environment, there are still challenges in the textile industry, which students could explore, and attempt to address. I envisaged students going out into the community to re-purpose materials for making useful “new” products, such as soft furnishings, teaching aids, or making schoolbags from discarded uniforms.

The fourth approach bound up with PBL is the notion of “internships and entrepreneurial opportunities” (Smith, 2002, p. 590). Entrepreneurial education in Zimbabwe has been seen fundamental (Nherera, 2018). The amendment of the structure and curriculum in education that was announced by the former President of Zimbabwe, Robert Gabriel Mugabe, on the Official Opening of the 8th Parliament of Zimbabwe in 2013, called for “greater focus on the teaching and learning of science, technology, engineering and mathematics, including entrepreneurship” (Ministry of Primary and Secondary Education of Zimbabwe, 2015, p. ii). The MHTEISTED was then to enmesh the ideals of this framework that provided a comprehensive plan for a rapid and sustainable transformation of the education system from 2015 to 2022. As I engaged in this study, I made a deliberate choice to investigate an alternative strategy that would enhance entrepreneurial skills that I have previously found difficult to teach in a prescriptive nature. I saw that implementing PBL would enable TT students to develop entrepreneurial opportunities in the field of textiles while contributing to social value (Du Toit & Kempen, 2018). I reasoned that while PBL would refine students’ skills which could consequently contribute to fostering entrepreneurship in the textile field, the learning process would also add value to the communities they will work in as they exchange skills when solving community issues concerning textile waste.

The fifth and all-inclusive approach to PBL entails “drawing students not only into the economic life of their community but also into its decision-making processes” (Smith, 2002, p. 591). I foresaw my students inducted into community processes and taking collective action to generate solutions to problems related to textiles with regard not only to economic development, but also for community wellbeing. Through these forms of learning and implementation of knowledge, I envision students developing a sense of civic engagement. Civic engagement is a central tenet of PBL, and research has established that PBL projects lacking a civic action component had the greatest challenges in terms of motivating students (Zimmerman & Weible, 2015). This kind of civic engagement is in the form of service learning. Similar to PBL, service learning is a pedagogical approach that connects students with communities in an endeavour to achieve specific educational and practical goals to benefit both the students and the community (Thomson et al., 2011). What sets service learning and PBL apart from community service is the direct link with course objectives and some kind of well thought-out community engagement to address community-driven needs (Flecky & Gitlow, 2011). Amid this enlightenment, I felt comfortable in adopting PBL as a teaching strategy in TT. Thus, I contend, PBL and TT are compatible, and each could be used to extend the other. Next, I focus on how a social justice pedagogy is enhanced through PBL.

4.4 Enhancing a socially just pedagogy through place-based learning

Gruenewald and Smith (2008) position PBL as more than a teaching methodology as it addresses social justice issues that “dominate discourse” (p. 345) in educational contexts. In agreement, Deringer (2016) posits that PBL derives much of its social justice principles from critical pedagogy. My conceptualisation of critical pedagogy is drawn from Giroux (2011, p. 4) who explains that critical pedagogy focuses on “ways in which knowledge, power, desire, and experience are produced under specific basic conditions of learning.” I interpret this to mean that critical pedagogy makes students aware of injustices within their professional sphere of influence and realise that they can use their power to bring about change. Thus, my intent in adopting a problem posing pedagogy in the implementation of PBL was to provide students with opportunities to grow in power and take control over their own learning.

I, therefore, needed to move away from a traditional teacher-focused approach of transmitting knowledge, where the focus was on what I as teacher viewed ideal. Thus, in the process, I would be embracing humanising values of care, respect, trust, reciprocal relationships, listening, mentoring, high expectations and interest in the student's well-being (Salazar & Del, 2013). In teacher education, humane values are important in providing caring teaching and I endeavoured to instil these in students, so that they could transfer them to their own practice (Jama, 2017).

My intent to use the community as classroom is to increase students' interest in local issues (Furman & Gruenewald, 2004). Implementing PBL and focusing on the local would elucidate issues of social inequalities and prepare students to participate in a just and equitable environment (Gruenewald, 2003). In agreement, Griffin (2017) says focusing on the local equalises voices and flatten the hierarchy resulting in a socially just learning environment (Griffin, 2017). In the case of TT, I argue that focusing on the utilisation and disposal of textile waste at the local level could help to address local problems. However, I see that reducing the subject matter to a local level does not in itself make it more socially just, but the act of focusing on social justice at the local level makes PBL an effective pedagogy for enhancing social justice.

Through reflecting on and interrogating my practice, I saw that another key to a socially just approach to teaching TT would be "high academic expectations built on a foundation of intellectual resources students bring" (Sleeter, 2015, p. 2). I habitually denied students opportunities to participate in the learning process. Ideally, transformative TT education meant giving students a voice to expound on the knowledge that they bring to learning. I have begun to realise that at times students disengage because a hegemonic curriculum based on Western values at the expense of indigenous knowledge systems frustrates them.

To establish a practice based on socially just principles that would allow students to identify with their communities, I saw the need for a culturally responsive curriculum. Moll (1992, p. 22) explains that a culturally responsive curriculum "entails accommodating diversity of socio-cultural realities of students, by developing a wider variety of instructional strategies and learning pathways." Accordingly, in Chapter 6, I

show how I changed my practice to become a socially just practitioner to expand the socio-cultural consciousness of students and help them understand that “one’s worldview is not universal but is profoundly influenced by a variety of factors” (Villegas & Lucas, 2002, p. 27). In the act of recognising cultural diversity, an opportunity for social justice conversations emerges more frequently in the learning process. I draw on the ideas of Deringer (2016) who posits that including references to the local community in the curriculum also celebrates cultures that may be overshadowed in broadly standardised curricula. Reflecting on the PBL methodology, I observed that it provides opportunities for students to learn community values and traditions on the local level. In this context, community values such as the type of attire that the community culturally accepts is contrasted to attire influential in the global village.

Teaching for social justice also constitutes democratic activism. Democratic activism according to Sleeter (2015) prepares young people to analyse and challenge forms of discrimination that they, their families and others face on behalf of equity for everyone. Carlisle et al., (2006) call this work direct social justice action and intervention in which curriculum,

...teaches an understanding of the nature and manifestations of all forms of social oppression ... provides strategies for intervening in oppressive situations and seeks to facilitate a living and learning environment for the development of liberatory thinking and action. (p. 61)

To successfully nurture and accomplish democratic activism in the practice of teaching TT, simple acts of involving students in decision-making processes that affect their learning could be introduced. Now with increased awareness, I realise that planning for students, and dictating what products to make were unjust practices that contradicted the democratic values I wished to embody. I realise that fostering democratic activism in my practice, would mean liberating myself more than I would be liberating my students. My aim to “act as a guide” who takes a different role from the one I served before, moving from the role of being solely a teacher to that of becoming a core learner.

4.5 Summary of the chapter

In this chapter, I explored the concept PBL and established that it could be a useful pedagogical strategy in the context of TT teacher education to help me to live out my values in my practice. I also provided an account of the actions I intended to take to implement PBL and the guiding principles. I further elaborated on how a socially just pedagogy links to PBL and how I could enhance it in my teaching of TT. The subsequent chapter explains the methodology I employed to guide my journey of learning and validate my claims to knowledge.

CHAPTER 5

THEORETICAL JUSTIFICATION AND EXPLANATION OF ACTION RESEARCH AS METHODOLOGY

5.1 Introduction

In this chapter, I discuss the methodology I used to conduct my study, which is a self-study practitioner enquiry into my teaching practice as a teacher educator in the subject textiles technology (TT). Throughout the duration of the study I asked, and actively sought, answers to questions that relate to my concerns such as, how can I uphold my values of love, care, respect and equity in my practice? Moreover, how can I improve my teaching of TT through adopting place-based learning as a pedagogical strategy? In this chapter, I explain how my ontological and epistemological values influenced my choice of methodology. I discuss my paradigmatic choices, elaborate on the research process, and the ethical measures that I took to ensure trustworthiness and validity. In Table 5.1, I present a summary of what I address in this chapter.

Table 5.1: Overview of research design

Research design and methodology Qualitative self-study practitioner enquiry, guided by a transformative paradigm				
Main Research Question How can I improve my teaching of TT through adopting place-based learning as a pedagogical strategy?				
Practice-based Questions - How can I uphold my values of love, care, respect and equity in my practice? - What guidelines for using PBL in TT can I derive from my learning?				
Research paradigm, Approach and Design Paradigm: Transformative paradigm Design: Qualitative in form of action research Approach of inquiry: Self-study leading to the development of a living theory				
RESEARCH METHODS AND STRATEGIES				
Participant selection:		In a self-study the researcher is the main participant		
Data generation activities		Cycle 1: My learning Cycle 2: Students' learning		
Data generation strategies		Researcher's reflective journal, students' praxis notebooks, video recordings, students' assignments, secondary sources and structured group interviews		
Data documentation		Transcribed video recordings and focus group interviews, photographs and field note reflections		
Data analysis technique		Thematic data analysis; 5S's data analysis approach		
TRUSTWORTHINESS: QUALITY AND VALIDITY CRITERIA				
Critical friends	Validation group	Values as personal standards of judgement	Social validity criteria of Habermas	Outcome validity
ETHICAL CONSIDERATIONS				
Protection of confidentiality through informed consent, coding students' names and adherence to ethical values of respect, beneficence and democratic justice				

5.2 Explaining my paradigmatic assumptions

Creswell (2014) defines a paradigm as a whole system of thinking, embracing certain theories, traditions, approaches and methodologies. Each paradigm has its own specific characteristics supported by its own ontological, epistemological, and methodological assumptions (Creswell, 2014). The research question integral to this study - How can I improve my teaching of TT? - assumes that both my practice and students' learning require improvement. Implied is that at the nucleus of the study is my aspiration to improve my practice in relation to enhancement of essential skills in the learning of TT students. I am making a bold statement that implementing PBL will not only improve the learning of my students, but also my learning.

My values underpin how I present myself and how I perform as a teacher educator. In an endeavour to improve, I evaluated my practice and found it denied values of love, care, respect and equity. I wanted to carry out a study that would inform and transform my practice. Since transformation was at the heart of the study, I adopted a transformative paradigm. A transformative paradigm aims to liberate people who experience discrimination and oppression on whatever basis and address power structures that perpetuate social inequities (Mertens, 2009). For example, adoption of a transformative paradigm would require me to give students opportunity to speak for themselves, and to articulate their opinions and concerns around their experiences of learning as mature adult learners. A transformative paradigm not only questions taken for granted assumptions, it also seeks to uncover situations and processes where interests and power are hidden (Taylor & Medina, 2013). I wanted students to engage fully in their learning so that they become self-directed learners, able to voice their opinions and ideas assertively. The intentions of a transformative paradigm resonated with my research goals, namely to deconstruct and reconstruct my assumptions and ideas about my practice.

The transformative paradigm methodologically assumes that the researcher should take action to improve instances of oppression (Creswell, 2014). It was not just my students that my teaching was oppressing; I had allowed myself to become oppressed by the performative system in which I was working. The practical aim of AR is to improve a situation (Coghlan & Brannick, 2014). Therefore, it means that the

data generated is more likely to be substantial than research done on or about people. I deduced that AR in form of a self-study was likely to positively influence me to change. I also deemed it most relevant to contribute positively to the future of education in present-day Zimbabwe. I accept that a study should aim to address the needs of the community at proletarian levels (Hook, 2004). Being certain of the inequalities that reign in the Zimbabwean education system, I reckon that studies carried out should contribute to the ongoing move for equal opportunity for all.

Zimbabwe has unique challenges. Notwithstanding numerous policy changes after independence, almost forty years in the shift from the colonial style educational systems to systems that promote social equality, the enactment of educational policies presents challenges. Fundamental to this disarray is that within the sphere of educational planning, quality initiatives are imposed on teachers rather than them looking closely and critically at student learning in order to “improve their own courses and programs, and to share insights with other educators who can evaluate and build on their efforts” (Hutchings et al. 2011, p. xix). In order to transform my teaching and the learning of the students, I would need to self-reflect on my own teaching practice and the influence it had on the quality of TT education delivered at my institution. Locating my research and practice within this paradigm enabled me to understand my role as a TT teacher educator and position myself as a researcher.

5.3 Self-study action research

Since this study was an enquiry into my teaching practice, with a specific determination to transform my pedagogies, an inquiry into my own practice was the most suitable design. Action research is value-laden and value-driven (McNiff, 2014). McNiff (2014, p. 73) emphasises that the AR process is not linear, “but emergent and transformational as the learning of one cycle informs the next over time.” The flexibility and adaptability of this form of enquiry attracted me to it. Since this study serves my own interests in relation to my students’ interests, I adopted a first-person research (Bradbury, 2001) or self-study AR (McNiff & Whitehead, 2006) genre and positioned myself as an insider researcher. A self-study is a study by “the self, for the self but with other selves” (LaBoskey, 2004, p. 843). I worked together with my students and critical friend to challenge assumptions, reframe perspectives and

validate data (Samaras & Freese, 2009). Even though self-study as a research genre has not gained momentum in TT teacher education, I recognised its potential to transform my practice through deep self-reflection (Manke, 2007).

Positioning myself at the centre of the research, accounting for my own practice, describing and explaining how to address the question: How do I improve my teaching? (Whitehead, 1989) is the essence of a self-study. By holding myself morally accountable for my practice, I would be able to develop my own living educational theory (McNiff, 2007). Generation of a living theory is an ongoing process worked out through inner dialoguing and reflection in and on action, in conjunction with other stakeholders. For the past 28 years, I have been applying other researchers' theories that they developed in previous times and / or in different contexts to my teaching. This motivated me to engage in an inquiry into my own practices, to generate knowledge relevant to my context. Cochran-Smith and Lytle (1999) position educational practitioners as researchers, advocating that they have the capacity to develop theories from their enquiries into their practices and not only rely on "findings" from distinguished researchers, but engage in inner dialogue with self and others to develop their own theories anchored in practice.

I engaged in two research cycles and in each cycle, I engaged in four phases, which generally characterise AR approaches: plan, act, observe, and reflect. The cyclic nature of AR makes the process dynamic and self-motivating. My learning in the first cycle helped me to decide how to proceed in the second cycle. In Figure 5.1 I illustrate the cyclical approach for this particular study. Of course, the cycles were not done in a linear fashion, as my learning continued throughout. There is overlap but for the purposes of this report, each cycle addresses a different research question.

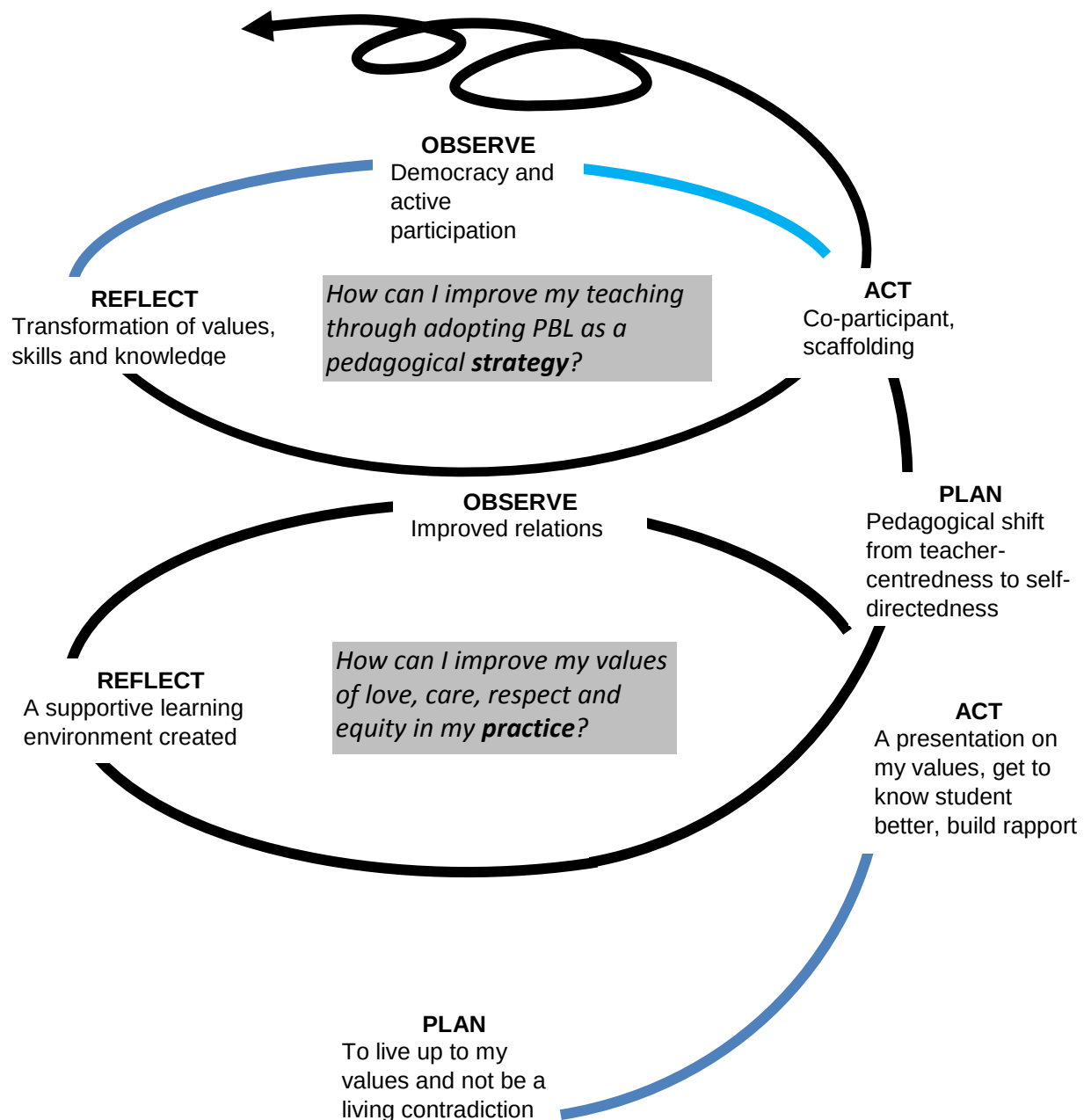


Figure 5.1: The two action research cycles undertaken in this study

Cycle 1: The purpose of this cycle was to help me to develop into an inclusive, democratic, and participatory practitioner through living out my values. I cross-examined my values of love, care, respect, and equity and tried to find ways to live in relation to them in my practice. I chose PBL as my preferred strategy to help me to better live out my educational values. My commitment is to improve my own practice

to make it more in line with social justice values to influence students' learning in Cycle 2.

Cycle 2: The purpose of this cycle was to seek feedback of the influence my evolving pedagogy was having on my students. I developed a series of lessons (see Appendix E) where students went into the community and followed the steps of product design in collaboration with community members to solve extant problems on textile waste. Each phase of relationship building, negotiating a project, implementing the project, reflecting on the project was a mini-cycle of action and reflection. Students kept a record of their work in the praxis notebook. The content, processes and learning were dealt with more comprehensively in this cycle, based on my theoretical framework (transformative learning) discussed in Chapter 3. Using the PBL approach implied that the student activities took place mainly in the community. I identified the nursing, geriatric, and children's homes and hospital within the vicinity of the institution as locational contexts for students to "read the world and see ... opportunities around them" (Freire, 1998a, p. 36). The purpose of this partnership was for students to learn outside the classroom environment how to deal with textile waste with the assumption that students and community members had "things to teach each other, things to learn from each other, and things they will learn together" (Holland & Gelmon, 1998, p. 4) that are not necessarily covered in the curriculum.

5.3.1 Who did I include in my study?

If change in my teaching practices was the output, then students within my sphere of influence needed to be part of this study. In other words, I worked with the students that I taught. For ethical purposes, I had to gain their consent to use their work as evidence of the influence of my teaching on their learning. In Cycle 1, I invited the whole class of twenty-seven female (27) TT students whose learning I was trying to influence (McNiff, 2014) to allow me to use their work as data. Table 5.2 depicts the demographic profile of the twenty-five (25) female students who consented to my request. However, even though anonymity in AR may not be achieved because participants could be easily traceable through the context of the research and the

researcher (Banegas & Villacañas de Castro, 2015), I was compelled by the ethics committee to conceal the real names of the students.

Table 5.2: Demographic profiles of students

Age	Marital Status	Year completed ordinary level
20	Single	2015
21	Single	2016
22	Single	2013
24	Single	2015
24	Married	2012
24	Single	2012
24	Married	2013
25	Married	2011
26	Single	2011
27	Married	2008
30	Single	2005
30	Married	2006
31	Married	2008
31	Married	2005
33	Married	2005
33	Married	2007
35	Married	2000
36	Single	2002
37	Married	1997
37	Married	1998
39	Married	1998
40	Married	1995
40	Married	1994
43	Single	1992
45	Married	1991

From this table it is evident that there was diversity in terms of age (20-45) and length of time between leaving school and starting college. In addition, many of the

students are married, which brings with it various other demands in terms of being a wife, mother, and manager of the family system. Many had part-time jobs to earn a living while trying to meet the demands of the TT subject, which are intense in terms of resources required. This resulted in students falling behind because of the quantity of assignments that the course structure demands.

5.3.2 How did I gather evidence to support my claims to knowledge?

In this section I explain how I “gathered data to show the situation as it developed” (McNiff, 2014, p. 84). In Cycle 1, I generated data by journaling my reflections and video recording my practice. I was doing so in an endeavour to improve my practice to be in line with my ontological values. In Cycle 2, I generated evidence from the students’ work to support my claims to having improved their learning. I attempted to be “methodologically inventive” (Dadds & Hart, 2001, p. 166) by requesting students to record their learning and reflections in a praxis notebook. Choosing a qualitative study also enabled me to generate data from focus group interviews, secondary sources and document analysis. Below I shed light on how I applied these data gathering instruments and their relevance in my study.

5.3.2.1 *Reflective diary/journal*

Since reflection is a significant component of a self-inquiry to know about the self in research and in practice (Hong & Lawrence, 2011), I kept a reflective journal, which became a valuable resource to improve my practice (McNiff, 2007). I opted for a reflective journal because it enhances professional growth (Herbert & Rainford, 2014), critical thinking (Walker, 2003), enables the exploration of emotions (Annick, 2017) and encourages reflection, critique, and self-analysis (Anderson, 2012), which I believe are key to transformation. In this journal, I documented students’ progress from my own perspective, my experiences as they unfolded during the process, my reflections on the good and difficult issues, my feelings of despondency, motivation, and reaction to feedback from my promoters and critical friend. The journal entries were also useful, as I used them to reflect in the college academic board meetings when we discussed teaching and learning processes. The benefit of these board meetings was that they provided insight into how my colleagues were handling peculiar issues in their teaching and this gave me feedback to compare to my

teaching practice. My reflective journal was not just a personal documentation of enriching experiences but an honest account of how my pedagogy was evolving. Despite the positive potential outcomes from using reflective journals, the practice of reflective journal writing may lead to hindsight bias. Being aware of this issue helped me to do rigorous and reliable reflective journal writing that contributed positively to the research process.

To assist me in my thinking when recording my reflections on my practice, the following questions that I adapted from McNiff (2014) guided me as I gathered data:

- What did I do?
- How did it go?
- What do I need to do differently next time?
- What new things did I learn?

To achieve improvement, thoughtful reflection was also an indispensable part of the vibrant engagement (Eaton, 2016) on the part of the students. I encouraged students to reflect by requesting them to use a praxis notebook. This notebook was a working document that students used for reflective exercises in an endeavour to track the development of their on-going intellectual syntheses (Eaton, 2016). Students submitted the praxis notebook weekly on a Friday to give me enough time to reflect on their inputs over the weekend. The praxis notebook served as a means of making students aware of some deeper processes through which they can make meaning in their practice (Msila, 2013). The praxis notebook was of help in triangulating and cross validating data about my improvement in my practice and its educational influence on the students.

5.3.2.2 Recording of my teaching practices

I video recorded a series of lectures using a smart phone to help me to reflect on my teaching. I opted for this information communication technology (ICT) tool because it highlights actions as they take place (McNiff & Whitehead, 2006) and captures change of emotions such as voice, tone, volume, pitch, facial expressions, and body language (Whitehead, 2009b) better than written reflections. The playbacks aid in communicating the meanings of educational practice and educational relationships

that would not be easy to interpret using other means of communication (Whitehead, 2019). This data generation strategy enabled me to reflect on my nonverbal behaviour to show whether I was now living up to my values and providing a supportive learning environment.

Before employing the strategy, I had several discussions with students to assure them that video recordings will mainly focus on me and not them, as I would transcribe myself and only use the recordings to reflect on my teaching.

5.3.2.3 Document analysis of students' assignments and evaluation of artefacts

I requested an independent person who is a colleague in textiles technology to review the students' artefacts (the products they made) and assignments to determine the extent to which students' skills were enhanced as a result of PBL, and if students' performance was an appropriate indicator of learning outcomes for the course. Students' assignments and artefacts were also a source of worthwhile information to measure my improvement against the students' performance. I structured the assignment in such a way that it measured a number of achievements in specific areas such as practical skills proficiency, critical thinking skills, creativity, entrepreneurial capacity, and content creation. I filed the specific assessment criteria I used to judge the work under Appendix G. I felt that this method of collecting data was ideal to evaluate the degree of learning that took place after exposing students to PBL. Data was used for only those students who gave consent.

5.3.2.4 Structured focus group interviews

An independent moderator conducted structured focus group interviews (FGIs) with selected participating students in an effort to enhance validity and reliability of the findings (Malhotra & Birks, 2007). Focus groups are research methods that "involve more than one participant per data collection session" (Wilkinson, 2004, p. 271) and "encourage a range of responses which provide a greater understanding of the attitudes, behaviour, opinions or perceptions of participants on the research issues" (Hennink, 2007, p. 6). Each group of six to eight students at a site formed a focus group to gain different viewpoints and limit varied perspectives that could have led to

bias in data analysis when verifying large amounts of data. Instead of asking each student a question, students were encouraged to interact as peers, probe each other and comment on each other's experiences and points of view (Patton, 2002); this provided results quickly. This reason influenced my choice of FGIs. The focus of these interviews was for students to reflect on their experiences of PBL. The moderator began each interview with a general introduction to make the group aware of the rationale of the interview and ground rules. Thereafter, non-directive questions were asked (see Appendix H). The moderator who is a specialist in music and had not interacted with the students before audio-recorded the proceedings and transcribed them verbatim (see Appendix I). However, even if the moderator had interacted with the students before, I did not anticipate any biases, as the line of inquiry was general in nature.

5.3.2.5 Secondary sources

Engaging in a qualitative study gave me the privilege to use already collected and archived data (Johnson & Christenson, 2014) in the form of personal or official documents. I analysed official documents such as the TT syllabus, Handbook for Quality Assurance in Teacher Colleges, strategic planning documents, circulars and policies from the MHTeI STD. I was motivated to use secondary sources because of their time and cost savings (Mohajan, 2017). Above all, I wanted to have an insight on how my work relates to Ministry regulations to test the validity of my living theory and the gap it would close.

5.4 How did I make sense of the data?

I did not use all the data gathered but selected only key pieces to use as evidence (McNiff, 2014) pertinent to my research questions. In view of the fact that the study is cyclic in nature, generating data and analysing it simultaneously enabled me to move on smoothly to the next cycle. Merriam (2009) cautions that if data is not analysed as it is gathered, the situation could be overwhelming and hence, it was prudent to gather data and analyse it simultaneously. I adopted the most commonly used approach for analysing qualitative data - the thematic data analysis approach - because it was easy, less time-consuming, and flexible (Davis, 2007). I opted for this deductive approach to identify the themes because of the nature of my research

questions that already had a predetermined structure. Data analysis was done to find evidence of improved teaching practices and ultimately make my claim to knowing how to teach TT to develop teachers who are critical thinkers, socially responsive and self-directed.

To find answers to my research questions, I adopted the 5S's data analysis approach as recommended by Brown (1999):

- Scrutinising data through reading - In Cycle 1, I read through my personal journal, video transcriptions, comments from my promoters and critical friend and tried to internalise their relevance concerning what I had done, how I did it, and for what reasons. I adopted a similar approach for Cycle 2 as I read students' praxis notebooks.
- Selecting data - After scrutinising the data, I then screened and categorised it. In Cycle 1, I arranged and categorised all of the data into three key categories (good points, weak points, and suggestions for improvement). In Cycle 2, I also categorised data into three main categories (what was done, how it went and what was learnt). I also considered inductively derived themes. Thus, I searched for units of data from which I could build other themes deemed relevant and not necessarily predetermined.
- Simplifying data - To simplify data, I grouped the coded data into key concepts and then generated informative names for these key ideas. In Cycle 1, I coded key concepts using a red highlighter pen for all data I thought denoted love, a blue pen for caring behaviours, a grey pen for respect and a green pen for equity. Lastly, I labelled each category with a theme denoting improved practices (improved relationships, inclusiveness, democracy and participation). In Cycle 2, I labelled categories into predetermined themes (knowledge, skills, attitudes, and values). I also considered inductively derived themes.
- Sensing data - At this stage, I did data interpretation and drew conclusions that answered my research questions.
- Substantiating data - My critical friend and my promoters, who acted as my validation group, examined my data interpretation, identified discrepancies, and critically commented on my interpretations and understandings.

I searched for modifications in my teaching practices as well as what my students purported to have learnt and how this new learning directed our actions (Punia, 2004). I also looked for data that showed how I was beginning to live up to my values and how they were translating into my educational commitment (Whitehead & McNiff, 2006). My educational commitment was to influence positively the future practice of students to be more inclusive, democratic, and caring. In the following section, I discuss the criteria that I used to ensure validity and accuracy of the study.

5.5 How did I ensure my conclusions were fair, accurate and evidence-based?

Since AR is still relatively uncommon in institutions of higher learning and many educational practitioners doubt its capacity for generating public theory (McNiff, 2014), more so a self-study (Zeichner, 2007), it becomes pertinent to validate my account of learning and claims to new knowledge. I used the following strategies to validate my claims.

5.5.1 Critical friend and validation group

I tested my claims to new knowledge and having improved my teaching practice by making my evidence base available to the scrutiny of my critical friend and validation group. A critical friend in AR is someone who, from the onset, becomes familiar with the aims and objectives of the study and reviews the work with an intention to improve on it (McNiff, 2014). I engaged a critical friend who specialised in community development studies. He read my reflections, draft report, and provided critical feedback in terms of how he perceived my claims to knowledge and of having influenced student learning. A validation group is a “formal gathering” (McNiff, 2014, p. 81) that plays a similar role to that of critical friends to provide feedback on the validity of research claims (McNiff, 2014). My validation group, which consisted of my supervisors and other researchers at conferences where I presented my findings, challenged my assumptions about my new philosophy of practice through dialogues as I advanced with my study. Their input helped to validate my claims.

5.5.2 Values as standards of judgment

I used my stated values as standards by which I judged my educational influence to students' learning. I strived towards communicating and expressing love, care, and respect to my students to demonstrate to them how they could judge their own practice (McNiff & Whitehead, 2006). Reconceptualising my practice enabled me to judge the standard of my teaching practices in terms of my values and generate data and gather evidence to argue that my practices are now in accordance with my values and that I now have new knowledge that I did not have before. McNiff & Whitehead (2009) refer to this as personal validity.

To further persuade my readers, I needed to illustrate how I developed my living theory of a pedagogical praxis. I tested the validity of my claim to new knowledge in the teaching of TT using Habermas's (1987) criteria of social validity. Habermas (1987) explains that the narrative inquiry should be comprehensible, sincere, truthful, and appropriate. I explain more how I used these to validate my claims in Chapter 8.

5.6 How did I ensure ethical standards were upheld?

Engaging in a self-study and being the primary participant did not mean that I could do things my own way. Prior to commencing fieldwork, I applied in writing for permission to conduct the study from the MHTEISTED through the principal of the college who gave me a letter of goodwill (see Appendix A). I obtained written permission from the MHTEISTED (see Appendix B) which I sent to the Research Ethics Committee (REC) at the university where I was enrolled. I asked my subject colleague to act as mediator to explain and distribute consent forms (see Appendix C) to all my students to obtain explicit authorisation to use their assignments as data. Students read, signed, and returned the letters to my colleague who sealed them in an envelope and returned them. I opened the letters in her presence to see which students had consented. All twenty-seven students gave consent. However, towards the end of Cycle 1, two students withdrew from the study but continued with normal participation in coursework. As the study progressed, only my critical reader and my promoters had access to my work.

5.7 Summary of the chapter

This chapter provided a theoretical justification and explanation of AR as methodology. I explained how I intended to transform my practice through engaging in a self-inquiry. I further explained how I gathered evidence to support my claims to knowledge and how I made sense of the data. The chapter also highlights how I ensured my conclusions were fair, accurate and evidence based and how I tested my claims to new knowledge. Moreover, I articulated on procedures I took to ensure how I upheld ethical standards. In the next chapter, I discuss how I learnt to become an inclusive, democratic, and participatory practitioner.

CHAPTER 6

BECOMING AN INCLUSIVE, DEMOCRATIC, AND PARTICIPATORY PRACTITIONER

6.1 Introduction

In preceding chapters, I highlighted the educational experiences that influenced me to examine my own teaching practices. In this chapter, I address how I enacted this through using place-based learning (PBL) as a pedagogical strategy in textiles technology (TT) teacher education. I provide evidence that I am teaching better and more in line with my educational values of creating an inclusive, democratic, and participatory class that is student-centred. Improving my teaching required that I engage in cyclical processes to make informed choices about what I needed to change. I explain how I now understand my teaching practices at a new level and in ways I did not previously value. In the following sections, I recount experiences that informed my emerging living educational theory about how to improve my teaching practice.

I begin my story by expressing that my yearning for change was both compelling and daunting at the same time. It was compelling in the sense that I really felt the need to change. It was daunting in the sense that I was working towards a new professional and personal identity, trying to create a theoretical framework closer to my ontological and epistemological values. As I was trying to introduce this new pedagogy in Cycle 1, I faced two challenges: 1) the need to shift from didactic methods of teaching that had characterised my teaching to date and 2) the apprehensiveness of my students at having to meet the requirements of PBL. I discuss actions that I took in Cycles 1 and 2, as well as the two main themes that emerged during my learning. I give an evaluation of each action and highlight how it led to the next action. To support my discussion and interpretation of the data, I provide excerpts from 1) students' praxis notebooks, 2) written transcripts on the overall processes of the project, 3) transcriptions from video recordings of my lessons, and 4) feedback from my supervisors and critical friend. I also integrate extracts from my reflective diary and substantiate the findings against existing literature. I begin by summarising in tabular form what I needed to adjust and specific actions I took to improve my teaching to improve the learning of the students.

Table 6.1: Pedagogical changes made in Cycles 1 and 2 of the study

My teaching approach in the past	Adaptations in Cycle 1	Adaptations in Cycle 2	Strategies adopted	Values espoused
I did not consider forming relationships with students as critical.	Forming relationships by establishing good rapport with the students (Theme 1, see Section 6.2.1).	I continued to establish good rapport with an emphasis on collaborative work.	Dialoguing (see Section 6.2.2.2)	Love Care Respect Equity
I was living in contradiction to my ontological values of love, care, respect, and equity.	I provided a supportive learning environment (Theme 1, see Section 6.2.1).	I continued to provide a supportive learning environment.	Dialoguing (see Section 6.2.2.2)	
I taught in a didactical manner, transmitting knowledge.	I developed an inclusive, democratic and participatory pedagogy through fostering self-directed learning (Theme 2 see Section 6.2.2).	I realised teams had to be smaller and reduced them to four to improve student engagement.	Collaborative learning (see Section 6.2.2.1)	Love Care Respect Equity
		I introduced more dialogical activities	Dialoguing (see Section 6.2.2.2)	
I did not relate my teaching to the local context.	Using real-life context as a teaching environment (Theme 2 see Section 6.2.2).	I asked students to do a similar task with more focus on reflective practice	Experiential learning (see Sections 6.2.2.3)	Care Respect Equity

6.2 Presentation and discussion of themes

I discuss each theme by explaining the actions that I took and evaluate the success of the actions taken by providing evidence. I relate my actions and successes to the theoretical and conceptual frameworks that guided my study.

6.2.1 Theme 1: Improving my relationship with students

To address my research question, how can I uphold my values of love, care, respect, and equity in my practice, I needed to examine how to reduce the living contradiction I was experiencing. I had to create an inclusive, safe, and democratic space where both my students and I felt trusted and respected. The first step was to improve the relationship with my students by better living out my values. Judson (2016) says that regardless of the syllabus or curriculum and the context, relationships are of substance in education.

However, just when I resolved to do this, students made it clear to me that I did not have an open, inclusive relationship with them. My niece, who was enrolled at the institution where I teach, visited my office to inform me that on her way to college, she heard one of my students tell a friend that she was not planning to attend my lecture that morning because I am “troublesome” with my “soft-spoken voice”. It was hurtful to learn that students regarded me in this negative light. Instead of becoming defensive or angry, I decided to exercise receptive attention (Noddings, 2002) by accepting my limitations and weaknesses and working towards improvement. Palmer (1998) suggests that if we view our students as customers, we will be able to strengthen relations with them by putting their needs first and by holding ourselves accountable to them. Firstly, I needed to become more aware of myself as an educational practitioner, and how I was influencing the learning and engagement of students, and then get to know my students, rather than focusing on subject content from the outset as I used to do. I wrote the following in my journal that night:

25/07/19

How am I presenting myself to students to be deemed an object of scorn? This leaves me with unanswered questions. However, this feedback has come in handy. Literature informs me that the main component of PBL is a complimentary relationship. Therefore, for effective implementation of PBL, I need to diminish my blind spot by establishing reciprocity of trust for students not to feel enslaved in my lessons.

When I next met the class, I plucked up the courage to discuss the issue. I needed to dialogue with students about their experiences in my class and learn about my weaknesses in an emotionally open way (Taylor, 2009a). To begin, I tried to create a safe communicative learning environment by explaining to students that I wanted our relationship to reflect the values of love, care, respect, and equity to enable deeper learning experiences. I mentioned that I had learnt with concern that some of the students were planning not to attend my lessons because of the way I spoke and presented myself to them. I pointed out that I wanted to improve, and I needed their help to do so. I invited them to express their honest impressions of me without fear of ridicule or admonishment. Students felt insecure to express their feelings during this session. However, for me this was a learning curve. I learnt to be open and responsive to criticism. This painful experience prompted me to improve the relationship with my students and create a democratic learning space where they could air their voices.

I desired to establish a relationship in which I would relate to my students as fellow beings who needed to be treated as adults and looked upon as living bodies with feelings, values, and emotions (McNiff & Whitehead, 2006), rather than as children unable to think for themselves. A relationship in which, I would consider my students' needs, enabling them to develop their well-being and gain "epistemological access" (Morrow, 2009, p. 36) to enable academic success. I had realised that learning does not just come by physical access to institutions, but by embracing academic practices that facilitate access to knowledge, enhance learning, and ultimately performance (Boughey & Niven, 2012; Morrow, 2009). Since learning is best attained within an emotionally safe environment, the degree to which every student in my class felt significant and able to make an active contribution in class and air their views freely could be a measure of how I had improved my practice. Below I outline how I attempted to improve my relationship with students over the two cycles of my study.

6.2.1.1 *Forming relationships*

I began Cycle 1 on 12/09/19 with a group of students I had not taught before. This group of students had enrolled at college in January of that year, and so had been

on the course for eight months before I met them. During my first lesson, I shared several aspects of my personal, educational, and teaching experiences. My intention was to develop a cohesive relationship with them that would bind us together to foster an integrated and stable community of inquiry (Mekoa & Busari, 2018). According to Burns et al. (2018), a cohesive group fosters values of democracy, equality, freedom, respect, tolerance, trust and confidence, inter-dependency, dignity, and action.

In narrating my personal and educational biography as well as my teaching experiences to students, I highlighted how I had drifted away from living out my core values of love, care, respect, and equity in my teaching practices because of an educational system that had a prescriptive curriculum and ways of operation. I outlined to students how I loved, cared about, and respected them and how I was going to embody these values through developing a teaching-learning strategy that would enable them to reach their potential and not be “left behind”, an educational principle that ensures equal access to education despite differences and diversities (UNESCO,2015). The cheerful smiles, nodding of heads of students and clapping of hands in this [video clip](#) made me feel accepted as one of the “good” teachers who would make their learning experiences memorable and meaningful. Since a relationship starts with getting to know each other, I asked students to write narratives, articulating their personal needs and educational background. From these, I picked up that some students were re-engaging in learning after years out of formal schooling and that the extra responsibilities they carried as mature adults presented significant barriers to learning.

“After school hours I go to work from 5pm to 8pm so as to raise money for my tuition.” (SND) **12/09/19**

“I submit my assignments after deadlines not because I am lazy but because I spend more time sewing for customers so as to earn an income.” (EML) **12/09/19**

This is where the notion of a humanising pedagogy (see Section 2.3.3) was critical to apply. Freire (1970) argues for a humanising pedagogy that recognises the cognitive capacity of human beings to shape their knowledge and accomplish individual and collective self-actualisation, and thus develop full humaneness. The application of a

humanising pedagogy meant that I should honour students' humanity and build their confidence by helping them deal with obstacles that were a threat to them achieving their goals. Other students had personal challenges that affected their learning.

"I am confused, hurt after being rejected for so many years ... staying with my mum who is a dressmaker and struggling to pay my fees." (VND) **12/09/19**

"The social challenge I have is that of racism; I am not that good in [Isi]Ndebele and I try by all means to speak in IsiNdebele but peers just ignore me instead of helping out." (NMU) **12/09/19**

This reminded me that students are not just numbers, but human beings with complex lives, diverse in terms of their educational, circumstantial, dispositional, and cultural dimensions (Thomas & May, 2010). This exercise helped me to realise that inclusion was an essential resource in the teaching-learning process (Rowe et al., 2010). My understanding of an inclusive practice is teaching to one's best ability by valuing students' diversity and meeting their learning needs to an extent that their orientation to learning changes and they view learning as a liberation from oppressive situations (Knowles et al., 2005). To be inclusive I needed to aim at empowering all students and strive towards proactively making TT education "accessible, relevant and engaging" (Hockings, 2010, p. 5) to all students regardless of their age, prior learning experiences and personal circumstances. I reflected:

13/09/19

Getting to know students better before enacting the curriculum is something that I had never attempted to do in my teaching practices before. I used to become very impatient and emotional when students had not performed to my expectations because I did not know what they were going through. Full knowledge of students' personal lives has given me an opportunity to assess the structural and institutional barriers that restrict them from equally accessing TT education and to put into practice inclusive strategies.

My significant learning began with relationship building which enabled me to be aware of obstacles that hinder educational progress, and the difficult situations students face as adult learners. It brought home to me that poor performance in adult

learning is not always non-application of self in the teaching-learning process. It may also be due to different roles adult learners play in their lives and the lifestyles that they lead. This exercise was effective in improving our teacher-student relationship to the extent that students felt able to share their concerns about the tasks I set. The excerpt below provides a significant example of how students were now able to critically respond to my ideas about PBL and voice their fears about how they would cope with what they saw as extra work.

NMA: “By the way you explained the research we are going to do; it seems it needs time [pause] but the time which is allocated I think it is too short. Why? [pause] Because, because [pause].”

ME: “Other assignments?”

NMA: “E-he - not assignments from other subjects but the construction assignment.”

ME: “Ooh! Clothing construction assignment.”

NMA: “Yes.” **19/09/19**

Instead of becoming annoyed, or trying to appease this student myself, I threw back the student’s concern to the rest of the class members by asking them how they thought more time could be created for PBL. I was astonished by the reaction. Students began to brainstorm ways for creating time for PBL. They even expressed ideas that they knew I would not agree to, such as forfeiting indigenous languages lectures on Wednesday afternoons to do PBL. I had never had such responses before. I learnt that if you create a democratic space for learning, students think for themselves creatively and can solve problems on their own, with my role changing to that of facilitator. That is, I guided students through the process by encouraging critical dialogue, creative thinking and applying appropriate questioning and discussion strategies to meet the desired goals (Goh, 2014). At the end of the discussion, I reiterated I was not dictating anything to them. I only assured students that they need not panic over time issues as I was going to scaffold the learning process to make sure that the time allocated for PBL was well utilised. Reflecting on this experience, I was happy that my teaching was beginning to align more closely with my ontological and educational values. Students could air their concerns and I listened carefully and attentively (respect and care). I only added to the conversation

when it was necessary to do so. This was my first experience of the potential students have for being self-directed, innovative, and creative learners.

Additional evidence of how my relationship with students had improved also emerged in Cycle 1 during a discussion on modalities for collaboration with community members. During the discussion, I positioned myself as a core learner and waited silently, only responding to questions that students posed directly to me. I did this to give students the opportunity to be active participants in PBL decision-making processes. A student asked:

“Ma’am is it okay if we form a group of peers coming from the same location so that we can work on our assignment even after hours?” (NMA) **19/09/19**

Normally, I would just have assigned my students to groups without consulting them. The open space that I created enabled students to see themselves as significant others in the classroom environment who have the same capability as I to decide on the learning processes.

Even though I attempted to establish reciprocity and show love, care, and respect to my students at the initial stages of PBL in Cycle 1, I noticed a good relationship was not enough to ensure they worked diligently. Students did not submit the praxis notebooks on Friday morning as anticipated. I began to despair. This was a moment of tension often found in action research (Whitehead, 2018), related to power relations between researcher and participants. I felt disappointed that students did not submit the work requested and that I was in danger of sliding back into blaming them for a lack of work ethic, but critical reflection on my actions as mediator of learning stopped this from happening. As I reflected on this scenario, I became aware of my own weaknesses. I realised that in my endeavour to improve the teacher-student relationship, I had failed to establish firm guidelines for assignments.

Despite experiencing a dilemma, I did not revert to my authoritarian style of teaching. I continued to dialogue with students informally as we interacted during PBL in their collaboration teams to convince them of the need to reflect on their learning as recorded in their praxis notebooks. This dialogic strategy seemed to work because students began to come to my office to request writing paper and began to submit

their notebooks. However, my significant learning from this experience was that timing was decisive in introducing PBL. From listening to the students, I realised that the failure to submit their work was not so much due to unwillingness, but to the pressure they were experiencing to submit assignments in other subjects. As one student expressed:

“[PBL] should be introduced at the beginning of the course and done throughout as a theory within the college, then in the third term, that is, when the practical should be done going to the community.” (NMU) **19/09/19**

I learnt that it would have been better to introduce PBL as soon as students are enrolled at college before they are overloaded with other tasks. I conducted Cycle 1 during the last term of students' first residential phase. Introducing a novel pedagogy at this time of the year did not align with students' interests and desires because they were already accustomed to classroom-based teaching and assessment strategies in other subjects. Moving out of their comfort zone to communities and meeting people who they did not know was foreign to them and they needed time to adapt to the new approach.

In planning for Cycle 2 with a new group of students, I was aware of the variable of time. I began with relationship building again and tried to help students understand the value of PBL in an engaging way by adding some interactive learning experiences to develop their understanding of the concept and allowing more time for them to develop their thinking and express their opinions in the session (see Section 6.2.2.2). After the session, I also asked students to talk to each other in their teams to establish perceptions of one another since they were new in the institution, and share their feelings about adopting PBL in TT. I did this to establish a base for activities that were to follow. The result was that the students had more interest in their work and more eagerness to learn:

“We all want to learn and are eager to go out and explore PBL. We all have passion and understand one another. I think we will be able to share ideas because we have the same goal; that is to do our work as a team.” (GLU) **30/01/20**

“I’m curious about what they [ADL, QMO and MSE] are ready to help me with in our research, and to help them [with] ideas that I have [for] the research given. They seem to be hard workers, like me. So I want to explore the given task together with them to prove my sixth sense that they are hard workers.” (ASI) **30/01/20**

Mezirow (2007) argues that transformation may be epochal or cumulative; epochal in the sense that there could be a sudden major reorientation in habit of mind, often associated with significant life crises, or the transformation may be a cumulative progressive sequence of insights resulting in changes in a point of view and leading to a transformation in habit of mind. The latter applied to this group of students in Cycle 2. The reorientation in their thinking was most probably because as students started working together, they began to appreciate the power of group work and the benefits of working as a team. The excerpts above indicate that students were becoming curious and interested in PBL and what they could learn. As time went on, students were forthcoming in submitting praxis notebooks and made other efforts to interact with me outside of the classroom, which had never happened before. For example, I would receive WhatsApp messages asking for help and advice:

“Afternoon, Ma’am. I am not sure about the size of my work; is it too short? May I have your advice, Ma’am?” (SNX) **9/02/2020**

“Good evening, Madam. I have a question as to how long my praxis should be. Should I narrate, like, every detail or just indicate new things I learnt? Please help me out.” (BND) **12/02/2020**

I realised that my practices were changing when students found me more approachable and felt comfortable to communicate with me even after hours. I was beginning to embody my values in my practice.

6.2.1.2 *Beginning to live out my values*

When I embarked on this study, I made my values explicit and explained and how I intended living them in my practice. However, I had not thought of how I would transform my values of love, care, respect, and equity into living critical standards of judgement by which I could evaluate my practice. I began exploring and elucidating my own actions more critically but still I could not make a connection between my values and my practice. Until, at the end of Cycle 1, when I visited learning sites and appreciated the work that the students had produced in collaboration with the community members, I reflected:

14/11/19

I now fully understand that my values serve as points of reference in executing my duties and that in the teaching and learning process I shall, at all costs, act as a core-learner; I recognise that my sole responsibility is to provide a supporting environment for students to gain epistemological access no matter what their circumstances are.

Living out my values required me to embrace “unappealing characteristics and behaviours” such as non-compliance in the submission of praxis notebooks with “humour, tranquillity, and curiosity,” as recommended by Redford (2018, p. 1). It also meant that I had to approach the teaching-learning process with a renewed conviction to create a democratic and mutually trusting relationship with students; a relationship where I recognise the needs and preferences of my students, without feeling that I am superior to them or seeing any lack of engagement with learning as an attack on me. I desired to show my students that I cared for them even when they did not agree with my motives. I showed that I loved them by keeping calm and focused when they appeared aggravated, disengaged, or unsettled by tasks assigned or whatever circumstances they were going through as adult learners. I strived for a classroom where “every stranger and every strange utterance is met with welcome” (Palmer, 1993, p. 74). Thus, love, care and respect became my standard of judgement with regard to my teaching. Sincerely speaking, the

endeavour was not easy but as time advanced with more practice and zeal to transform, I found it easier to respect and care unconditionally, encouraged by the positive outcomes. In some instances, I also felt loved, respected, and cared for in turn. This energised me to move forward with my thinking of developing an inclusive, democratic, and participatory praxis.

My effort to implement PBL enabled me to transform the concept of such praxis into lived reality by providing learning support for my mature adult learners, in line with my value of equity. To provide the support, I needed to begin by first paying attention to the lives of students (see Section 6.2.1). This capacitated me to understand students' behaviour during the teaching-learning process. I learnt that students' performance improves if their experience of learning is changed to a more positive one, such as addressing their needs and listening to their ideas.

Taking part in this study helped me to develop my living educational practice as a foundation for the encouragement of social justice through inclusive practices, and by demonstrating equal opportunities with respect to all my students. The principle of social justice, then, is all encompassing and fundamental to my account of my study in that it is foundational and imbued in my ontological commitments to living a life grounded in the values of love, care, respect, and equity. As I am narrating how I dealt with issues of apprehensiveness and pedagogical dilemmas, I discover that I was actually living out these values by engaging students in dialogue and encouraging them to voice their opinions. This experience delineates how I had learnt to embody my ontological values in all encounters. Doing so was an essential condition for judging whether new learning ensued (Whitehead, 2009a).

However, an interesting paradox emerged during Cycle 1, when I now believed that I had laid a foundation to living my values of love, care, respect, equity, and these values were now influencing students' learning. My appreciation of transformation was suddenly blurred by a lack of confidence in students to be able to make proper decisions. My colleague suggested that I rearrange the teams to ensure there were stronger students in each team and I did so without really thinking through the consequences. The advice had come from a colleague who most probably was used to being "in charge" in the classroom, and perhaps did not

understand my need to create a more democratic learning space. I just did not believe sufficiently in the ability of students to organise themselves into productive teams. I needed to learn how to trust myself. Lack of comfort was an indication of the awareness of my ontological commitment to a more socially just practice and a consciousness of something being not quite fair about that action. Two days later, a student approached me to say:

“Ma’am, may I be allowed to remain in the team that I was initially in?” (PMA)

20/09/19

Without probing the student, I simply concurred. Even though I was still a living contradiction (McNiff & Whitehead, 2006), I found solace in that I was now approachable. To illustrate that I cared about the interests of all my students, I then thought of inviting the other two students who moved from their original teams to find out how they felt about this. The students wanted to return to their original teams, and I acquiesced. This act of caring through listening to student requests seemed to influence learning in a positive way (Kim & Schallert, 2011). Students were observed joyfully sharing skills during PBL sessions (see Appendix K). I wondered if students would have been able to do so if they had remained in groups where they were not happy. I created conditions for students to liberate themselves and the outcome was full engagement in their learning task. I learnt that effective implementation of PBL comes through allowing feelings of trust and security to develop. In articulating all this information, I am trying to be candid to circumvent my narrative being labelled a victory narrative (Stronach & MacLure, 1997). I have to be truthful and illustrate how repeatedly my study almost came to zero point. Interestingly, as I narrate this story and deliberate on my practice, I am becoming aware that my sense of dissonance and the subsequent actions I took were strong evidence of the development of my own critical capacities alongside those of my students.

TT is a practical subject that always requires extra resources such as sewing equipment, fabrics and notions. Therefore, I needed to provide room for realisation of equity through the recognition of the ever-diverse needs of students in terms of material resources. Implementing PBL provided a level ground for high quality learning for all students despite their socioeconomic status, as the strategy enabled

them to learn how to use inexpensive, accessible, and locally available resources (Smith & Sobel, 2010). In Cycle 1, promoting the use of locally available resources for learning enabled students to change their dispositions as well as their attitude towards learning. I cite one critical example of a student (EML) who was labelled by my colleagues in other subjects as being irresponsible and sluggish in doing her work and always failing to meet deadlines. In the past, I would have just listened to what my colleagues had said and would have been biased. Understanding students better and the dual roles that they struggle with enabled me to encourage in them a culture of excellence by closing the economical gaps that diverted their attention to learning through encouraging use of locally available resources in the teaching-learning process. This helped EML to improve her disposition and realise her strength. When responding to the question on what the students learnt about themselves, she had this to say.

“I discovered that I do not get tired and I do not mind working all day when I am excited by a project and the results are coming out nicely. I also do not give up easily.” (EML) **14/11/19**

I suppose this student might not have had an opportunity to reach her fullest potential and unlock her talent if she had remained in a learning environment that did not address her financial needs that made her submit assignments late. She had to work extra hours to raise the money required for buying resources for learning. TT is an intensive subject in terms of resources and this ties in well with PBL. Place-based learning encourages utilisation of locally available resources (Smith, 2002) and puts students at the same level of achievement. Therefore, I claim that by creating an equitable space for the teaching-learning process, I am directly accountable for such a change of attitude for the better amongst students. My efforts in catering for diversity and uniqueness by exposing students to the same opportunities during PBL enabled them to develop new meaning perspectives about learning, and the outcome was full engagement (see Figure 7.3). My study confirmed Deringer’s (2016, p. 20) assertion that “place-based education at its best form, decolonises and empowers.” I have begun to realise that at times students disengage because of a learning environment that does not cater to their needs. Beginning to live out my

values was thus the basis of moving towards social justice pedagogy that I discuss next.

6.2.2 Theme 2: Moving towards an inclusive, democratic, and participatory pedagogy for textile technology

One thing I was aware of in developing an inclusive, democratic, and participatory pedagogy was the need to produce validated evidence of my improvement. Technology enabled me to illuminate and communicate the meanings of how my values evolved in my teaching practice. My claim of evolving values is seen in the documented visual digital data. Visual digital data is critical for communicating meanings of embodied values (Whitehead, 2013). Using digital media to record my conversations and interactions with students allowed me to review the interactions as many times as necessary and enabled me to see how my values were emerging (Whitehead, 2018). I had an opportunity to take note of my teaching practice limitations and introduce certain activities in the next presentation as I moved towards an all-encompassing, democratic, and participatory pedagogy where all students felt valued with equal access to learning.

For much of my teaching career, I had been suffering from what Palmer (1993, p. x) calls “the pain of disconnection.” I had consistently but unsuccessfully explored ways of being inclusive, democratic, and engaging students actively in their learning processes, because I had allowed myself to be dominated by a prescriptive curriculum, strict timetables and assessment criteria. Sadly, I did not have the language to express my predicament. In other words, I was experiencing what Mezirow (1991) considered a disorienting dilemma, a phase where I was aware that there is a problem and I needed to do self-examination to see what I needed to transform as well as what I needed to maintain. Palmer (2007, p. xi) asserts that we teach who we are and if we do not know who we are we need to “clarify the inner sources of teaching and learning, ridding us of the toxins that poison our hearts and minds.” Amid increasing critical awareness and from reading more literature from critical and radical pedagogues such as Friere, Dewey and Aristotle, I saw an avenue to transformation.

As has been alluded to in Theme 1 (see Section 6.2.1), I have a diverse class of TT students with different prior learning experiences. In my study, I am particularly advocating for a shift in the teaching of TT education that takes into account students' diversity in terms of social, emotional, economical, psychological, and academic needs. I now feel mandated to centre my teaching practices on inclusion, democracy, and participation, and I uphold that these are the three distinct keys for unlocking and unleashing students' potential. My working definition of an inclusive, democratic, and participatory pedagogy is simple. I view this kind of teaching-learning strategy as one that enhances individuality, social equality, and total student involvement. The application of this definition in my teaching practice, therefore, meant that I needed to have a lucid view of what my teaching practice entailed in order to improve it and become a "transformed" mediator of the teaching-learning process. My understanding of a "transformed" mediator of learning involved scaffolding learning where needed and creating opportunities for students to engage in self-directed learning, resulting in them participating actively in the learning process, being critical and reflective in thinking, being creative and innovative, generating knowledge, reflecting on progress, and becoming competent in the technical skills required in TT. All the while, I needed to reflect continually on my practice. Pedagogical approaches such as collaborative learning, participation, project-based learning, and real-world contexts are thought to be key in stimulating development of these skills (Luna Scott, 2015). In this study, I introduced PBL as to aid in the development of these skills and I begin with how I promoted self-directed learning.

6.2.2.1 Using a collaborative approach to promote self-directed learning

I also see that Dewey (1938) was a passionate enthusiast in what I may refer to as "collaboration" in today's language. I come to this conclusion because Gutek (2014) details that Dewey had a positive regard for people coming together to brainstorm ideas through discussions and decision-making. In collaboration, people make meaning together (Veldman & Kostons, 2019). I was equally convinced that in this praxis, students should work in teams and identified community members as partners for "mutually beneficial exchange of knowledge and resources in a context of partnership and reciprocity" (Driscoll, 2009, p. 6). Self-directed learning is not an

individual effort but a collective undertaking where students work in collaborative groups to assist one another (Johnson & Johnson, 2019). I adopted collaborative learning with the understanding that when students work together on a task that requires problem-solving, their anxiety and stress level is lowered and they exhibit higher academic achievement (Johnson et al., 2014; 2013; 2000).

As soon as students pursuing a primary teacher education course enter college, they plunge directly into heavy workloads of fourteen subjects. In Cycle 1, I noted that students fail to adjust in such a learning environment, and I thought collaborative learning could liberate them and build positive attitudes. In Cycle 1, I encouraged students to work in teams of seven to eight, considering that larger teams provide diversity of ideas (Johnson et al., 2013). However, some students disengaged in the large groups so, in Cycle 2, I encouraged students to work in teams of four. To ensure that students were fully engaged in collaborative learning, I asked them to explain in their praxis notebooks what they had learnt, how they interacted with their team members and what they thought needed improvement. This gave students an opportunity to manage their learning task without direction from me and they began to develop their capacity for self-directed learning (SDL) (Du Toit, 2019). However, in this chapter my focus is on my role as a creator of opportunities that enhance self-directed learning (Lindberg et al., 2017).

My role in fostering self-directed learning skills was simple. I had to guide students as they explored real-world problems (Lindberg et al., 2017). In other words, my responsibility during PBL was that of a facilitator who provided scaffolding during the learning process. Du Toit and Pool (2016) are of the opinion that scaffolding is required to put SDL into practice in any learning programme. I admit that in Cycle 1, I failed to balance the scaffolding process in one of the learning sites. I often visited the site because I thought this group of students needed more help since they started the PBL process later due to a communication breakdown between the coordinator and the community members on the ground. Due to my anxiety, I gave them information, assisted students to identify a problem, and sourced some of the local materials that were required for dyeing, such as tree barks. I further went on to invite a resource person who was a specialist in art and design to demonstrate different ways of tie-dyeing fabrics, not realising that I was constraining students'

potential and negating the philosophy of self-directed learning. The students in this team did not have the same opportunity to become self-directed learners as those in other groups. I came to this conclusion because at the end of the cycle during the reflection stage, when students in other teams were wishing that PBL could continue, two members of this team wanted to withdraw. I respected their decision and appreciated the work they had done so far. My own capacity for critical reflection enabled me to recognise that I had to take responsibility for their lack of development.

Due to this, I was careful in Cycle 2 not to go to the community sites with a planned schedule. However, I was ready to provide some structured guidance in instances where I realised students needed it. I would get to the learning sites and either stand or sit beside my students as they demonstrated what they were doing (see Figure 6.1). Reflecting on this development, I recognised that students' competencies in learning were improving and our relationship was more democratic, evident in the manner in which they related to me, as well as in the way they demonstrated their new learning. This had never happened in a didactic classroom environment.



Figure 6.1: *Listening to students' collaborative discussions*

My responsibility to nurture self-directedness was aided by the collaboration process I initiated in my teaching practices. Scholars such as Verzat et al., (2017), Neck and Corbett (2018) and Du Toit (2019) confirm that collaboration plays a critical role in scaffolding the SDL process. By providing opportunities for students to go out to learn in collaboration with each other and with community members, identifying real-life problems, planning how to implement the project, brainstorming possible solutions, identifying and assembling resources to be used, producing the artefacts, testing and evaluating them, their capacity for self-directed learning was enhanced. After visiting one of the learning sites, I recorded in my diary:

07/11/2019

I am beginning to realise my educational influence. The work I am seeing in communities is amazing without my input. I do not know, however, if I were to get to these sites and prioritise “know this” and “how”, would students be producing such kind of work? It is awesome to have them share knowledge with me in confidence and I see myself as one-in-relation-with-them. The way activities are conducted resonates well with my epistemological values, which buttress my methodology and my pedagogy. I think I can safely claim that I have developed a practice that assimilates propositional and dialectical forms within a living inclusional form of logic as Whitehead and McNiff say. I have now eliminated my doubt, as well as students’ doubts, in the effectiveness of PBL and have confidence in the pedagogical praxis I am developing.

I claim that by providing a more just and inclusive learning space for SDL skills to develop, I created space for students to display their critical thinking and problem-solving skills, innovativeness, and creativity, as well as their capacity to co-generate knowledge and reflective capabilities.

6.2.2.2 Using dialogue to nurture critical thinking and problem-solving skills

One focus of my study was to develop students’ critical thinking and problem-solving skills. To live up to my educational values of democracy, inclusion, and participation, I needed to adopt a strategy that would honour my students as knowledgeable, able to air their views and reflect on them. I regret that for a couple of years I supported

an oppressive model of education by failing to understand aspects that I now see as self-evident. As my pedagogical praxis emerges, I am beginning to understand that a dialogic approach values democracy and students' capacity to think. Freire (1970) disputed that educational practitioners have an arduous time hurdling over the "instilled certainty" (p. 52) that teaching is lecturing, and that knowledge is unilateral. This was also my experience in Cycle 1 when I introduced the concept of PBL.

My aim was to have insight into students' expectations, feelings, and attitudes about PBL as a strategy to use in TT before embarking on it. However, I kept on talking and talking, not realising that I had resorted back to the banking concept of learning (Freire, 2000) which was one of my concerns in the teaching-learning process. This [video clip](#) shows me denying students an opportunity to think for themselves about what PBL entails. My tone and attitude do not exhibit my values of democracy and participation to enable students fully to conceptualise the concept PBL before embarking on it, but rather me wanting to show that I know more by asking questions and responding to them. I believe that at this moment in time I was still in the "semi-transitive" stage (Kitchenham, 2008 p. 7); a stage where I had developed consciousness on some thought and action for change, but I was still making a decision to take that action. I came to a realisation that I still existed as a living contradiction (Whitehead, 2018) trying to hold on to certain educational values, while at the same time denying others. Reconceptualising my new philosophy in teaching practices, I felt discouraged that I did not seem to be able to create space for a democratic and more participatory classroom environment. I wrote in my diary:

17/09/19

I am worried that my teaching practices are still anchored on the idea that I have more knowledge than my students do. I have not done my best in preparation for change. I need to critically reflect on my behaviour, attitudes and values and intentionally make and put into practice plans that would bring about new ways of defining the world and understanding.

My passion to improve learning compelled me to replay the same [video clip](#) to examine closely how I taught the concept. I observed that I was the authority figure in this lesson. I was not promoting dialogical relations and engagement to empower

the students and myself to become critical thinkers. Critical thinking is one of the fundamental skills that enable students to be good communicators and synthesisers of information and can be taught, practised, and mastered (Redecker et al., 2011). In order to promote the development of critical consciousness and thinking, I could have given students an opportunity to explore the definition of PBL and its benefits. I became worried to note my values were rhetoric rather than reality and I was not addressing my concerns. A critical friend who read my write-up on students' conceptualisation of PBL, said in an email:

How are you going to handle the situation you talked about where some students have totally the wrong concept about the place-based learning projects? You talk about students who think it's all about using leftover material from garment construction. Are you going to deal with this at the level of the whole group or in the various project groups or at individual level? How will you identify why this misunderstanding arose so as to improve your lectures going forward with your second group. What led to this misunderstanding? You need to formulate a mechanism to identify the root cause so that it feeds back to your delivery of your lectures. This is part of self-evaluation. (MNC) **20/09/19**

Reflecting on this email, I realised that in the questions raised by my critical friend lay the possibility of improved didactic practice for me. The response from my critical friend enhanced the imagined possibilities for improving the way I introduced the concept PBL to students. I learnt that I needed to incorporate more time for inquiry, critical reflection, and critical thinking. The turning point was to begin "here and now" (McNiff & Whitehead, 2006, p.255) and it happened as I refined and modified my practices (McNiff & Whitehead, 2011) in the way I introduced the concept in Cycle 2.

In this [video clip](#), I give attention to the introduction that I used to introduce PBL. I tested students' freethinking skills by sharing with them a quotation from the KnowledgeWorks Foundation and Institute for the Future (2015), (see Chapter 4, opening quotation). I wanted students to analyse and share what they understood about the author's line of thinking. In the video, one can see that initially students appeared puzzled. Then they engaged in deep thought. After a "wait moment" (critical reflection), the dialogue began. The bottom line of critical thinking is the

ability to participate in dialogue and question one's underlying assumptions (Freire, 1970; Mezirow, 1991). Students ran the discussion, kept the flow going as they paid attention to each other's thoughts, and built on them. My lesson presentations were now democratic, in that I neither forced the students to participate nor did I criticise those students who chose not to partake in the dialogue. I also did not use facial expressions to show which contribution was more powerful than the rest. Students showed interest in following the discussion to understand what this new learning environment was. The dialogic approach had a great influence on students' willingness to engage in PBL in Cycle 2. The students simply made sense of PBL experience through rational discourse (Mezirow, 1994).

The outcome of this lesson motivated me to incorporate more opportunities for dialogue, critical thinking, and reflection. One such lesson was on the stages of the design process. During this lesson, I encouraged dialogue through asking multi-logical questions that students could possibly approach from diverse viewpoints. I cite an example of how the design brief concept was unpacked. I projected a sample of a design brief on the whiteboard (see Figure 6.2) and asked students what they thought was the purpose and the content of a design brief. In the past, I would just have provided them with the answers.

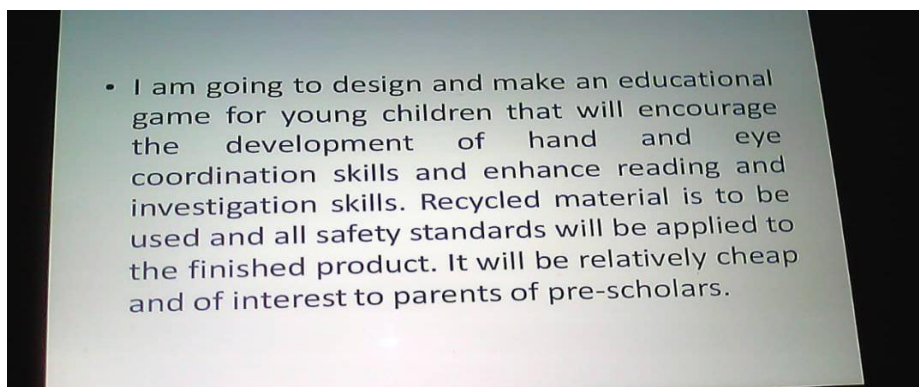


Figure 6.2: Design brief

(Source: V. Ryan @2010 World Association of Technology Teachers)

Now, students had a reference point (a sample of a design brief on the slide) to interact and share ideas on their understanding of a design brief. The adoption of

Mezirow's (1994) instrumental learning domain encouraged students to think collaboratively while I affirmed their views on the whiteboard (see Figure 6.3).

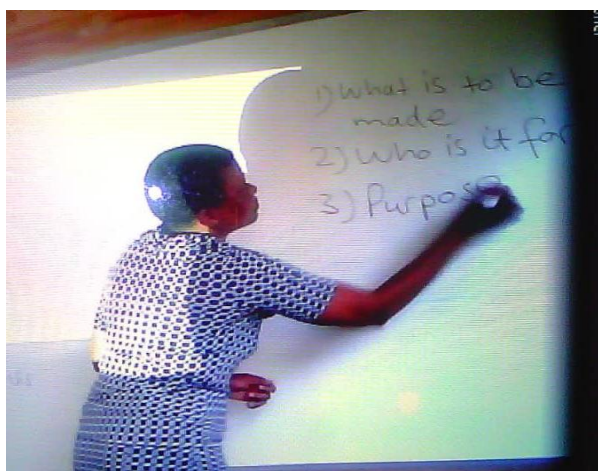


Figure 6.3: *Capturing students' responses on the white board*

I believe my teaching practices took a turn for the better through integration of dialogue to enhance critical thinking. I made sure that I did not dominate the lesson by asking questions and answering them myself. I listened to students' opinions. Even though there was silence for some time, I would suspend my opinions because I had learnt that silence is reflection time. In the course of developing a more dialogical pedagogy and through living out my ontological values of care and respect and recognising the worth and dignity of students as critical thinkers, I try to act towards students in a way that honours their capacity for critical engagement. I no longer impose my ideas on them but listen attentively to what they are saying and guide them accordingly.

Problem-solving utilises many of the skills (observing, analysing, evaluating, and interpreting) needed for critical thinking. However, problem-solving goes a step further to identify a problem and strategically design solutions to solve the problem (Willkomm, 2019). Every stage of the design process accommodated the development of students' problem-solving skills (Yuliati et al., 2018). I saw that successful development of problem-solving skills required effective collaboration (Bosch et al., 2019). Collaboration was core to this pedagogical approach. Students

commended well-established partnerships for creating space for development of problem-solving skills and personal transformation:

“At first I was just confused of what is expected of us in this assignment, but through the members of the group and our community members now I see our purpose and our learning, and I have improved in academic performance and solving problems.” (ASI) **21/11/19**

“Collaboration with community members has inspired and motivated me a lot. We developed a great relationship as we learnt from each other. I just wish this [was] not going to end anytime soon. I wish there could be another project for us to do with [members of the community] This chance has opened my eyes to realise that as a textile designer I can do a lot with materials that I used to think [are] a waste. It has changed my life for the better.” (PSI) **21/11/19**

Working in collaboration with the community members to identify a problem then suggest and work on the solutions up to completion afforded students opportunities to solve problems and generate knowledge for themselves.

6.2.2.3 Using the experiential learning approach for deeper learning outcomes

The primary aim of a pedagogical praxis is experience (Arnold & Mundy, 2020) hence; my pedagogy relied profoundly on relating theory and practice. In my old teaching philosophy, neoliberalism greatly influenced the enacted curriculum. I have become conscious that neoliberal approaches displace the more critical, praxis-oriented views of pedagogical practice (Giroux, 2010; Hartman & Darab, 2012; Walker, 2003). In my evolving pedagogy, I felt enchanted by Dewey’s beliefs about experience and interaction with the environment in the learning process. I feel the same as Carver and Enfield (2006, p. 55) that John Dewey’s philosophy in the 21st century is “alive and well, in practice” and affecting the lives of students the world over. Dewey was convinced that education and the experience of living are not set apart. For Dewey (1897, p. 1) education is “a process of living and not a preparation for future living.” I have known for a long time in my teaching practices that deeper learning experiences best occur through real life situations rather than the chalk and talk method. The daunting thing in the past has been to design a learning

programme that results in a meaningful experience. Place-based learning provided me with an image of what learning through real life experience is.

Learning through real life experience is learning designed to connect what students are to learn in their intended curriculum to real-world issues. The learning experiences should reflect the complexities and ambiguities of real life (Tao, 2013). In a real life-learning situation, educational theorists (e.g., Dewey, 1938; Kolb, 1984; Schön, 1983) assert that reflective observation is essential to transform students' experiences. Therefore, reflection turned out to be the first core issue I had to work on in the PBL engagement process. I realised that by providing opportunities for reflection on action (praxis), students developed an intellectual relationship to their actions and became more skilled in assessing their own work.

Therefore, I needed to design a learning task with an open question that required a developed answer from team members; a task that would enable reciprocal interaction or constructive discourse, exploration and inquiry and a task in which reflection and problem-solving became core (see Appendix D). Reflection happens "after" an experience (Eaton, 2016; Smith & Trede, 2013). However, since in this study one of my intentions was to develop capacity for reflection, we needed to reflect both on and in action (Schon, 1985) rather than just reflection-on-action, as recommended by Ajani-Makam (2013). I required students to reflect on their plans before they went into the community, during community engagement (see Figure 6.4) as well as after the engagement to broaden their vision and explore any feelings of disjunction immediately.



Figure 6.4: *Students reflecting in-action during place-based learning*

As reflection was not a skill that most students had acquired, I gave them a set of questions (see Appendix F) to guide their thinking. Every week I asked the same set of questions that required students to plan, act on their plans, observe and reflect on the actions. As PBL activities progressed, I encouraged students to write in their praxis notebook as much as they could about their learning to integrate new and previous experiences, to attain their own individual knowledge that transformed them ahead of their present understanding. When I asked students to reflect on the use of a praxis notebook as a reflective journal in their learning process in Cycle 2, one noted:

“Reflecting on my praxis notebook has helped, largely because as I was writing I was able to realise my strengths and weaknesses. I realised that at first I used to doubt my capabilities and lacked confidence in myself but by writing and reflecting I managed to turn my weaknesses into strengths and I was able to realise how much I had improved ... every time I was writing on my praxis, I was inspired and motivated.” (PSI) **18/03/21**

Facilitating a real life-learning context and enhancing reflective capacity among students led to effective development of knowledge, competencies, and values that the present and future labour market will require (Benito & Singhal, 2019). Exposing students to a real-life situation enabled them to recognise that all knowledge is contextual. They learnt to take increased responsibility to develop their own processes to work with others, rather than relying on my instruction. The students' ability to incorporate knowledge construction processes made me recognise their worth and dignity as uniquely creative thinkers and reinforced my intent to perform my duties in a way that honours their imagination and potential for critical engagement. I no longer enforce my ideas on what is to be done and how but provide scaffolding where necessary. I now have faith in my own capacity to create an environment that promotes knowledge production by students. I had to de-role from being an "expert" in the subject to a "core-learner". In the following section, I summarise my learning in becoming an inclusive, democratic, and participatory practitioner over the two cycles.

6.3 Reflections on my own learning and professional development from the two cycles

Deep reflection on the use of place-based learning in TT has enabled me to understand my practice at a deeper level. Reflecting on discussions in this chapter, I can see that indeed there has been some perspective transformation in my teaching practices. In order to enable my students to engage in dialogue, think critically and autonomously, foremost I had to learn to be more influential myself. Accepting my influence on student learning meant that, as I engaged in this self-inquiry to improve my teaching practice, I steadily became less apprehensive to document my living theory. I became more critically aware of the discourses that constituted my values, and that have formed my personal and professional identity. In trying to understand some of the many intricacies of the assumed perceptions about knowledge and understanding in teaching and learning contexts, I consider that I have come to a richer understanding of why I teach the way I do. I now recognise the significance of my evolving pedagogy through what I have learnt.

My significant learning in becoming an inclusive, democratic, and participatory practitioner was that a good teacher-student relationship is the key that unlocks democracy. There is need for the facilitator to understand the student and the student to understand the facilitator. As the facilitator, it becomes obligatory to understand my students as my “clienteles” by putting their needs first. Students also needed to understand that I am seeking to build my capacity to facilitate in them more meaningful, relevant, and self-directed learning opportunities, all the while improving my practice. This understanding becomes good progress in the teaching-learning process.

I had always seen myself as a hard worker and a long-life learner, having worked hard to attain my goals. My commitment to hard work has its origin from my mother who would encourage me to work hard in all facets of life and who was very hard on me. Eventually, I became convinced that attaining one’s goal is all about working hard and has nothing to do with other people’s influence. I have now shifted from the ideology of hard work alone being sufficient, towards embracing love, care and respect rendered by others to unleash my potential. I have come to a realisation that the teaching-learning process in a broader sense is pivotal to cultivating a caring society (Noddings, 2002). Merely introducing new education reforms and reviewing the TT curriculum now and then does not really help to improve students’ educational experience, as there are many contributory factors for deeper learning experiences to occur (Noddings, 2002). Education as viewed by Noddings (p. 282) is “a constellation of encounters, both planned and unplanned, that promote growth through the acquisition of knowledge, skills, understanding and appreciation.” I have seen in this study some of these pivotal encounters as I upheld values of love, care, respect, inclusiveness, and democracy in the teaching-learning process.

The study has revealed to me that “locking” students in the classroom would never provide them with an open space required to develop creativity and other essential skills and competencies required in the 21st century. Students need to engage in a variety of real-life learning situations where they can decide on their own what action to take for a specific learning task (Van Zyl & Mentz, 2015). No matter how loving and caring I am and how inclusive and democratic the environment is, skills development best occurs in a real-life context. I have learned that the best way to

hear the students' voices and see their competencies in a design-oriented discipline like TT is to give them real-world problem-solving tasks in collaborative teams. My experiences in this study have made me realise that students know substantially more than imagined and occasionally they have better possible solutions than I could have thought of. I must point out that indeed, I became a core learner in the teaching-learning process as I learnt more from the students. By denying students an open space and voice, I had suppressed my personal and professional growth in the field of TT.

My other significant learning was that in an education system where traditional didactic pedagogies dominate, it becomes a challenge to implement a novel pedagogy. Students take time to understand that the teacher is there to make learning happen and not to pour out information. This, necessitated that I be patient with students who had to understand first the difference between directing their own learning and being directed in the teaching-learning process. As I planned for this study, I could envision such challenges. Students become so accustomed to being mere recipients of knowledge to the extent that if you ask them to take responsibility for their own learning, they feel threatened and uncomfortable. Students need to understand that for greater learning, they need to do it themselves.

Aforementioned was my experience as I transformed from traditional didactics to an inclusive and participatory model. I saw my practice developing and getting closer to my educational commitments. I thus began to engage with my students in a way that acknowledged them as participants (Wenger, 1998). I can now perceive that when introducing the concept of PBL in Cycle 1, I failed to acknowledge that my students were "beings" and ask thought-provoking questions. My initiative to change this approach in Cycle 2, gave students space to think and reflect. The outcome was the enhancement of critical thinking and reflective skills (see Chapter 7). My deep learning from this exercise was that as students think deeply, I also critically reflect with them for better understanding of my intentions. The significance of this pedagogical praxis is that by creating space for collaboration, I trust that I formed successful learning experiences within a loving, caring, respectful, and socially just praxis.

6.4 Chapter summary

This chapter addresses how I improved my practice through using place-based learning as a pedagogical strategy and integrating other approaches such as dialoguing, experiential and collaborative learning in my teaching practices. I have provided evidence from my reflective journals and video recordings to convince the reader that I am now teaching better, and more in line with my values of having a democratic, inclusive, and participatory class that is learner centred. In the following chapter, I will focus on the learning of students as evidence to support my claims that PBL was an effective strategy to increase student learning.

CHAPTER 7

MY EDUCATIONAL INFLUENCE ON THE LEARNING OF TEXTILE TECHNOLOGY STUDENTS

7.1 Introduction

My line of reasoning throughout this study is that the use of place-based learning (PBL) in the teaching of textiles technology (TT) transforms students' learning experiences and contributes to development of technical and essential skills and knowledge required in the 21st century (cf. 2.5). In this chapter, I explain how my improved teaching practices articulated on in the previous chapter influenced students' learning. I show how the relational space (Maddux, 2013) I created exposed students to a trusting environment where inclusiveness, respect and democracy underpinned the learning process. I explain student learning (see Table 7.1) and provide evidence of changes in students' thinking, knowledge, skills development, and attitudes towards learning as reported by students in their praxis notebooks, learning portfolios and during focus group interviews (FGIs).

Table 7.1: Anticipated learning and outcomes during the implementation of PBL in TT

Anticipated learning	PBL strategies	Transformation in learning in TT
Theme 1: Transformation of students' skills (see Section 7.2)	Dialogic thinking Experiential learning Collaborative learning	Development of technical skills in TT (see Section 7.2.1) Development of 21st century skills (see Section 7.2.2)
Theme 2: Transformation of students' pedagogical content knowledge (see Section 7.3)	Experiential learning Problem-based learning Collaborative learning	Knowledge creation (see Section 7.3.1) Knowledge transfer (see Section 7.3.2)
Theme 3: Transformation of students' attitudes and values (see Section 7.4)	Collaborative learning Experiential learning	Developing ethics of care (see Section 7.4.1) Respect for diversity (see Section 7.4.2)
Theme 4: Transformation of students' mindset on pedagogy to adopt in TT (see Section 7.5)	Collaborative learning Experiential learning	Openness to adopting place-based learning as a teaching strategy in future practice (see Section 7.5.1) Students' perceptions regarding potential barriers to adopting place-based learning as a teaching strategy (see Section 7.5.2)

7.2 Theme 1: Transformation of students' skills

The new educational reform effort in institutions of higher learning in Zimbabwe (Education 5.0) envisions students developing a minimum body of knowledge and skills to enable them to produce goods and services for an upper middle economy by 2030. Technical skills to equip students with the capacity to produce products or artefacts are therefore stressed within the curriculum. Other skills complementary to

technical skills and recognised as contributing to holistic development and lifelong learning are referred to as 21st century skills. Twenty-first century skills (see Section 2.5) equip students with readiness to adapt to challenging and changing learning and working environments (Chu et al., 2017). In the following subsections, I explain how PBL stimulated the advancement of these two sets of skills, beginning with technical skills.

7.2.1 Students developed technical skills for TT

Textiles technology aims to equip students with skills in pattern designing, adaptation and construction of clothing and other textile-based household articles, using a range of information communication technologies (ICTs) and any other forms of emerging technologies and software (see Textiles Technology Main Subject Syllabus, p.1, Appendix J). The intention is to ensure that students acquire skills needed to promote sustainable development and lifelong learning (UNESCO, 2015) and to impart the same skills to their future learners. As has been alluded to, students in Cycle 2 had just enrolled at college and had not learned any clothing and household construction techniques before the PBL experience. In the past I would have applied a practice strategy or technical approach (Lahti, 2012) where students learn pattern drafting and clothing construction skills and techniques through watching step-by-step demonstrations and by practising the skill on a piece of fabric before applying it to the actual project. Such systematic procedures were stifling students' own inquiry and distorting what clothing construction is all about consequently impeding student learning (Lahti, 2012). In my new approach using PBL, I guided students to shift from passive mode (watching and doing) to a design mode (exploration and inquiry) by giving a learning task that required them to solve extant problems about sustainable consumption of textiles in collaboration with identified community members. The process of exploration and inquiry facilitated self-directed learning and by the end of the limited period (ten weeks), students produced work that included evidence of a combination of several technical skills (see Table 7.2). Students now only took ten weeks to learn and produce articles that would have taken much longer using a traditional didactic approach to teaching TT.

Table 7.2: Skills learned using a 10-week PBL approach

Section of the syllabus (see Appendix J)	Topic
4.7.2	Pattern drafting
4.8.2	Construction processes
4.10 4.10.2	Fabric coloration Dyeing
4.11 4.11.2	Sustainability Issues in textiles Textile re-purposing / recycling
4.15 4.15.1 4.15.2	Fashion design Design process Design brief and considerations

The work that students produced showed that there was some improvement in manipulative skills, compared to teaching the skills using a systematic method of demonstration. It is my belief that since students worked on these skills on their own as well as in collaboration with other students and knowledgeable community members; they developed their own knowledge of how to use the processes for future application. I observed that when students were applying the new skills that they learnt in the making of the products, they appeared animated and excited to take part in this work, as compared to my previous years' students who received only instructional input that they followed without question, or indeed much enthusiasm. The students who were part of this study showed a willingness to continue working on their projects for a much longer period than in previous years:

“Working in [the community] has inspired and motivated me a lot ... I just wish this were not going to end anytime soon ... and I wish we could have another project to do with the [community members].” (SPA) **05/03/20**

Learning is a complex activity that involves interchange of students' motivation, physical facilities, teaching resources, and skills of teaching and curriculum demands (Lyons, 2012). Accessibility of equipment and proper laboratories in well-resourced

communities (see Figure 7.1) enabled students to develop competencies in technical skills that they had initially dreaded, such as the use of an industrial sewing machine.



Figure 7.1: *Students working in a community setting*

Memories of achievements around this well-resourced site of learning promoted a sense of place within students. Sense of place in PBL is the emotional attachment to the learning site that students develop. Developing a sense of place enabled students to apply the skills learnt appropriate to the task given (Demarest, 2015). Students expressed their feelings about how they worked:

“I enjoyed working at [the community] and I wish we could continue learning there again next term. We had all the equipment that we needed. At first it was scary to use an industrial sewing machine, but eventually I learnt to use it and could also teach my colleagues who had not yet mastered the skill.” (STS) **05/03/20**

From the above excerpt, developing a sense of place implies love for the place, and acting responsibly towards others (Haas & Nachtigal, 1998). Suffice to say that connecting to places also connects students with a loving dynamic energy (Walton, 2008) which is often lacking in an educational context as observed by Whitehead (2008b). As students engaged in collaborative work, they learnt to strengthen one another to make sure that each one of them mastered the learning outcomes. In

Cycle 1, a student mentioned how she was intrinsically motivated to learn how to knit by her team members:

“The strategy itself [PBL] is self-motivating and a good strategy to use for mastering skills. When I began PBL, I was a bit slow and a bit strained. My team members had [big] hearts ... they did not give up on me until I mastered the skill of knitting to their same level. This made me feel accepted.” (NCH) **21/11/19**

The student’s trust in her team enabled her to reach the required level. The climate of inclusion, democracy, and respect for diversity within the group thus encouraged everyone to participate and learn. One underlying principle in inclusive education that students need to consider as future teachers is to ensure that they provide an environment that supports all learners to develop at their own pace and to their own potential (Rowe et al., 2010). The experience of these students in doing PBL would therefore stand them in good stead to make their future classrooms inclusive and student-centred.

Interaction with community members during the collaboration process was also beneficial for students in gaining skills in pattern drafting. I have always found pattern drafting to be a complicated skill to teach since it requires a high degree of pedagogical content knowledge. Community members who taught students a simplified way to draft patterns directly onto the fabric, which students found to be much easier to master, took over this task to some extent. The simplified version inspired students:

“The fine old ladies can just draw a pattern on the material and cut without making a pattern, and this inspired me to cut the panda shaped peg bag without first drafting it on pattern.” (MBW) **27/02/20**

However, even though students learnt to draft patterns more quickly and appeared to have gained confidence in this quicker method, they could have learnt the skill of pattern drafting better if traditional techniques were followed. Pattern drafting as a skill related to creativity and critical thinking requires development through specific guidelines to provide scaffolding for students’ learning (Azman et al., 2017). Pattern drafting also requires that students use an exploratory ideation process (Morris,

2016). The ideation or idea generation process is the second stage in the design process (see Section 4.2.2.3). During this activity, students participated in a group brainstorming activity to develop possible solutions to identified textile waste problems. In their collaborative teams, students brainstormed possible solutions and created a poster of ideas to show their critical thinking skills. Students arrived at pattern drafting after having explored the ideation process.

Design skills also play a central role in TT and pedagogical content knowledge is required to teach them. I admit that in my previous approach to teaching I left acquisition of such skills to chance. PBL enabled me to introduce students to a simplified complete process design: problem identification, generation of ideas, specifications, patent search, design brief, and generation of possible solutions, selecting and justification of the selected solution, designing, producing, testing and evaluation (Frederik et al., 2010). Students familiarised themselves with the different stages of the design process in their collaborative teams and used this procedural knowledge to identify solutions to the stated problem. This approach was motivating, challenging and gave students an idea of the work and skills required that “real” designers utilise to come up with new products.

There was also evidence that students not only gained more technical skills through interaction with community members, but that community members also learned from the students, as indicated below:

“What I can say concerning [the] skills is [personally] to [tell] the truth [I did not know how]. Maybe you will laugh at me, [please don’t laugh at me that I did not know how [a] pillow [is sewn] folding one side over the other. I’m happy because the [community member] is the one who taught us that with the help of [a peer]. So, I am happy now that I can even sew my pillows instead of going to the store to buy them. What I am happy about [as well] is that when I was talking to [the community member], she said she did not have any knowledge of how to use an electric sewing machine, but she was happy ‘cause [when she came here] they [helped] her, [peers] [and] she was able to sew. Even [another community member] was saying, ‘Ah! [We didn’t know that you were bringing such good things to us.]’

Therefore, I am happy [that] even the community realised the importance of [the] programme [that we had brought them.] (FGI, Participant 2) **21/11/19**

Students were now able to share technical skills with community members, without instructions from me as a source of authority. In other words, they were already fulfilling the role of teacher, and PBL enabled them to experience first-hand an authentic teaching environment. This practice by students aligns with the paradigm of learning in the 21st century that views knowledge and skills acquisition as the outcome of a student's activity rather than demonstration by the teacher (Brinkmann, 2015).

Another focus of skills development in TT, particularly when working with textile waste to upgrade the appearance and quality of the product, is good workmanship (Žurga, et.al., 2015). In Cycle 1, students appeared to have initially disregarded the aspect of good workmanship as they applied most of the processes without taking into consideration the specified measurements and working procedures. The work of these students indicated signs of originality, innovativeness and creativity, but looking closer at the articles I noted the workmanship was not up to standard and did not meet the required design elements and principles. However, engaging in collaborative learning enabled students to realise the importance of upholding quality standards and that the failure to include it as a criterion in the product development process would be a major weakness:

“My weakness was poor workmanship but I improved through seeing others doing it and getting help from community members.” (STS) **10/10/19**

Developing good workmanship was a critical technical skill for students to master, as failure to do so would render them obsolete in the near future. They operate in a global village that places a high value on competitive advantage in terms of production and producing marketable goods.

Place-based learning helped students to understand skills acquisition from a different perspective. The opportunity to plan and implement the project showed students that they have more skills than they thought and sometimes have better solutions to deal with problems. This understanding enabled them to arrive at a “transformative

insight” (Mezirow, 2000, p. 20). My assessment was that students implemented their technical skills to create better designs than those I could have suggested or thought of, and I learnt from the students in the improvement process. Next, I articulate the 21st century skills students developed during PBL.

7.2.2 Students developed skills for the 21st century

Education practitioners describe the 21st century learning environment as complex and requiring individuals to master inclusive competencies (Vockley, 2007). Students need to develop competences such as the ability to take ownership of their learning (Van Zyl & Mentz, 2019), higher order thinking skills such as problem-solving and critical thinking, be able to adopt different perspectives (Okoro & Chukwudi, 2011) and collaborate respectfully in different types of social forums (Lackéus, 2016). It is against this background that learning in TT has to be strengthened for students to acquire these skills and reaffirm the vision of “learning throughout life” (Vargas, 2017, p. 3). These skills will also contribute to preparing TT students for implementing them in their own classrooms.

I am convinced that engaging in an inclusive, democratic, and participatory method of teaching such as PBL stimulates the growth of skills essential for success in the 21st century. However, in Cycle 1, the dilemma for the students was moving from a system that required them to absorb uncritically information, content, skills, facts, and concepts all within a short period. When I asked students what they regarded as their weaknesses in project planning and implementation, one student said:

“At first my weakness was that it was hard for me to think critically. Within a short period of time I was in line and I even gave more ideas.” (SSI) **14/11/19**

During PBL, students learnt, practised, and mastered critical thinking (Redecker et al., 2011). Fundamental to critical thinking is openness to different perspectives and the ability to critique one’s own thinking (Mentz & Bailey, 2019). Collaborating with community members developed students’ ability to acknowledge, consider and appreciate other peoples’ opinions (Lackéus, 2016). The students considered the development of this capability as strength:

“I learnt that it is strength to come to terms with others and accepting their opinions. I did appreciate that all that I say can [not] be right.” (BBA) **14/11/19**
“I learnt that it is good to listen to each other’s opinions and respect their views.” (RCH) **14/11/19**

I offer this as evidence that students learnt to dialogue, not just to defend their own ideas, but also to question them to determine what is relevant and what is not. This skill set is also valuable for developing entrepreneurship. Mezirow (2000) refers to such kind of thinking as “trying on different points of view” (p. 20), while Paul (1990) calls it fair-minded critical thinking. It would appear students were now clear on the importance of respecting all views and allowing each other’s voice to be heard, even those voices they did not agree with. Such findings resonate well with my values of respect and my intentions of developing a democratic, inclusive, and participatory practice. In Chapter 6, I provided evidence that I am now living out the value of respect, and the evidence I provide here indicates that students are showing the development of a similar value as they respect each other’s ideas. A dialogic approach not only increased students’ capacity to think critically and respect each other’s views, but students were also inspired to use critical thinking skills to solve problems creatively: an important outcome for learning according to the policy of Education 5.0.

The words “creativity and innovativeness” appear with increasing frequency in discussions about learning in the 21st century. The excerpt below shows that students’ mindset changed from that of a narrow focus on work-specific skills, towards a broader perception of innovation and creativity:

“In PBL there is room for gaining knowledge, creativity, [and] innovation ... through interacting with others. It was a [revelation]. I learnt that things I regarded as useless in life can actually create employment and help in having an average and normal life.” (CMU) **14/11/19**

I cannot claim that I taught students creativity. I just created space for a community of inquiry and the outcome was considerable originality and creativity. Students

arrived at what it means to be creative and original by engaging in collaborative learning with community members (see Figure 7.2).



Figure 7.2: *A community member demonstrating to students how to use recycled wool to design a wall hanging*

The images of students constructing articles with recycled materials in Appendix K confirm students' capacity for imagination and originality. To begin with, students admitted to having reservations about how learning would unfold in the community and rightfully so, because developing reciprocity with people that we think have nothing to share in the teaching-learning process is difficult (Sleeter, 2015). One student, however, made the following remarks in her praxis notebook:

"When we left college I was a bit scared because I did not know how well we were going to be welcomed and learn there ... only to be received with welcoming remarks. I was overwhelmed with their mission statement that they build families for children to shape their future in order to develop the community, this linked with what we were up to in the community. I was also inspired by that the ladies out there are very creative and think out of the box." (DMU) 06/02/20

Feeling accepted in the learning environment becomes a necessary antecedent to successful learning experiences (Slaten et al., 2016) and results in students gaining confidence in their own abilities.

Entrepreneurial thinking is another essential skill that has gained currency, specificity in the 21st century (Nieswandt, 2017). The MHEISTED has remodelled the curriculum to support the development of entrepreneurship and innovation, using locally available resources (Murwira, 2018). I am convinced that implementation of PBL in TT was an initiative towards achieving these goals. When I asked students what they learnt during project evaluation in Cycle 1, they had this to say:

“I learnt how to make doorstoppers which I didn’t know [how to make before], and I have more customers who want doorstoppers. So I am now an entrepreneur in doorstoppers.” (NMA) **21/11/19**

“I learnt the skill of dyeing using natural dyes. I will use it again in garment making to be an entrepreneur and make different designs of soft furnishings and apparel for resale.” (NNY) **21/11/19**

This kind of learning suggests that PBL is an effective pedagogy for developing skills that students could utilise to create income-generating projects. This learning is thus relevant to the lives of the students who are struggling financially (see Section 6.2.1.1) to meet the cost of their own education, as well as that of their children. In traditional didactic pedagogies, I used to teach entrepreneurship from a theoretical perspective, rather than providing opportunity for students to create useful objects for sale. In PBL, students learnt to “think outside the box” (an essential skill in entrepreneurship) and attributed the inspiration to the mutual support, team spirit and empathy that prevailed in their collaborations with each other and community members. They learnt to persevere and trust the process. They also learnt the importance of creating a caring climate for learning, as the community members patiently encouraged students to persist:

“The group seemed to be weary and we did not have that motivational spirit. The plaited strips seemed untidy and this lowered the group’s spirit to continue, fortunately for us the lady from [the community] discouraged us from abandoning our project. She advised that it will come out nice and shape up as soon as we attach and join the strip.” (EML) **31/10/19**

“Those ladies are talented in creating unique designs and very mature and organised such that they revived us when we thought that our project was not

coming out nicely, able to work with students even if they are not understanding. They take their time they are caring.” (FWK) **31/10/19**

Another critical skill required for high performance in the 21st century and in collaborative learning is communication (Johnson & Johnson, 2019; 2015; Nieswandt, 2017). During PBL, students had an opportunity to react and connect with the feedback given by team members, thereby developing improved communication skills:

“In the past, in times of arguments or decision-making, I was not the type of person who could stand and support herself, so I found out that most of the times my comments were not really taken seriously. I learnt to argue and had a good experience and a good story at the end of the day to share with others.” (DGU) **23/03/20**

In my previous teaching, I overburdened students with content and technical skills acquisition, as I believed these were of utmost importance. I rarely taught 21st century skills practically, not realising that they contribute to academic performance as well as the preparation of these students for their future careers.

7.3 Theme 2: Transformation of students' pedagogical content knowledge

Students must develop profound knowledge of the subject content to be able to “impart alternative explanations of the same concepts or principles” (Shulman, 1986, p. 9) in their future practice. In TT, a strong foundation in the four dimensions of the TT syllabus would enable the future teachers to use this knowledge flexibly. These four dimensions are: (i) fibres and fabrics (ii) pattern making and garment construction processes (iii) fashion trends and care of clothes, and (iv) contemporary issues such as sustainability issues and entrepreneurship (Appendix J). That is, students will have to be able to employ in their future practice learning approaches that cater for diverse learners found in today's complex society and economy (Bestor, 2008).

7.3.1 Students learnt to create knowledge

In this study, students were required to develop knowledge through exploring sustainability issues in textiles, particularly repurposing pre-consumer or post-consumer textile waste into a usable product. Understanding of this subject matter was at a deeper level than in previous years, as evidenced by students' ability to weave in some of the 21st century interdisciplinary themes (business and entrepreneurial issues, health, environmental, financial, and economical) into the TT subject matter. Educational theorists highly recommend integration of interdisciplinary themes to enable students to be prepared for the life and working environment of the 21st century (Partnership for 21st Century Skills, 2007a). Students learnt to deal with textile waste and dispose of it in an environmentally friendly way. They learnt that practices such as burning and sending the waste to the landfills, are unethical:

"Knowledge on dealing with textile waste was added and as an individual I became aware of how to recycle textile waste to a new useful article to avoid environmental degradation." (PMU) **21/11/19**

"We can say that as a group we learnt a lot. We used to throw away textile waste and we cared less about what happened to those. But ever since we started place-based learning on upcycling of textile waste we are equipped with knowledge on how to protect our environment and at the same time make money. We are grateful to have been given an opportunity to go out and learn. Sometimes if you are told how bad or serious something is, it is hard to understand or believe but when you come face-to-face with it, it is easy to understand and maybe come up with solutions on how to deal with that problem that is a risk to human life and animal life." (FKW) **21/11/19**

Students became aware of how PBL enabled them to address real-life problems in their communities. Sustainability of the cultural and ecological integrity of the places people inhabit is a core aim of PBL (Janice & Clifford, 2000). Advocates of a critical pedagogy support this philosophy of education and are of the view that education must emancipate and empower students as well as the societies in which they live (Freire, 1970). The extended knowledge resulted in students' meaning perspective

about learning in TT shifting towards a more holistic perception in terms of the subject's social purpose and value (David, 2013).

Of particular interest in this theme, is the transition of students from being receivers of knowledge to producers of knowledge and the development of their capacity to co-create solutions. Teather and Moore (2011) explain the ability to solve tasks in real life to be an outcome of engagement in authentic learning environments. According to social constructivist theorists like Vygotsky (1978), knowledge creation is realised by self-reflection, coupled with subsequent communication and collaboration with others. Place-based learning provided students with an opportunity to engage in peer-to-peer interaction, as well as interaction with knowledgeable community members, to formulate creative solutions and make sure that their standard of work was in harmony with the rest of the team members (see Figure 7.3).



Figure 7.3: ***Students working together to co-create solutions on textile waste***

Dillon and Dickie (2015) believe that learning in natural environments and having valuable first-hand experiences result in subject content becoming more vivid and

interesting for students. As students were co-creating solutions to identified textile waste, the boundary of the TT content extended to become richer and more relevant:

“We produced something that is 100% our own thinking. Most people could not take off their eyes from the tree. No Christmas tree that exists has the same design of the leaves as this one we produced as [this] community. The vase cover is woven with strips of material, when we were looking for the designs of Christmas trees on the internet, vases are left uncovered. Therefore, we decided to weave our vase cover to make it unique. From our perspective, we produced something unique, neat and secure. If we were to give it a designer label, ‘X-mas’ suited the tree best.” (EML) **21/11/19**

The ability to construct knowledge through dialogue and interaction is an indication of success in SDL (Boyer et al., 2014). In SDL, students realise the worth of their own knowledge and do not depend on the teacher and books as the only sources of knowledge. These are the valuable benefits of experiential learning. Through “direct experience and focused reflection” (Bennito & Singhal, 2019, p. 203) students generated new ideas and contextualised knowledge by finding a solution for the durable problem of sustainable textile consumption in this community.

Interaction with community members was also beneficial for sharing tacit knowledge. In the works of Lotich (2019) tacit knowledge is:

All of the collective know-how, techniques, processes and difficult to articulate expertise that is part of an individual’s or organisation’s knowledge base. It is usually not written down anywhere and is part of a collective knowledge pool that is often the basis for the culture of the organisation and how work gets done. (p.9)

During PBL, students noticed that this undocumented wealth of knowledge could contribute to their own learning and improve their well-being:

“Even if community members do not have bookish knowledge they have brilliant ideas, and this left me at another level of development in terms of knowledge and [practical] skills. When I get home I will throw away all doorstoppers covered with bread plastics and make beautiful ones.” (FGD) **21/11/19**

For students, PBL was a humbling experience, as it enabled them to learn from people that they did not previously think possessed any worthwhile knowledge. The Tanzanian president, Julius Nyerere, recommended that the kind of education that should be offered to students should, among other things, encourage the ability to learn from what others do, and either reject the learning or adapt it to their own needs (Nyerere, 1968). Place-based learning increases the flow of such kind of learning. In traditional didactic pedagogies, it is difficult for students to learn how to use their theory in real life situations. However, PBL helped students to transfer their knowledge to other contexts.

7.3.2 Students learnt to transfer knowledge to other contexts

Exposing students to diverse views and perceptions on sustainability issues in textiles also facilitated knowledge transfer, an important outcome in deeper learning (Bellanca, 2015; Collard et al., 2016; Perkins & Salomon, 2012). Knowledge transfer is the ability to use knowledge acquired in one context to solve a different problem in another context (Collard et al., 2016). Learning that does not influence students to transfer knowledge is “not productive and inefficient” (Goldstone & Day, 2012, p. 149). The excerpt below shows that experiential learning during PBL influenced students to transfer knowledge to other contexts:

“It encouraged me to be a creative teacher in terms of textile waste; a skill I will teach to my learners and also have a project with parents in other communities and educate them on textile waste.” (SMU) **21/11/19**

“These skills, we can use them even after [we] completed our diploma to earn a living at home.” (BBA) **21/11/19**

Students now view the TT subject as not only being of use to those who wish to teach it, but also that it can help to open up many other possibilities, such as improving livelihoods, a critical outcome of quality education (UNESCO, 2015).

Developing the capability to transfer knowledge depends on a number of variables (Herrington et al., 2006), but it has been established that instructional practices are the largest contributor to knowledge transfer (Schwartz et al., 2012). In my previous pedagogical orientation, I would have explained sustainability issues in TT, followed by a hands-on task. Application of what was learnt using the tell-first method was “often left to chance” (Merriam & Leahy, 2005, p. 2). I therefore claim that PBL is an efficient strategy to use for facilitating knowledge transfer because it results in deep understanding of concepts through experiential activities. From the above excerpt, students appear to have understood sustainability issues in a broader context, placing them in a position to transfer knowledge to new situations in their future practice and in other contexts. This implies that if students first explore novel structures, brainstorm possible solutions, identify gaps and select possible solutions (following the design process), their understanding improves, which in turn increases their ability to transfer knowledge (Schwartz et al., 2011; 2012). However, pertinent to teacher education is not only ensuring that prospective teachers have pedagogical and content knowledge, but it should also develop attitudes, values and behaviours that influence academic performance (Creasy, 2015). Next, I explain how students’ attitudes and values towards learning transformed during PBL.

7.4 Theme 3: Transformation of students’ attitudes and values

Values underpin what an individual thinks when making judgments in private and public life; attitudes develop as values transform and influence one’s behaviour positively or negatively (Haste, 2018). In teacher education, attitudes and values underscore the teaching-learning process (Fraser & Saunders, 1998). Cribb and Gewirtz (2001, p. 47) proposed, “Learning to teach is fundamentally a personal challenge where practical, personal and emotional attributes are just as salient as intellectual capabilities.” Attitudes and values are thus equally important in understanding and improving educational processes (Ahmad et al., 2013) and need to be emphasised in the teaching-learning process (Organisation for Economic Co-operation and Development, 2019). In my old philosophy of teaching, I had not internalised the need for students to develop personal and professional values alongside skills and knowledge in the teaching-learning process. Wood (2013, p. 56)

is of the opinion that values “remain abstract” except when one makes a mindful decision to embody them.

Even though the TT syllabus does not specify values and attitudes as guiding principles in the teaching-learning process, the findings discussed below indicate that students were better able to embody values that enabled them to relate well with others, including their future learners. The institution has a value statement that includes patriotism, inclusivity, innovation, professionalism, entrepreneurship, integrity, diligence, and multi-cultural tolerance (United College of Education Strategic Plan, 2019-2023). Using these institutional values as standards of judgement to evaluate values students embodied during PBL, there is evidence that students displayed many of them. In this section, I focus on the personal values and attitudes that students portrayed during PBL.

7.4.1 Students learnt to care for one another

Effective and caring collaboration helped students to change their attitudes towards learning. Many of the students in Cycle 2 had been out of formal learning for some time and were to some extent nervous about re-engaging in learning after a long time. Collaborative teams provided students with an opportunity to reposition selves as strong, confident, and keen to learn:

“When I began college, panic embraced my whole body because in my mind a lot of things were running. Working as a team and getting along well gave me confidence and courage to go on.” (ASI) **06/02/20**

This is in line with Taylor’s (2000a) view that transformative learning is improved through continuous support from others. In Cycle 1, continued support in collaborative teams went beyond assisting one another in knowledge and skill development; it included support of an emotional kind. Such support resulted in students developing an ethics of care:

“PBL created relations that resulted in us helping one another even if it had nothing to do with the project. This made me change my approach to work.” (EML) **14/11/19**

Teaching is a caring exercise (Eisner, 2002). Students in their future practice will find it mandatory to involve learners in purposeful academic learning, as well as supporting and caring for them (LePage et al., 2005). Caring relationships developed during PBL, which enabled students to learn how to support their future learners to succeed in learning (Noddings, 2005). Such findings were critical, because I interpreted them to mean that students had learnt strategies to bring about inclusivity, one of the key educational values in the learning process.

Love for the subject and for one another also played a significant role in transforming students' learning experiences and giving them a lifelong focus. Love within holistic education is influential. In educational circles, everyone encounters difficulties that require "spiritual resilience and connection with a loving energy to move beyond the difficulties" (Whitehead, 2008a, p. 117). I am convinced that the students will go into future practice with a renewed conviction that love plays a major function in the learning environment:

"Love is the most valuable [thing] in life. I say this because when we started the course some of us had confused minds on what textiles studies [are] or its value towards the course of teacher education. Now some of our minds have cleared rust by simply accepting and loving the subject through PBL and being loved by those around [us]. Even though PBL might require a lot of critical thinking we didn't worry eventually we were on track and willing to do more. I have accepted and loved the course of teacher education because of textiles technology." (QMO) **23/03/20**

For this student, love shown during place-based learning enabled her to see the value of TT, and to collaborate with her peers in a loving environment. This positive effect, in turn, enhanced engagement and learning.

7.4.2 Respect for diversity

Successful collaboration during PBL resulted in students valuing cultural diversity and consequently developing an open attitude towards people of other cultures. Intermingling with people from different cultures, backgrounds and perspectives is something students learnt to appreciate in the teaching-learning process. PBL

afforded students an opportunity to learn, develop, and practise intercultural competence, since it is not automatically acquired (UNESCO, 2015).

“We all speak different languages, Tonga, [Isi]Ndebele, [and] [Chi]Shona, but because we respected and tolerated one another during PBL, and we had passion to learn, we ended up understanding one another.” (PSI) **12/03/20**

Intercultural competence is fundamental in any given setting. During PBL, it became essential for students to listen fully to one another, demonstrate flexibility, and cooperate when working in intercultural teams. Further, students affirmed that participation in collaborative learning challenged them to become more patient and to be aware of the importance of understanding different personalities. One student remarked during the FGI:

“Ah! We learnt to be patient. Had it not been that we were patient we could have abandoned the project.” (FGI, Participant 4) **14/11/19**

Patience is core in accomplishing inclusive and well-performed work (Thomas, 2014). PBL helped students to learn patience. Freire (1997) says patience requires humility and excessive self-evaluation, especially in relation to others whom we regard as inferior in class, race, groups, and gender.

“I learnt that as an individual, I should humble myself as I work together with others and tolerate them as we are all different.” (VND) **21/11/19**

Values and attitudes are also key in the learning process as they help students navigate towards a better future (Ahmad et al., 2013). Skills, knowledge, attitudes, and values are not competing concepts but developed interdependently in the learning process. The experiential learning within PBL changed students' attitudes towards learning for the better. Next, I discuss how PBL changed students' mindset about using it in TT as a strategy in the future in their own teaching.

7.5 Theme 4: Transformation of students' mindset on the pedagogy to adopt in TT

Implementation of PBL indeed succeeded in affording students many opportunities to reflect deeply on their assumptions and feelings regarding the teaching-learning process used in TT. Students reflected on many aspects of PBL and why it should be considered as a strategy to adopt in TT teacher education, including its successes and challenges and what to incorporate as a way of improving the strategy. Students acknowledged the limitations of learning confined to a classroom environment and appreciated the worth of learning in a real-life context.

7.5.1 Openness to adopting place-based learning as a teaching strategy in future practice

When I first introduced PBL in Cycle 1, I noted that students doubted its value and exhibited signs of apprehensiveness:

“Implementing this kind of learning seems a bit challenging as one can face a community that is reluctant to change. The questions that are on my mind are: will I be able to teach and benefit something [by] carrying out place-based learning? Do I have the kind of knowledge that is required for me to go out of the college and help others in achieving the global goal of reducing, reusing and recycling to keep our world safe from threatening forces such as air pollution? Why is it necessary to conduct place-based learning when information can be gathered from the internet?”
(STS) 19/09/19

Our discussions around PBL challenged students to think, rather than blindly engage in actions. This student openly voiced her thoughts, exhibiting an enquiring mind and critical thinking abilities in asking several pertinent questions which helped in analysing and synthesising the value of implementing PBL in TT education. For attitudinal change to occur, a deeper level of engagement is required, as shifts in perspective cannot happen by merely receiving information (Freire, 1970). Through experiential learning, students began to understand PBL and to appreciate its value. During the reflection stage, conversations began to change as students noticed, acknowledged, and appreciated the changes:

“I never thought that we were going to achieve what we achieved. [I thought it] was [a] waste of time. [I thought] it [was] something that is very difficult but I realised [later that] it is something that is exciting to do: simply needing [my presence], knowledge and my hands and it’s done.” (FGI, Participant 2) **21/11/19**

It was encouraging to hear students acknowledge changes in attitudes and feelings towards implementation of PBL as a teaching strategy in TT. Students required solid experiences and a continuous supportive relationship to adapt to the new approach to learning TT. Intense shared experiential activities during PBL acted as triggers and provoked meaning-making of new learning (King, 2010; Kritskaya & Dirk, 2000; Taylor, 2000b) and this promoted personal transformation (Kitchenham, 2008). Engagement and full participation created many of the essential conditions necessary for transformative learning to occur. In successful implementation of PBL, experience is the starting point, and it is the subject matter for transformative learning (Mezirow, 1995). After students experienced PBL and critically reflected on it, their points of view, beliefs, and attitudes transformed through turning to others, asking about their experiences, and synthesising the ideas (Mezirow, 1998). Thus, rational discourse became relevant. When I asked students if they would consider PBL as a better strategy to adopt in TT teacher education, some responded:

“Yes [PBL] is a better strategy to adopt because when one is in a different environment than that of a classroom they can think broader and out of the box.” (NMP) **14/11/19**

“Place-based learning is a better strategy to adopt because nowadays learning needs a hands-on teaching method in a different environment and our curriculum needs a teacher who can equip the learners with future life skills ... that they will not forget and use to improve the economy in the country.” (NCH) **23/03/20**

Students in Cycle 2 exhibited keen critical thinking and reflective abilities by recognising the opportunity to apply PBL in other subjects across the curriculum.

“Place-based learning as part of the curriculum: it should be implemented even in other subjects.” (LMA) **23/03/20**

This shows that students now understood the PBL pedagogy more deeply. Critical reflection, induced via dialogue and reciprocal inquiry during the execution of the task, led to students becoming aware of inconsistencies in their thoughts, feelings and actions, and a realisation that their previous views on didactical approaches to learning TT did not seem adequate any longer. This awareness in transformational learning terms is described as a feeling of disequilibrium (Mezirow, 1990). Experiencing a feeling of disequilibrium coupled with positive experiences of critical reflection and self-examination during PBL, led to a general responsiveness to adopting a more socially just praxis in the teaching of TT.

“It is very good to implement PBL. You can’t get enough knowledge by just sitting at one place. Even though there is technology, practical practice is very useful. I know people might think that these days there is the internet, so they think it has all the information needed but I say, the internet, yes, has the information written by somebody else with his or her own understanding. So if you interact with the community and research, you understand better.” (SPS) **23/03/20**

Students expressed a commitment to the implementation of this strategy in their future.

“I should copy the strategies of PBL to motivate the learners to easily accept and grasp the ideas of which I will be teaching them.” (HCH) **14/11/19**

Understanding instructional strategies is very critical for students pursuing a primary teacher education course as this enhances learning experiences and makes learning more fun and practical (Persaud, 2018). Fostering transformative learning through critical reflection and dialoguing on the use of PBL in the teaching of TT was a foundation for students to construct a personal teaching philosophy. Students experimented freely with the approach and after some experimentation; they now had experiential knowledge to draw on, which enabled them to make informed decisions on the adoption of the strategy in their future practice.

As part of the Teaching Practice curriculum, students are required to carry out a Curriculum Depth Study (C.D.S.) in their area of specialisation (Department of Information, Protocol and Public Relations, 2015). The purpose of C.D.S. is to

develop students' pedagogical skills so that they do not only focus on content enrichment. It was exciting to note that students learnt about the research process itself and were eager to apply it in their own future practice. As students accounted for how they benefited in this study, one student said:

"What I benefitted from this study is that as I carry out my Curriculum Depth Study for my diploma during teaching practice, I will be able to follow this process with my learners." (NMA) **14/11/19**

I experienced these remarks as gratifying since one of my aims was that students would embrace self-inquiry as a valid and acceptable way of resolving classroom-based problems. I expected that the students would aspire to become reflective practitioners in their own right as an integral part of their professional practice, consequently improving their teaching practice. It is clear from the evidence presented in this chapter that PBL has benefits for deep learning. However, there were some indications that not all the students felt able to adopt PBL as a teaching strategy in TT. In the following section, I explore the exceptions and particular barriers identified by students.

7.5.2 Students' perceptions regarding potential barriers to adopting place-based learning as a teaching strategy

In Cycle 1, students expressed reservations about their ability to implement PBL successfully in their future practice. Students explained that while they understood the rationale of PBL and were convinced of the benefits of using this approach in the 21st century, time and safety issues caused them some concerns.

"Being hands-on! [It's fine] but it is still challenging what if [when we go out with learners and] something happens? No indemnity forms. Even when they have indemnity forms but still they would be a challenge on movement from one place to another." (FG1) **21/11/19**

"PBL in the community is accompanied by many challenges that include busy schedules by community members and less time for working with us. The good part at the end was that collaborative work produced [the] best results and all began to appreciate and make use of the little time that was available." (BML) **21/11/19**

This feeling of despondency is normal in TL. In TL, “back-sliding often occurs especially at the beginning with its threat to a long-established sense of order” (Mezirow, 2000, p. xii). Students need to dialogue with others and share their fears and critically reflect on a range of possibilities presented to them until they arrive at a dependable insight through collective judgment (Mezirow, 1998). Students showed that they had developed critical and autonomous thinking by coming out with possible solutions to negative perceptions such as lack of time. They stressed the need to commit to the strategy from the start. According to Bransford et al. (2005), commitment, dedication and understanding one’s role and responsibilities are central characteristics of professionalism:

“Working in the community needed time management. First, I took the project lightly and ended up under pressure. In the near future, I need to participate actively from start to finish and availability at all times shows cooperation, and this motivates members of the group.” (PMU) **21/11/19**

“Place-based learning really groomed me. If you commit to the project, you become successful. I learnt how to utilise time. For everything we [did], time guided us.” (ESI) **21/11/19**

Time management is critical in the implementation of PBL and in the teaching profession in general. I am quite convinced that through PBL students learnt how to manage time and that they will utilise this quality in structuring lesson plans and achieving objectives within the allocated time in their future careers. Nonetheless, the issue of time is a legitimate concern for implementation of PBL by students in their practice. What is of utmost importance is that PBL enabled students to grow out of this challenge. With continued opportunities for students to discover for themselves the value and pleasure of using PBL as a teaching strategy in TT, they will learn that the benefits outweigh the limitations (Ernst & Torquati, 2013). It would be prudent for all teacher educators to root their teaching in this strategy for students to appreciate it more and be able to adopt and adapt the strategy in their future practice in primary schools.

7.6 Summary of the chapter

The evidence presented in this chapter strengthens my claim that PBL improves the type of learning required in TT in the 21st century. Learning in such an open and democratic environment resulted in transformation of skills, knowledge, and values. The study showed that PBL motivated students to pursue their goals on their own. I realised that in my previous teaching practice I set goals for students that they often failed to comprehend. I realised that when students set their own goals, they take personal responsibility for their learning and become eager to improve on many levels. Over and above that, students are now able to deal with textile waste for the better and earn a living through the skill of repurposing it. In the following chapter, I reflect on the overall study and make explicit my contribution to knowledge in the form of my living theory of developing a pedagogical praxis in textiles technology through place-based learning.

CHAPTER 8

REFLECTIONS ON LEARNING, CONTRIBUTION TO KNOWLEDGE AND SIGNIFICANCE OF THE STUDY

8.1 Introduction

I view this chapter as glue that binds the study together. I reflect on the process of engaging in a self-inquiry leading to a living theory of developing a pedagogical praxis in textiles technology through place-based learning. As I engage in writing up this reflection, I do so from the perspective of answering my main research question: How can I improve my teaching through adopting PBL as a pedagogical strategy? I begin by summarising the findings of the study. I reflect on (i) whether my objectives were achieved or not, (ii) the validity of my claims to knowledge, (iii) limitations of the study, (iv) contribution to knowledge, (v) significance of the study, and (vi) further areas for research.

8.2 A reflective summary of my findings

As I reflect on this study, I do so with the following framework in mind: What did I do? How did it go? Moreover, what do I need to do differently next time? I conducted the study over thirty-six months and engaged in two cycles. Cycle 1 was an attempt to bring about change in my teaching practice through living out my ontological and epistemological values to influence the learning of students specialising in TT. The question that guided this cycle was: How can I uphold my values of love, care, respect, and equity in my practice? In Cycle 2, I gathered evidence to support my claims of having improved and embodied my values in my practice. The main question that guided the cycle was: How can I improve my teaching of TT through adopting PBL as a pedagogical strategy? Both these cycles are reported on in Chapters 6 and 7.

8.2.1 Am I better able to live out my values?

When I began philosophising my practice during the initial stages of this study, I became aware that I was a living contradiction, as I was not living out my values. As outlined in Chapter 1, I monopolised the teaching-learning process by employing didactic teaching methods that excluded students from being heard, respected, or

able to contribute to the teaching-learning process. I can now explain my educational influence in my own learning (see Chapter 6) and in the learning of my students (see Chapter 7). I explained in Chapter 2 how, for much of my personal and professional context, I was exposed to propositional ways of thinking and have come only recently, through my evolving pedagogical praxis, to take responsibility for my own practice. I learnt that for me to improve my practice, I needed to cross examine my ontological and epistemological values (Chapter 1 & 2) to arrive at a new meaning perspective that the teaching and learning process is a practice of inclusion, democracy, and participation (Chapter 6). I made deep enquiries into processes and contexts for improving my practice (Chapters 3 & 4), following a systematic process of reflection and action, and validating my findings to ensure that they are fair and appropriate (Chapter 5). In Chapter 6, I presented evidence of how I changed my practice to be more in line with my ontological and epistemological values and consequently influencing students' learning (Chapter 7). This explanation of my learning is my living theory.

Implementing PBL enabled me to begin living closer to my values. As my pedagogy evolved, I felt that I no longer played a dominant role in the teaching and learning process. By this, I mean that I now understand that my practice is as much about what students do in their collaborative teams (Section 6.2.2.1) and not just what I do. I shifted from being uncomfortable with collaborative work, and doubtful of its worth for the teaching and learning process, to being appreciative of its many benefits (Sections 7.2.1, 7.2.2, 7.3.1, 7.3.2, 7.4.1& 7.4.2). My ontological values of love, care, respect and equity have begun influencing my educational values of inclusivity, democracy and participation to the extent that I now see myself as a "core learner" in the teaching-learning process, rather than being merely a transmitter of content. I no longer underestimate the scope and depth of students' capacity to self-direct their learning process, generate knowledge in their own context, and use it to transform themselves and the communities they live in. I am now in a position to trust that collaborative learning can foster good working relationships across diverse cultural groups. I observed that students who had been disengaged started to gain confidence and became open to learning from each other and external partners.

I no longer impress my own thinking on which products students should make or which processes they should apply. I am heartened that I no longer have to take responsibility for preparing all the theoretical and practical tasks in advance, but can introduce ideas and let students work together to put them into action. I claim that I have taken care to ensure that I build students' confidence by respecting their decisions in how they wish to engage in the learning process to meet the set goals. I found that if I respect students' decisions, even if they make errors, they do not lose motivation but rectify them on their own without my intervention. I show respect for students' integrity while encouraging their capacity to think independently and creatively. In this, I believe I have begun to realise my educational commitments of democracy and participation.

When I began the study, I made deliberate decisions to change my practice. However, now reflection is second nature. I have influenced students to also take responsibility for their own actions, as now they no longer approach me asking how to apply a certain process, but instead they explain what they have done and ask me where I think they have missed the mark. Together we discuss to find the best way to break through. Even when we correspond via electronic means, students do not address their questions directly to me, but to each other. I feel that this kind of an interaction is indicative that students now no longer rely on me as the sole source of knowledge but realise they themselves are capable of solving problems and finding creative ways to reach their learning outcomes. This dialogical form of practice means that I use my symbolic power in a loving, caring, and respectful way to create safe learning spaces.

My orientation to "good" teaching and learning had been biased towards the notion of neoliberalism; a system where emphasis is on performance and results such that there is no time for building up relationships of reciprocity with students. In this study, I have found out what it means to be an excellent teacher. I now understand that excellence in teaching does not result only through having pedagogical content knowledge, but it all begins with building relationships with students (Section 6.2.1). I had to take a conscious decision to embody relationship-enhancing values in my interaction with students. I claim that relationships are indeed core in the teaching and learning process and are what makes learning enjoyable and fruitful, for both

students and the teacher. If relationships are strained, learning becomes difficult. I now continually check that I adhere to my ontological values of love, care, respect, and equity to realise my educational values of inclusivity, democracy, and participation in the teaching-learning process at all levels of the institution. My practice now reflects my values.

8.2.2 PBL helped me to improve my practice

I claim that the process of carrying out this study and generating my living theory of developing a pedagogical praxis enabled me to improve my teaching of TT to mature adult learners. Students were very energetic in the process of helping me to improve my practice, as I listened to their input and used their suggestions to improve. The major action I took was a pedagogical move from a traditional didactical style to a more inclusive, democratic, and participatory one (Section 6.2.2). In implementing PBL, I did not make weekly lesson plans nor give notes to my students as per a teacher-centred approach, and students became active agents in their own learning. I have come to a new understanding that I am now a “guide”, a dictum from the introductory quotation in Chapter 4, with the responsibility to create a safe space for learning to occur (Section 6.2.2.1, 6.2.2.2 & 6.2.2.3).

The essence of teaching TT through PBL is to create an authentic learning environment that provides students with an opportunity to gain self-knowledge and unlock their potential (cf. Chapter 7). PBL fostered self-knowledge that enabled students to re-evaluate their capabilities and limitations resulting in them becoming more aware of their learning needs, which enabled them to make adjustments and improvements accordingly. Instead of competing with one another, students began to concentrate more on how well they could reach their learning outcomes. The emergence of this pivotal skill during PBL makes it a novel approach when applied in a technical-oriented subject like TT. It benefits students in three specific ways: students become aware of (i) their own strengths and weaknesses, (ii) the need to learn from others with a growth mindset, (iii) their own behaviours and actions and the need to regulate these to exert a positive influence on others. Providing an enabling environment for students to understand themselves better and adjust their

thinking and way of doing things is an important aspect of creating a more socially just practice.

Using PBL in TT allows students to learn a technical skill, together with developing 21st century skills. For example, learning how to design (Section 7.2.1), manage the project and develop critical thinking and problem-solving skills (Section 7.2.2), life and career skills (Section 7.3.2), citizenship and character building (Sections 7.4.1 & 7.4.2), communication (Section 7.3.2), and teamwork (Figures 7.2 & 7.3). Thus, PBL enables holistic learning and development within TT. I can claim that through using PBL, I provided a space for students to explore their feelings and ideas and participate freely without marginalisation. I also claim that genuine care and respect for students' capacity to direct their learning is a strong foundation for academic excellence and honours my values as narrated in Chapters 1 and 2. The experience of being able to help students develop holistically through implementing PBL, has given me the confidence to generate the following guidelines as my claims to knowledge.

8.2.3 What guidelines for using PBL in TT can I derive from my learning?

Based on the synthesis of my learning (Chapter 6) and my students' learning (Chapter 7), I offer the following guidelines for adopting PBL as a teaching strategy in TT.

8.2.3.1 Based on my claim of knowing how to facilitate learning within PBL, I suggest the following guidelines:

- On the first day of encounter, the teacher should share with students how her or his ontological values translate to educational commitments and how these values affect the teaching and learning process and dialogue with students to create a productive learning environment.
- Develop a student-teacher relationship that would facilitate a safe communicative learning environment by getting to know students, their background, their barriers, and see them as adults with other responsibilities besides learning.

- Allow students to build relationships of reciprocity amongst themselves in their learning collaboration teams by providing time for relationship building activities. This builds up a cohesive group that fosters values of care and respect for diversity.
- Introduce the concept PBL for students to fully understand it and share their views and perceptions about its value and adoption as a teaching strategy in TT before embarking on it.
- Empower students to be active and emancipated participants in the teaching and learning process by engaging them in PBL decision-making processes.
- Allow students to manage their learning task and gather the required materials without imposing your own ideas on them, but listen attentively to what they are saying and guide them accordingly.
- Keep calm and focused when students appear disengaged and find out what the problem is.
- Avoid visiting learning sites with a planned schedule but provide structured guidance in instances only where students need scaffolding.
- Keep an eye on the development of students' knowledge and skills by reflecting on their input weekly and underlining reflections that show improved thinking skills and new learning in their praxis notebooks.
- Be approachable and allow students to interact and communicate even after hours.
- Embrace stereotypical behaviours, perceptions and attitudes with patience, humour and tranquillity.
- Reflect continually on your own practice.

8.2.3.2 *Based on my claim that PBL enables students to become producers of knowledge, I offer the following guidelines:*

- Students should work in small groups of four. Small groups encourage active participation, equal distribution of skills and knowledge and non-hierarchical forms of knowledge transmission and skills sharing. In these small collaborative teams, facilitators of the learning process should not employ

the practice strategy in technical skills acquisition but the design mode strategy, which encourages reflection on action.

- Inspire students to use local resources to advance their communities and incorporate a variety of construction techniques in one project to show their creative and innovative skills.

8.2.3.3 *Based on my claim that PBL provides an equitable learning environment that transforms students' meaning perspectives about knowledge and skills resulting in a more holistic perception in terms of the subject's social purpose and value, I suggest the following guidelines:*

- Encourage students to establish simplified construction processes and develop manuscripts for working the processes.
- Ensure good workmanship in the work produced by encouraging students to follow closely the correct procedures in product development.

8.2.3.4 *Based on my claim that reflection in and on action during PBL transforms students' community-based field experiences to deeper learning. TT facilitators should ensure that:*

- Learning tasks are based on open questions that necessitate an original and thoughtful response of team members and enable reciprocal interaction or constructive discourse, exploration, and inquiry.
- Students document their weekly reflections before, during and after an encounter on what they learnt (content) and how they learned it (process).
- They develop firm but flexible guidelines for praxis notebook submissions at the outset of the project in collaboration with the students, to maintain commitment.

8.2.3.5 *Based on my claim that timing is decisive in introducing PBL, the strategy yields better results when:*

- Introduced to a group of students who have just enrolled at the institution before being accustomed to classroom-based teaching and assessments in other subjects.

I now reflect on the validity of my claims to ensure they are just and accurate.

8.3 Reflections on the validity of my claims

In order to ensure the academic rigour of my systematic account of my educational learning and improved practice as well as my educational influence on students to improve their learning and future practice, I must have sufficient evidence, presented in such a way that makes my claims to knowledge plausible and trustworthy. I am aware of the importance of the need to test my claims in the public domain and therefore I need to be truthful in my reporting and reflections of my pedagogical journey. I test my claim by asking you, as reader, to judge if my claims to knowledge are valid in terms of whether my narrative inquiry in communicating my living theory is sincere, comprehensible, truthful, and appropriate in that it exhibits consciousness of the normative assumptions of my contexts (Habermas, 1987).

To reach an understanding with my readers, I chose a comprehensible expression that they could understand. My narration follows a clear line of thought and my work is edited to adhere to the principles of correct referencing, grammar and punctuation for a reader-friendly report. I base the sincerity of my inquiry on the evidence that I have allowed students' voices to be heard and allowed them to participate in the co-generation of data to ensure that what I am saying meets the criteria of truthfulness. In addition, to give further credit to my study, I have adapted my thinking after feedback from my critical friend and validation groups. Throughout the study, I have shown a loving caring disposition that has been inclusive, democratic, and respectful. Where I have acted in a non-participatory way (see [video clip](#)), I have acknowledged my error and changed my practice. By being attentive and aware of these factors, I have shown that my study meets the criteria of truthfulness. To give an assurance of the aptness and legitimacy of my narrative report, I have related

how concerns in my teaching practice emerged by following the principle of historical continuity and adopted a self-study approach as a guiding principle. I now consider the potential of my findings for wider application in the field of education.

8.4 Reflections on the significance of the study

Primarily, my social act was narrow and focused on improving my teaching practices to influence only the students that were within my sphere of influence. As I progressed in this study and reflected on my actions, I became confident in what I was doing and convinced that my work could also persuade my colleagues and the wider higher education fraternity to adopt a similar approach.

8.4.1 Significance of the study for my institution

I am claiming that improving my pedagogical strategies has influenced transformation in my institution. When I reflect upon the significance of the study for other teacher educators in the institution and perhaps in other teacher education colleges as well, I note that the significance rests in a number of areas. As I alluded to in Chapter 2, the current learning environment in teacher education institutions does not nurture skills required in the 21st century. With the understanding I have gained from engaging in this study, and with the confidence of my new approach to teaching, I am convinced that I am now in a better position to make a case for including PBL as one of the strategies to use in the TT syllabus. This contribution to knowledge should also be of interest to the University of Zimbabwe, Faculty of Education, Department of Teacher Education, the body that is concerned with quality assurance in the development of teacher education and responsible for examining students and awarding diplomas to successful candidates.

Engaging in PBL and going out of the campus every Thursday has also created a climate for change conversations about the teaching-learning process as peers who were not involved in PBL and my colleagues were eager to know what students specialising in TT were learning in the communities. By adopting a self-inquiry, I have initiated a move that allows TT teacher educators to make inquiries in their own teaching practices. My interaction with the top management of the college, that is, the Principal, Vice Principal and the Head of Department responsible for Technical

Subjects Section indicated that they viewed my study in a positive light. All this is evidence to show that I have influenced colleagues in the wider institution.

8.4.2 Significance of the study for the Ministry of Higher and Tertiary Education, Innovation, Science and Technology Development

As I reflect on the significance of this study for the broader education system and particularly the ministry responsible for higher learning, I am confident that the guidelines I have suggested may have a positive ripple effect in the system. Currently, all institutions of higher learning are implementing Education 5.0 (see Section 2.5) and the vision of the reform underpins my study. I consider my ideas to be aligned with the Ministry's plans and vision for Education 5.0. The lecturers in charge of different sections in the institution were the ones spearheading the implementation process of the new reform, and, as one of the lecturers in charge, filled with ideas and enthusiasm for doing more in the communities, I am in a good position to promote the use of PBL within TT. I presume other institutions can modify the strategies and processes to suit their own environment. To include PBL in one of the three lessons currently allocated for the TT subject per week would be a stride towards realising the Ministry's vision.

8.5 Reflections on the limitations of the study

As I read over the chapters and reflected on the context of the study, the progress made, the influence I have had on my own teaching practices, and the influence I have had on the students' learning, I admit to limitations of this study. Although the study used digital learning technologies such as Smartphone photographing, videos, and audio recordings to complement and broaden real world teaching learning experiences, I did not incorporate enough technology within my practice to prepare students to operate in a technologically refined society, one of the requirements of learning in the 21st century. Integrating emerging technologies such as designing products using software like Computer Aided Design (CAD) in preparation for modernisation and industrialisation (Education 5.0) could be something I could introduce, rather than doing all the tasks manually. Further, to restrict the study to include only students' learning and not hear the voice of the community members

limits its scope. In order to verify how effective the collaboration process was, I could have enabled and involved community members to share their observations.

8.6 Reflections on my claims to knowledge

Investigating my own teaching practice, reflecting on my learning as an inside researcher, and reflecting on my students' learning has not only contributed new knowledge in understanding of how living out my values in my teaching practice through implementing PBL could result in deeper learning for students. It has also contributed to new knowledge in the following two dimensions:

- Expanding the approaches to methods of data generation (methodological contribution)
- Place-based learning applied as a teaching strategy in TT (theoretical contribution).

8.6.1 Methodological contribution

An important element of this study lies in the approach used to generate data by making use of reflections in the praxis notebook. Most researchers use reflective journals as a method of collecting data and I am yet to find evidence where a praxis notebook has been used in teacher education to account for students' learning in TT. My students used a praxis notebook for the purposes of accounting and reflecting in and on their new learning, skills, knowledge, and values learnt. A praxis notebook is different from an ordinary notebook in which students write notes to regurgitate later in preparation for standardised tests and examinations. While students worked in collaborative teams, they accounted for their learning as individuals in praxis notebooks. I believe this is a novel approach to facilitating students' learning. Accounting for one's learning in this notebook inspired students to improve to be on the same level of skill and understanding as their peers. This method of reflection is not only new to research in improving the teaching and learning of TT at teacher education level, but in research on sustainable issues in textiles as I have not come across it in literature reviewed. I realised that by providing opportunities for praxis, students developed an intellectual relationship to their actions and became more skilled in assessing their own work.

8.6.2 Theoretical contribution

The other dimension wherein I believe I have contributed to knowledge lies in expanding the theoretical knowledge of the extent of PBL's usage in teaching of TT at teacher education level. Literature highlights that PBL is an approach used broadly to teach concepts in subjects across the curriculum and specifically mentions its applicability in language arts, mathematics, social studies, and environmental education. This study has shown that TT is one of the subjects across the curriculum that could embrace this approach. Searching the database on TT studies, I can find no action research of any genre or qualitative study in either the Zimbabwean or global context that addresses improving the teaching of TT through PBL. What I could consider close to the Zimbabwean context is a mixed methods study by Chimbindi (2017) on strategies for teaching Textiles, Clothing and Designing in universities of technology but there is no mention of PBL as one of the strategies. The closest study of PBL is that of MacGregor and Prince (2017), who have carried out a case study on PBL in Design and Technology for pre-service teacher education in Australia. Their study has some similarities in the strategy adopted (PBL) and participants from a teacher education context (pre-service teachers) but they adopted a different paradigm and subject discipline. Hence, my claim is that this study is the first to close the gap on improving learning among students specialising in TT at primary teacher education institutions using PBL. In addition, the process followed in applying TLT and PBL has been shown to be useful and can be applied in adult education in general. Transformative learning theory gave me a framework that enabled me to understand that for students to become self-directed critical lifelong learners, leading to self-concept reformulation (Mezirow, 1978a), I needed to change my practice and introduce new strategies.

8.7 Reflections on further areas for research

Future areas for research stem from one of the limitations of this study. The study mainly focused on students' voices during the learning process and did not include the voice of the community partners. It could be prudent to conduct a study that would consider community members as active participants to understand how to implement PBL to transform community members' skills and knowledge. This would

better align with one of UNESCO's five pillars of learning (Learning to Transform Oneself and Society). Therefore, I am interested in researching the following questions:

- How could PBL be implemented to transform external partners' knowledge, skills, and values?
- What measures could be employed to enhance quality partnership for favourable learning outcomes during PBL within TT?

Other researchers may also be interested in exploring such questions.

8.8 Concluding remarks

I have exhibited the uniqueness, rigour, and significance of my claim for new forms of knowledge through Habermas's criteria of social validation. I did not merely illustrate what I did and how, but analytically illustrated the processes involved, reviewed and validated by a critical friend. I believe my research story is true, in that, I can fully understand it and follow it sequentially and I believe readers will also recognise it as such. My claim to knowledge as a living educational theorist is that I have discovered something that was not known before; my living theory of developing a pedagogical praxis in TT by using PBL. As I have alluded, no one has done what I did; therefore, no one can claim that she or he knows my story. By so doing, I have created new knowledge. This study was a potential game changer for me in both my professional and personal life. My professional development as an inclusive, democratic, and participatory practitioner has also strengthened my personal life. I now find myself making inclusive and democratic decisions on a day-to-day basis and influence those within my social formation to reflect critically on their actions. I cannot claim that I have concluded the matter, but I have commenced the interrogation of my teaching practices and have begun living out my values through engaging in this study. I am committed to continual improvement of my practice all through my career in the field of TT education, and I hope that this account of my learning will inspire other teacher educators to do the same.

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APPENDICES

APPENDIX A: PERMISSION REQUEST



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PERMISSION LETTER: COLLEGE PRINCIPAL

I herewith wish to request your permission for first-year students majoring in textiles technology to participate in this research, which involves their learning as I attempt to improve my teaching practices. Prior to granting permission, please acquaint yourself with the information below.

The details of the research are as follows:

TITLE OF THE RESEARCH PROJECT:

My living theory of developing a pedagogical praxis in textiles technology through place-based learning

ETHICS APPLICATION NUMBER: NWU-00869-19-A2

PROJECT SUPERVISOR: Professor L. Wood

CO-SUPERVISOR: Doctor A. Du Toit

ADDRESS: Faculty of Education Science: Research

CONTACT NUMBER: 018 299 4770

MEMBER OF PROJECT TEAM PhD-STUDENT: Florence Sebele

ADDRESS: No. 30 Northleach Avenue, Montrose. Bulawayo, Zimbabwe

CONTACT NUMBER: (+263) 733 493 477

FACULTY OF EDUCATION RESEARCH ETHICS COMMITTEE

Contact person: Ms Erna Greyling, email: erna.greyling@nwu.ac.za, tel. (018) 299 4656.

This study has been approved by the Research Ethics Committee of the Faculty of Education of the North-West University and will be conducted according to the ethical guidelines of this committee. Permission was also asked from the Ministry of Higher and Tertiary Education Innovation Science and Technology Development as well as the United College of Education Principal.

What is this research about?

The aims of this research are to:

- Improve my teaching of textiles technology through adopting place-based learning as a pedagogical strategy.
- Uphold my values of love, care, respect and, equity in my practice.
- Develop guidelines for using place-based learning as a teaching strategy in textiles technology.

Participants:

- Self – primary participant
- Students majoring in textiles technology

What is expected of you as participant?

You will be expected to avail your normal coursework assignments to be used as data. In addition, you will also be expected to participate in a focus group interview at the end of the study so as to reflect on your experience of being in the textiles technology main subject class and being taught by me.

Benefits to you as participant

You will enhance your own professional framework with regards to your teaching practices and also attain skills to work in- and outside classroom environments with a variety of learners from diverse backgrounds.

Risks involved for participants

Low risk

Confidentiality and protection of identity

Although your work will be assessed, your names will not be used in the report. If you agree to present your work for this study as participation is voluntary your name will be coded to ensure confidentiality when quoting specific work or phrases. If you wish to withdraw anytime during the course of the study you will be free to do as participation is voluntary and your work will not be included in the study.

Dissemination of findings

My observations and reflections will be communicated with you throughout the study, on completion of the projects and at the end of the term.

If you have any further questions or enquiries regarding your participation in this research, please contact the researchers for more information.

Yours sincerely

Florence Sebele

(Researcher)

DECLARATION BY PRINCIPAL / OTHER RELEVANT PERSON:

By signing below, I Adam Luthuli, agree to give permission for the research to take place with the identified participants in the study entitled:

My living theory of developing a pedagogical praxis in textiles technology through place-based learning

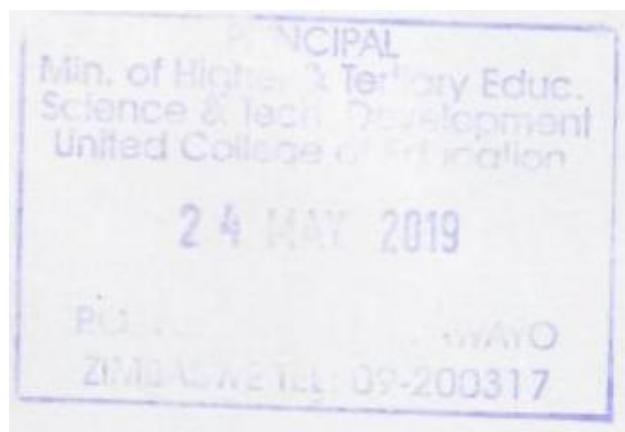
I declare that:

- I have read this information and consent form and understand what is expected of the participants in the research.
- I have had a chance to ask questions to the researcher and all my questions have been adequately answered.
- I understand that taking part in this study is voluntary and participants will not be pressurised to take part.
- Participants may choose to leave the study at any time and will not be penalised or prejudiced in any way.
- Participants may be asked to leave the research process before it is completed, if the researcher feels it is in their best interests, or if they do not follow the research procedures, as agreed to.

Signed at Bulawayo, Zimbabwe on 24/05/2019



Signature of College Principal



APPENDIX B: PERMISSION GRANTED FOR STUDY

All official communications should be addressed to:
"The Secretary for Higher & Tertiary Education
Telephones: 795891-5, 796441-9, 730055-9
Fax Numbers: 792109, 728730, 703957
E-mail: thesecretary@mhet.ac.zw
Telegraphic address: "EDUCATION"



Reference:

MINISTRY OF HIGHER AND TERTIARY
EDUCATION, SCIENCE AND TECHNOLOGY
DEVELOPMENT
P. BAG CY 7732
CAUSEWAY

96

25 April 2019

Mrs F. Sebele
United College of Education
Box 1156
Bulawayo

Mrs. F. Sebele

**RE: AUTHORITY TO CARRY OUT RESEARCH IN THE INSTITUTION: MINISTRY OF
HIGHER AND TERTIARY EDUCATION, SCIENCE AND TECHNOLOGY
DEVELOPMENT**

Reference is made to your letter in which you requested for permission to carry out a Research at the United College of Education.

Accordingly, please be advised that the Head of Ministry has granted permission for you to carry out the research.

It is hoped that your research will benefit the Ministry and it would be appreciated if you could supply the office of the Permanent Secretary with a final copy of your study, as the findings would be relevant to the Ministry's strategic planning process.

Manyere F. (Mr)
Human Resources Officer

FOR: PERMANENT SECRETARY



APPENDIX C: CONSENT FORM



Private Bag X6001,
Potchefstroom
South Africa 2520
Tel: 018 299-1111/2222
Web: <http://www.nwu.ac.za>

Dear Student
United College of Education
Box 1156
Bulawayo
Zimbabwe

Faculty of Education

Tel: (+263) 73 389 34 77
Email: florence.sebele@nwu.ac.za
Date: 27 / 06 / 2019

PARTICIPANT INFORMATION AND CONSENT FORM

I herewith wish to request your consent to participate in this research, which involves students majoring in Textiles Technology. Prior to granting consent, please acquaint yourself with the information below.

The details of the research are as follows:

TITLE OF THE RESEARCH PROJECT:

My living theory of developing a pedagogical praxis in textiles technology through place-based learning

ETHICS APPLICATION NUMBER: NWU-00869-19-A2

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CONTACT NUMBER: 018 299 4770

MEMBER OF PROJECT TEAM PhD-Student: Florence Sebele

ADDRESS: No. 30 Northleach Avenue, Montrose. Bulawayo- Zimbabwe

CONTACT NUMBER: (+263) 73 3 893 4 77

FACULTY OF EDUCATION RESEARCH ETHICS COMMITTEE

Contact person: Ms Erna Greyling, email: erna.greyling@nwu.ac.za, tel. (018) 299 4656.

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- Develop guidelines for using place-based learning as a teaching strategy in textiles technology

Participants

- Self – primary participant
- Students majoring in Textiles Technology

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You will be expected to avail your normal coursework assignments to be used as data. In addition, you will also be expected to participate in a focus group interview at the end of the study so as to reflect on your experience of being in the textiles technology main subject class and being taught by me.

Benefits to you as participant

You will enhance your own professional framework with regards to your teaching practices and also attain skills to work in- and outside classroom environments with a variety of learners from diverse backgrounds.

Risks involved for participants

Low risk

Confidentiality and protection of identity

Although your work will be assessed, your names will not be used in the report. If you agree to present your work for this study as participation is voluntary your name will be coded to ensure confidentiality when quoting specific work or phrases. If you wish to withdraw anytime during the course of the study you will be free to do as participation is voluntary and your work will not be included in the study.

Dissemination of findings

My observations and reflections will be communicated with you throughout the study, on completion of the projects and at the end of the term.

If you have any further questions or enquiries regarding your participation in this research, please contact the researchers for more information.

Yours sincerely

Florence Sebele
(Researcher)

DECLARATION BY PARTICIPANT:

By signing below, I agree to take part in a research study entitled:

[Enter title here]

I declare that:

- I have read this information and consent form and understand what is expected of me in the research.
- I have had a chance to ask questions to the researcher and all my questions have been adequately answered.
- I understand that taking part in this study is voluntary and I have not been pressurised to take part.
- I may choose to leave the study at any time and will not be penalised or prejudiced in any way.
- I may be asked to leave the research process before it is completed, if the researcher feels it is in my best interests, or if I do not follow the research procedures, as agreed to.

Signed at (place) _____ on (date) ____ / ____ /20 ____

Signature of participant

Researcher

APPENDIX D: LEARNING TASK

Working in a group, your task is to collaborate with identified community members to design and implement a community project that would treat textile waste as precious resources and promote them to a higher value to prevent further 'down-cycling'. Present your work in the form of a design folio. The design folio should outline the following stages of the design process: problem identification, generation of ideas, specifications, patent search, design brief, and generation of possible solutions, selecting and justification of the selected solution, designing, producing, testing and evaluation. Individually, you will be required to keep a praxis notebook to document your reflections on what tasks were undertaken and by whom as well as any new learning that occurred.

APPENDIX E: ACTION PLAN

Date	Description of data generation strategies	Purpose
Week 1	Begin developing relationships of reciprocity with students. Activity 1 Sharing Share personal biography, educational biography and teaching biography with students, so as to create room for social cohesion. Activity 2 A PowerPoint presentation on the concept PBL Students discuss their views and opinions on the concept. Discuss the task to be done during PBL. Activity 3 A PowerPoint presentation on the design process Discuss the stages of the design process.	Building trust and sharing commonalities that appeared in both parties' life has to establish solid base for working processes. To prepare students for PBL.
Week 2	Activity 4 Forming teams Formation of collaboration teams and relationship building exercise among team members. Students share: • Two things about themselves. • Their fears in embarking on the teacher education programme. • Appreciate the person next to them.	To build teams on trust: Building trust and sharing commonalities that appeared in team members to establish solid base for teamwork.

Date	Description of data generation strategies	Purpose
	Activity 5 Planning for place orientation Discuss issues of time lapse, modalities of getting to communities.	
Week 3	Activity 6 Site orientation and partnering with community members Students establish perceptions of the community members they will collaborate with. Discuss with community members the demands of the assignment. Activity 7 Problem identification/needs assessment	Orientation: Orientation to places and purpose of engagement. Building trust for a solid base for collaboration. Map the problem.
Week 4	Activity 8 Generation of ideas Interactive idea generation activity. Activity 9 Patent search Research on sources of inspiration and combine with own ideas to get a broader image of the overall project.	Critical skills development: Brainstorming on: • What is required to address the problem. • Target specifications. • Communication.
Week 5	Activity 10 Design brief and generation of possible solutions Reflections on what to produce and justification.	Critical skills development: • Dialoguing on possible solutions. • Critical thinking. • Creativity.
Week 6,	Activity 11	Technical skills development in a collaborative

Date	Description of data generation strategies	Purpose
7 & 8	Designing, production, testing and evaluation Interactive team work and skills application process. Evaluate - reflect on product or outcome against criteria in design brief. Reflect/critique the process used.	process: Work collaboratively on a chosen solution. Finding roles in the collaboration process. Strengths and weaknesses are identified in the process and with the team members. Complete tasks.
Week 9	Activity 12 Skills sharing seminar Present and share project ideas in a larger audience.	Professional skills development: Knowledge sharing and creating awareness of other possibilities that could be embraced.
Week 10	Activity 13 Reflection and evaluation of the complete process Written narratives on own learning in the whole process. Focus group interviews held with students on the collaboration process and views and opinions about the implementation of PBL.	Reflection: Reflecting on learning process to determine the value of the PBL and the collaboration process - what students learnt and the benefits.

APPENDIX F: REFLECTION IN AND ON QUESTION GUIDELINES

Before engagement	During engagement	After engagement
• What are the objectives of this encounter? • What action will I take to achieve the objectives? • What should I learn during the engagement? • What challenges do I anticipate?	• Am I doing what I had planned to do? • Do I have to deviate from my plans? If yes why? • What challenges am I facing?	• Did I achieve my objectives? • What were the successes and weaknesses? • What alternatives were there? • How would I do it differently next time? • What do I feel about the whole experience? • What knowledge / values / skills were demonstrated? • What is my new learning?

APPENDIX G: ASSESSMENT CRITERIA FOR THE LEARNING TASK

ASPECT	COMMENT
Development of own design process Stages well illustrated and clear. How different is it from the one provided? Creativity.	
Problem identification What is the situation on the ground with regards to textile waste?	
Generation of ideas Brainstorming on what is required to address the problem.	
Specifications What will the product be used for? How/what are the performance expectations?	
Patent search What solutions already exist? What components, e.g. design of fabric, size, colour combinations, standard sizes and shape are available in relation to end	

ASPECT	COMMENT
use?	
Design brief Aims and objectives of the project Scope Target audience	
Generation of possible solutions At least 5 different but similar products that can address the need (well-presented and differences clearly shown). Evidence of divergent thinking, creativity, innovation, originality; support your rating.	
Justification of chosen solution Provide reasons for final choice. Do these reasons show critical thinking skills?	
Development of the product Description of materials used, quantities and sizes. Description of how the product was made from textile waste to a 3-dimensional artefact. (Comment on the communication and drawing skills). Choice of images presented Meaningful and well-explained.	

ASPECT	COMMENT
Experimental work Tests carried out on the completed product. Evaluation of results (comprehensiveness Identification and justification of the changes that might be made to the product).	
Evaluation and recommendations How perceptive and comprehensive the evaluation is. Technical jargon used. Level of argument; is it critical, analytical?	
Production Appropriate use of elements of design: Colour, form, space, line and texture. Proper application of the principles of design: Rhythm, proportion, balance, emphasis and harmony.	
Practical skills proficiency Workmanship.	
Ergonomics and anthropometric considerations	

ASPECT	COMMENT
Indicators of product efficiency Functionality and appropriateness of intended use.	
Indicators of product durability Materials, techniques, finish, and ability to withstand wear during use.	
Creativity and entrepreneurial skills Quality of product How is it different from other products already on the market? Neat, secure, attractive Care labelling (fibre content, care-labelling symbols, etc.) Designer label Costing and justification	
Further assessment of the product Does it have a diagnostic impact? Does the product answer the problem? What improvements should be made?	

ASPECT	COMMENT
Critique the processes used in terms of technology used in upcycling. Comments on new knowledge generated:	
General comments on the overall performance of the work done:	

APPENDIX H: QUESTIONS TO STUDENTS ON THEIR EXPERIENCE OF PBL IN FOCUS GROUP INTERVIEWS

- How do you understand place-based learning and its value for teaching?
- How did you feel about place-based learning before embarking on it? And now?
- What were the challenges you faced in place-based learning?
- What did you learn about yourself during place-based learning?
- What did you learn about involving community members in the learning process?
- How do you think you will use place-based learning in your practice? If you will not, why not?
- If you were to engage in place-based learning again, what would you do differently?
- What would you change about how place-based learning is taught?
- What would you say to other pre-service teachers embarking on place-based learning?

APPENDIX I: EXAMPLE OF VERBATIM TRANSCRIPTS OF FOCUS GROUP INTERVIEWS

Moderator: Good afternoon ladies.

Participants (All): Good afternoon, Ma'am.

Moderator: It's nice and cool here at Emthunzini Wethemba Childrens' Home. Today, I just want to ask you some questions and I want you to engage in some discussions and give me your opinions on the questions. I want you to feel free and just air your views. Right! I would like us to, just before we start, maybe [lay down] a few ground rules. Maybe three or four ground rules.

Participant 1: Do not crush someone's point. Never crush someone's point.

Interviewer: Do not crush anyone's point. Okay. Anyone is free to say what they think. What else?

Participant 4: We can't talk when someone is talking.

Moderator: *Ehe-e!* When someone is talking we listen and then we also give our contributions. What else?

Participant 2: Let's have one person talking at a time

Moderator: So that it's orderly. Right, ladies, I would just say everyone should speak. It's not that someone will lead us. Each person must speak, so when I look at you I want you to contribute and discuss. The first question says, "How do you understand place-based learning and its value for teaching? What is your interpretation of PBL and its value?"

[Silence]

Asixoxenini phela [let us talk]. Whatever you say I want you to be very loud, because there is wind here and [we are in] an open space. I am recording and may not hear. Just talk to each other. Discuss how you understand PBL and its value for learning. As a group, let us discuss.

Participant 1: [It means learning outside the school environment. You won't be in the school environment but you will have gone to where there are people. Such as where we are right now: [naming the community.]

Moderator: [She] want[s] to hear each one of you. What is your interpretation of PBL and its value? Tell her.

Participant 2: [My opinion is that place-based learning is where you learn not within the surroundings of a school environment, but [by] working with the community. You are not at school, but in the community. Others can fill in. Thus, how I understand it,

you are not in the school environment. You reach out to people where they are in the community and you are talking with the community.]

Moderator: Your name?

Participant 2: [Says her name]

Moderator: Whenever you speak just say your name.

Participant 2: Okay.

Moderator: Yes. I want you to be discussing. It is not teacher-driven. Talk to each other. What do you think of what [Participant 2] has said?

Participant 3: I think PBL is where you will be outside the school. Then you will be interacting with the community, learning *amanye ama skills* [other skills], learning about something, for instance, here we are dealing with textile waste.

Moderator: Very interesting. Here you are dealing with textile waste! Yes, what did you want to say?

Participant 5: I think I want to add on that she is saying we are dealing with textile waste, so waste must not be thrown away. It must be kept and recycled and become new and be used. [Says her name]

Moderator: How did you feel about place-based learning before embarking on it? When you were first told about PBL, that you will go to the community and learn, how did you feel?

[Silence]

Talk about how you felt. Tell each other.

Participant 4: *E-he Mina* [I] personally thought it was a difficult thing to do 'cause to get into the community, especially going into the community [that] you are not familiar with is so difficult, because you do not know if the people will accept you or not. So it was a big challenge.

Moderator: Continue talking about it.

Participant 3: *E-he* [I] personally [laughs] thought it was waste of time. Especially for me because I did not understand PBL in the first place.

Participant 1: [And I think the other thing that was a problem [is that] we were given a topic requiring that we go to the community to talk about textile waste. Of which I thought, We are going to the community delivering such a topic, saying we want to talk about textile waste to people who have never heard about [what textile waste is] and what has initiated that we talk about textile waste. So I thought, "Ha-ha!" It was going to be something very challenging, and very difficult to deliver to the people.]

Moderator: Don't whisper. Speak loudly.

[Silence]

Okay. What were the challenges you faced in PBL?

[Silence]

What were the challenges you faced in PBL? Tell others. Let's talk about it.

Participant 2: The first time we came here it took time to start our project. There was [a] communication breakdown.

Moderator: What do you mean by communication breakdown?

Participant 2: The coordinator was not there and the community members who were here did not know what to do. The information was not going to the coordinator.

Participant 4: But even *i* [if] information *ifika* [was being passed] they did not understand [what place-based learning is]. What it is all about.

Participant 2: [And even though, when we arrived here, if you can still remember, do you know that when you come across a place, like this one, someone will be expecting that maybe you have come with donations since the place is a children's home. So maybe when they saw us they thought that we have come to donate something, and when we told them that we came here for textile waste they even said, "Ah! We have a problem." We asked what problem they had, and they said they wanted a garden. A vegetable garden to sustain their needs in the kitchen, but when we told them about textile waste, it appeared as if we had come with a heavy burden of something else that they didn't expect in such an organisation.]

Moderator: What did you learn about yourself during place-based learning? Talk and tell each other. We want a conversation. During PBL, what did you learn about yourself now that you have gone through the process? What are the personal lessons after experiencing PBL?

Participant 2: [Personally, I discovered that it is not difficult in as much as I thought it was for the first time. In that they were able to welcome us. It showed that maybe there is progress.]

[Silence]

Moderator: Continue.

Participant 3: [We were patient. Had it not been that we were patient we [w]ould have abandoned the project].

Moderator: So you learnt that you are patient.

[Silence]

Is that all that you learnt after experiencing PBL? Personal learning?

Participant 3: E-he. I learnt *uku* [to] interact *labanye loba silama* [with others even though we have] differences we agree on [some] thing[s].

Participant 5: [We learnt many things that we didn't know such as making pillowcases and using natural dyes.]

Moderator: So, personally, what did you discover about PBL?

Participant 4: And we also learnt creativity.

Participant 3: [Personally, I also learnt that the one who is coming to tell people is not that you are learned, even those people in the community they have something that they know better than you. 'Cause we also learnt something from the community, like, for example, when they told us that we can make vases.

Another participant: Covers.

Participant 3: A vase, a flower vase [laughs]. We are able to go, sell, and get your own money using [the] weaving process.

Moderator: What?

Participants [All]: Weaving.

Moderator: Yes! Over there, what do you think of what they were saying?

Participant 5: [Participant says her name] I think what they said, it's okay, because it's what we learnt. 'Cause we learnt a lot in this place and we were able to discover things that we did not know.

Moderator: And yourself? What did you learn about yourself during PBL?

[Silence]

Anyone? I don't want to close anyone out.

Participant 2: [Personally, I think I discovered that I am able to teach someone and they [will] understand. Especially something to do with textile. I learnt that natural dyes can be used. [We] brought this in the community, they took it and understood it, and this made me proud that I can be a [good] teacher in the community.]

Moderator: Finished?

Participant 2: [Yes].

Moderator: What did you learn about involving community members in the learning process?

[Silence]

What are the effects of involving community members in the learning process?

Participant 2: *Mina ngibona angani* [Personally I think] you learn more skills. I didn't know for sure how the pillow is made and community members told us.

Moderator: Let's all talk, yes! Loud! [Raise your voice].

Participant 2: [What I can say concerning the skills is, personally, to speak the truth, I did not know how, maybe, please don't laugh at me that I did not know how a pillow is sewn. That is why, for sure, I was busy saying to [a community member], "Come here." I didn't know how a pillowcase is sewn. One side is folded and the other side overlaps the other side, so I wanted to learn more. I'm happy because [a community member] is the one who taught us that with the help of [another community member]. I still remember [a community member] is the one who said, "For better results, let's do it this way." So, I am happy now that I can even sew pillows instead of going to the store to buy them.]

Participant 6: I also didn't know how to sew a pillowcase and [a peer] showed us.

Participant 4: [A community member] also taught us how to stretch the fabric before you cut.

Participant 2: [Personally, what I am happy about again is that when I was talking to [a community member], she said she did not have any knowledge of how to use an electric sewing machine, but she was happy 'cause when she came here, when they were helping her, [a peer] and the likes of [other peers] she was able to sew. You could see even that they were doing the stitches. They were happy even, [community member] was saying, "Ah! We didn't know that you were bringing such good things to us." So, I am happy that even the community realised the importance of the programme that we had brought to the community.]

Participant 4: I am also happy about working with the community, because it builds / [a] friendship; a strong one.

Moderator: How do you think you will use place-based learning in your practice? If you will or if you won't, what will be the reasons? Let's talk about it. Don't chat like people in a commuter omnibus. This is a focus group discussion.

[All participants laughed]

Participant 2: Can you please repeat the question for us, Ma'am?

Moderator: How will you implement PBL in [y]our practice? How I will implement it in my practice. Talk about it.

[Whispering amongst participants]

All those questions are relevant. What did you ask? Ask other questions. Share with us.

Participant 2: She was saying repeat the question, Ma'am. So, now that you have told us she can talk.

Participant 5: [I think [Participant's name], I think if in the classroom you can use PBL like taking children out to the community. They learn, they can explore, they can also, like we have said, learn something about themselves, and they discover things on their own out there, instead of learning in the classroom. If you take them out they can also have first-hand information about that place.]

Participant 2: [Personally, I think again what [participant's name] [is saying] is that PBL helps in self-confidence, in that you are now able to stand in front of the community. Just imagine a community, maybe of about [a] hundred people, or fifty people. So standing in front of them and deliver[ing] knowledge that have you motivates learners to stand on their own and say what they know. [Participant's name].

[Silence]

Moderator: Continue. What do you say about what [your peer] is saying?

Participant 5: Ya. It's true, Ma'am.

Moderator: Can you put it into practice and why? Let's talk about it.

Participant 5: [I think it's true 'cause they won't be referring to any books, but doing it; practical. When involved learners do not easily forget what they have learnt.]

Participant 6: [It brings out excitement of some sort. Remaining in the classroom all the time is boring, but when learners go out of the school environment it motivates them to always come to school].

Participant 3: [Being in the classroom all the times is boring and catering for individual differences could be a problem so PBL builds up a learner in many ways.]

Participant 1: [And I think it encourages a learner to go an extra mile in the teaching–learning process.]

Participant 2: [I want to add on to what [my peer] has said, for instance, let's take for example that there is a trip at school: have you ever realised that learners, when they are told that there is a trip, the excitement that prevails and they are even keeping time? Personally I've also noticed the same amongst ourselves. When we are coming to this place the morale is high. Of course, even though at times we wouldn't find all the community members, but that we will have made an appointment that we will be there, they will also be waiting for us. The same happens to the learners if they are going out of the school environment, they will be eager to see better things out there. But if confined to one place, it's boring, but if you are exposed to people, seeing different things out there you gain knowledge that you didn't have.]

Participant 4: *Loku looka* [and looking] forward to learning more.

Participant 2: [Exactly. 'Cause you realise that if there is another trip, those learners who had not gone out last time will be eager to do so. I also observed this amongst us. When we leave UCE our colleagues will be eager to know where we are going. They were eager to know what we will be doing in the community.]

Moderator: Is there a reason why you would not E-he try this practice in your own practice? Is it something you think [that]’s worth trying? Are there reasons why you won’t try it?

Participant 2: I don’t think there are any reasons that [would] stop us, as we are saying the advantages. [When leaving] [college] colleagues were eager to know what we were going to do out there.

Moderator: If you were to engage in place-based learning again, what would you do differently? How? What would you do differently? Let us talk about it.

Participant 2: [Personally, I think it was my first time, so as of now I don’t think I can say anything but, just that, at first it did not go as we planned. So the difference, maybe it can be in the approach.]

Participant 6: *Mina* [personally], I thought maybe we can dye our fabric using about three to four colours because now we dyed using one colour.

Participant 4: [Personally, I think to add on top of what Nozi was saying, when we are talking about the dyes; we only used one type of dye to dye the sheets we intended using. So as we were learning we also learnt that the viscose material is good for coming up with different types of dyes. Maybe I can come up with these types of materials in my teaching practice.]

Moderator: Isn’t it you were using waste material?

Participants (All): Yes, Ma’am.

Moderator: What would you change about how place-based learning is taught? What would you change about how PBL is taught? Changes you would make on how PBL is taught?

Participant 2: [By the way, how did we learn it? We just came here and we told them that textile is this and that. But I think another way of helping the community is to come up with the hand-outs, ‘cause in other instances you can teach them through the word of mouth, telling yourself that they have understood and having hand-outs; it will help them have reference of some sort. So you can come up with hand-outs.]

Participant 4: E-he

Moderator: Anyone who wants to comment on what she has said?

Participant 1: [They do not know how to work most of the process so bringing a hand-out will enable them to have reference to something.]

Participant 6: [Exactly, I still remember when I talked to ma’am [community member], saying that it’s not only that we are using “umunyi” only, there are different types of trees which you can use to dye the fabrics, even tomatoes can be used. I heard her say, “May I please know more about the other ways of dyeing the fabric. Something tangible can be of help.”]

Moderator: What do others think? We are just brainstorming, there are no correct answers.

Participant 3: I think [the] hand-out will help because it will show them all the steps. Apart from [the] hand-out I think we can use or even download a video, and if you've got a video to show them; that will not make them forget the skill.

Participant 2: [To add on to Participant 3]. You come with a projector and show the process of doing. It enables someone to understand better. [My peer here is saying] is saying projector. Ah! Of course, it might be difficult to get a projector but the projector is another way of media which is very effective in enabling one to understand.]

Moderator: What would you say to other pre-service teachers embarking on place-based learning? What would you tell other students teachers embarking on PBL?

Participant 3: There are benefits, more skills and there should not be communications breakdown and I would just say that they should not in fact whatever you are aiming it's not like the process will go the way that you like but you can come across some challenges.

[Silence]

Moderator: What do you think about what she is saying? Loudly!

Participant 6: For example, as we came here we thought things were going to go the way we wanted, but somehow we were sort of being discouraged, 'cause we thought of quitting because the things were not going the way we wanted.

Moderator: What do you think about what she has said?

Participant 3: At the end I think it paid off, because we are now enjoying [it] and the objectives were achieved.

Participant 4: PBL is something that has challenges but you overcome it.

Participant 2: [Personally, another thing that I can say is that in PBL you have to be positive, 'cause, you know, when coming here we had this mind that this thing is difficult, but at the end of it all, personally, I discovered that I learnt something. I really learnt something: fabric dyeing. I didn't know what ingredients to mix, but now I can tell somebody that even though you are a teacher, there is something that you can do with your hands.]

Another participant: During your spare time.

Participant 2: And benefit from that tie and dye. Those skills E-he, yes. Yes.

Participant 5: No expenses.

Participant 2: Yes. Yes, and those clothes that we used; we just took out the old clothes then we recycled them, and we came up with bedspreads.

Moderator: Let's now summarise. When we summarise our discussion for PBL we are saying what we understand about PBL and its value for learning. What is this called PBL and its value?

Participant 4: I think it's a simpler way of giving knowledge to the people without any cost.

Participant 3: Its value: these people did not know about textiles, but when we came we explained to them what it is.

Participant 2: [And what I can say, again, [says another participant's name] is that information brought to you anywhere, I'm just giving an example, like [community members]; we just came here and we thought that we gain[ed] something from them and they gained something from us. Of now they can now dye their own things but, not having any costs incurred: that knowledge. So, ah, I think the PBL programme has advantages somehow.]

Participant 1: [if they are clever enough they have found something else to earn a living.]

Moderator: What were your feelings before and after? You can just say before and after.

Participant 2: Before: we didn't know. After: now we are proud to say we are good tie-dyers.

Moderator: Any challenges? In brief.

[Audio not clear]

Moderator: Summary on implementing it in your practice?

[Audio not clear]

Moderator: Summary on what you learnt about yourself.

[Audio not clear]

Interviewer: Summary on what [you would] say to other student teachers.

[Audio not clear]

Moderator: Ladies, I want to thank you and I enjoyed the discussion. If you had to do it again I would jump up and do something also, especially in this economy.

APPENDIX J: TEXTILES TECHNOLOGY SYLLABUS

UNIVERSITY OF ZIMBABWE

DEPARTMENT OF TEACHER EDUCATION

UNITED COLLEGE OF EDUCATION

DIPLOMA IN EDUCATION (PRIMARY): GENERAL COURSE

TEXTILE TECHNOLOGY MAIN SUBJECT SYLLABUS

1.0 PREAMBLE

This syllabus is designed for post O level pre-service students undertaking a three-year Diploma in Education (Primary) course. The course follows a 3-3-3 model of teacher education, that is, initial three residential terms, three terms on teaching practice, including distance learning, and three residential terms. The course intends to deepen and enhance students' knowledge and skills in textiles, clothing and design in order to cultivate an appreciation of the role of the subject for personal development.

2.0 AIMS

The course aims to:

- 2.1 develop in students a scientific understanding of fibres and fabrics and their end use performance;
- 2.2 equip students with knowledge and skills in pattern designing, adaptation and garment construction using Information Communication Technologies;
- 2.3 promote in students an understanding of technological processes related to the fashion and textile industry; and
- 2.4 inculcate in students entrepreneurial skills for the design and textile industry.

3.0 LEARNING OUTCOMES

By the end of the course, students should be able to:

- 3.1 analyse the structure and properties of fibres and fabrics;
- 3.2 explore functional and aesthetic aspects of textiles;
- 3.3 apply knowledge of design, technological processes and textile construction techniques to produce textile items;
- 3.4 demonstrate good workmanship and creativity in constructing clothing and household articles using Information Communication Technologies;
- 3.5 use design features as source of inspiration in producing textile products; and
- 3.6 exhibit entrepreneurial skills in the textiles and technology industry.

4.0 CONTENT

INITIAL RESIDENTIAL PHASE

4.1 Textile Science

4.1.1 Polymerisation

4.1.2 Requirements of fibre forming polymers

4.2 Textile Fibres and End-Use Performance

4.2.1 Cellulosic

4.2.2 Protein

4.2.3 Ester cellulosic

4.2.4 Synthetic

4.2.5 Fibre identification

4.3 Fabric Construction

4.3.1 Yarns

4.3.2 Weaving

4.3.3 Knitting

4.3.4 Bonding

4.3.5 Fabric finishes

4.4 Equipment

4.4.1 Types

4.4.2 Choice

4.4.3 Use

4.4.4 Maintenance

4.5 Patterns

4.5.1 Readymade patterns

4.5.1.1 Alteration

4.5.1.2 Adaptation

4.5.2 Pattern designing

4.5.2.1 Drafting blocks

4.5.2.2 Sizing and grading

4.5.2.3 Computer aided design

4.6. Garment Construction

4.5.1 Computer-aided manufacturing

4.5.2 Construction processes

DISTANCE LEARNING

4.7 Fabric Colouration

4.7.1 Colour theory

4.7.2 Dyeing

4.7.3 Printing

4.8 Sustainability Issues in Textiles

4.8.1 Eco-friendly fibres

4.8.2 Textile repurposing

FINAL RESIDENTIAL PHASE

4.9 Textile Application

4.9.1 Elements and principles of design

4.9.2 Selection of fabrics

4.9.3 Creative techniques

4.9.4 Impact of technological developments

4.10 Contemporary Issues

4.10.1 Development of fashion

4.10.2 Fashion illustration: IT application

4.10.3 Fashion cycles

4.10.4 Fashion forecasting

4.11 Fashion Design

4.11.1 Design process

4.11.2 Design brief

4.12 Dress and Culture

4.12.1 Factors influencing choice of dress

4.12.2 Dressing for different occasions

4.13 Wardrobe Planning

4.13.1 Figure types

4.13.2 Figure irregularities

4.13.3 Styles for different age groups

4.14 Care of Textile Products

4.14.1 Laundering

4.14.2 Care labelling

4.14.3 Repair of clothes

4.15 Consumer Behaviour in Textile Products Choices

4.15.1 Health concerns

- 4.15.2 Environmental issues
- 4.15.3 Peer and media influence
- 4.16 Entrepreneurship
 - 4.16.1 The concept “entrepreneurship”
 - 4.16.2 E-marketing
 - 4.16.3 E-merchandising

5.0 APPROACHES

- 5.1 Lecturing
- 5.2 Discussion
- 5.3 Demonstrations
- 5.4 Observations
- 5.5 Practical work
- 5.6 Research
- 5.7 Field trips
- 5.8 Distance learning
- 5.9 Information Communication Technologies
- 5.10 Group work
- 5.11 Resource persons
- 5.12 Seminars
- 5.13 Experimentation

6.0 ASSESSMENT

Final assessment will comprise coursework and examination.

- | | |
|---|-----|
| 6.1 Coursework | 30% |
| 6.1.1 Two assignments of equal weighting; one theory and one practical done in the final residential phase. | |
| 6.2 Examination | 70% |
| The examination comprises: | |
| 6.2.1 Practical examination of five hour duration; two hours task analysis and preparation time, and three hours construction time. | 40% |
| 6.2.2 Theory examination | 30% |
| 6.3 Candidates pass coursework and examination separately with a minimum average mark of 50%. | |

APPENDIX K: IMAGES OF STUDENTS WORKING IN THE COMMUNITY





APPENDIX L: DECLARATION BY LANGUAGE EDITOR



DECLARATION BY LANGUAGE EDITOR

To whom it may concern,

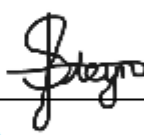
This declaration certifies that the dissertation below has been edited within reasonable, ethical, and professional limits, for syntax, grammar, spelling, punctuation, references, and specific stylistic requirements of the English language by one or more qualified language practitioner(s) at Word Order. The editor's revisions and comments serve as recommendations; the overall quality of the final product's contents remains the responsibility of the client/author. The language editor does not accept responsibility for any changes made to the mini-dissertation after issuing this declaration.

Manuscript title: My living theory of developing a pedagogical praxis in textiles technology through place-based learning

Author: F. Sebele

Date Issued: January 2021

Issued by: Wynand Steyn
BA (Hons) English, (SATI number 1000331)
on behalf of Word Order


JW Steyn

APPENDIX M: TURNITIN REPORT

21813965:Phd_Sebele

by LESLEY WOOD

Submission date: 09-Feb-2021 12:00PM (UTC+0200)

Submission ID: 1505316356

File name: 7595812c1_PhdocSebele_Formatted_and_edited__links_added__AdT.docx
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APPENDIX N: ETHICS CONFIRMATION LETTER



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1 August 2019

To Whom It May Concern

I hereby confirm that the ethics application, as stated below, was approved at the Ethics Committee meeting of the Faculty of Education of 25 July 2019.

Ethics number: NWU-00869-19-A2

Project head: Prof L Wood

Project team: F Sebele; Dr A du Toit

Title: My living theory of developing a pedagogical praxis for Textiles Technology through place-based learning

Period: 25 July 2019 – 25 July 2020

Clearance given for only one year. Extension can be requested after a year.

Risk level: Low

Should you have further enquiries in this regard, you are welcome to contact Prof Jako Olivier at 018 285 2078 or by email at Jako.Olivier@nwu.ac.za or Ms Erna Greyling at 018 299 4656 or by email at Erna.Greyling@nwu.ac.za.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Jako Olivier', is written over a light blue horizontal line.

Prof J Olivier

Chair Edu-REC

APPENDIX O: PRAXIS NOTEBOOK

