

https://dspace.org/

Productive pedagogy: experiences of third year foundation phase student teachers

Konrad, Nicole

2015-08-13
http://hdl.handle.net/10539/18216

Downloaded from a DSpace repository. https://dspace.org/

MASTERS OF EDUCATION RESEARCH REPORT

Productive Pedagogy: Experiences of Third Year Foundation Phase Student Teachers.

By: Nicole Konrad

Student Number: 877011

Ethics Protocol Number: 2014ECE020M

Supervisor: Mrs Tanya Bekker

Submitted in Partial Fulfillment for the Masters of Education Degree

UNIVERSITY OF THE WITWATERSRAND – JOHANNESBURG

SCHOOL OF EDUCATION

DIVISION OF CURRICULUM STUDIES

Declaration

I declare that this research report is my own work and that the work of others is appropriately acknowledge and referenced. I further declare that it is submitted for a Masters of Education Degree at the University of the Witwatersrand, Johannesburg, and has not been submitted before for any degree or examination in any other university.

Name of candidate

Signature

Date

Acknowledgements

This research report would not have been possible without the support, patience, guidance and encouragement from the following important people, to whom I would like to dedicate the pages that follow. It is to them that I owe my deepest gratitude.

Firstly, to my supervisor Tanya Bekker, who took me under her wing and guided me throughout this whole journey. Without your guidance, support, encouragement and friendly chats, this study would not have been completed. You have truly led by example and have been a great inspiration. Words do not suffice to express my gratitude.

To my parents Marcella and Hans Konrad, without your support none of this would have ever been possible. A special thanks to my mom for being my rock throughout this process and for always being there through the laughter and tears.

To my animus and husband Quentin Ferreira, thank you for being at my side throughout this extensive journey, for believing in me and for keeping me on my toes when times were tough. I love you and could never sufficiently express my gratitude to you.

To my sister Natalie, for being that phone call away when I needed some encouragement.

To my uncle Carlo Boschetti, thank you! Since I started on this academic journey, you have encouraged me to carry on and have been an inspiration throughout my whole life.

To the rest of my family, Paolo, Dean and Sherry Boschetti, and Linda and Justin Ferreira, for all the love you have shown me. Thank you.

To my two new best friends Lisa Mbuli and Andisiwe Hlungwane, thank you for the laughs, the complaints and all the encouragement along the way. The sharing of

experiences definitely made the process seem easy when at times things felt impossible.

Lastly, to the participants who gave of their time to be part of this research. Without you, this research would never have happened. Thank you!

Table of Contents

Chapter 1 - Overview of the Research **1**

1.1 Introduction. 1

1.2 Background. 2

1.3 Problem Statement. 3

1.4 Purpose Statement. 4

1.5 Aim. 4

1.6 Research Questions. 5

1.7 Rationale. 5

1.8 Conclusion. 6

Chapter 2 - Literature Review **8**

2.1 Introduction. 8

2.2 Overview. 8

2.3 Factors Influencing Learner Diversity. 9

2.3.1 Lack of Pre-primary Education. 9

2.3.2 Socio-economic Deprivation. 10

2.3.3 Impairments. 10

2.3.4 Language Barriers and Cultural Differences. 11

2.3.5 Lack of Parental Involvement and Support. 11

2.4 Challenges Faced by Learners. 12

2.4.1 Socio-emotional Demands. 12

2.4.2 Cognitive Demands. 13

2.5 Challenges Faced by Teachers. 14

2.6 Productive Pedagogy as a Possible Means for Foundation Phase Student Teachers to Address the Issue of Learner Diversity. 14

2.6.1 Dimension 1: Intellectual Quality. 16

2.6.2 Dimension 2: Connectedness. 18

2.6.3 Dimension 3: Supportive Classroom Environment. 19
2.6.4 Dimension 4: Working With and Valuing Difference. 20
2.7 Theoretical Underpinnings of the Four Productive Pedagogy Dimensions. 22
2.7.1 Intellectual Quality. 22
2.7.2 Connectedness. 23
2.7.3 Supportive Classroom Environment. 24
2.7.4 Working With and Valuing Difference. 25
2.8 Teacher Education for Diversity. 25
2.9 Conclusion. 28

Chapter 3 - Research Design and Methodology 29
3.1 Introduction. 29
3.2 Research Paradigm. 29
3.3 Research Methodology. 30
3.4 Research Design. 30
3.5 Research Site and Participants. 31
3.5.1 Research Site. 31
3.5.2 Qualitative Sampling. 32
3.5.3 Research Participants. 32
3.6 Data Sources. 33
3.7 Data Generating Instruments. 33
3.7.1 Written Response to a Set of Open-Ended Questions. 33
3.7.2 Document Analysis. 35
3.7.3 Interviews. 37
3.8 Research Procedure. 41
3.9 Data Analysis. 42
3.9.1 Analysis of Written Responses, Lesson Plans and Reflective journals. 42
3.9.2 Analysis of Interview Transcripts. 43
3.10 Ethical Considerations. 46

3.11 Research Rigour. 48
3.11.1 Credibility. 48
3.11.2 Transferability. 48
3.11.3 Dependability. 49
3.11.4 Confirmability. 49
3.12 Conclusion. 50

Chapter 4 - Data Analysis and Interpretation of Written Responses, Lesson Plans and Reflective Journals 51
4.1 Introduction. 51
4.2 Analysis of Data. 51
4.2.1 Written Responses. 51
4.2.2 Lesson Plans. 77
4.2.3 Reflective Journals. 84
4.2.4 Analysis Across Written Responses, Lesson Plans and Reflective Journals. 86
4.3 Conclusion. 95

Chapter 5 - Data Analysis and Interpretation of Interview Transcripts 96
5.1 Introduction. 96
5.2. Interview Transcripts. 96
5.2.1 Step 1: Familiarisation with the Data. 96
5.2.2 Step 2: Generating Initial Codes. 97
5.2.3 Step 3: Searching for Themes. 101
5.2.4 Step 4: Reviewing Themes. 101
5.2.5 Step 5: Defining and Naming Themes. 101
5.2.6 Step 6: Producing the Report. 103
5.3 Overall Findings. 111
5.3.1 Finding One: Productive Pedagogy Assists Student Teachers with Planning. 112

5.3.2 Finding Two: Productive Pedagogy Assists in Selection of Teaching Strategies. 112
5.3.3 Finding Three: Productive Pedagogy Enables Student Teachers to Consider and Deal with Diversity. 113
5.3.4 Finding Four: Productive Pedagogy Supports a Learner-centered Pedagogical Approach. 113
5.3.5 Finding Five: Some Elements of Productive Pedagogy were Considered More Relevant to Foundation Phase than Others. 114
5.3.6 Finding Six: Student Teachers were Enthusiastic About the Potential of Productive Pedagogy to Enhance Their Practice in Foundation Phase Classrooms. 116

5.4 Conclusion. 116

Chapter 6 - Discussion and Critical Reflection **118**

6.1 Introduction. 118

6.2 Relating Overall Findings to the Research Questions. 118

6.3 Personal Reflection. 120

6.4 Limitations of this Study. 121

6.5 Recommendations for Future Research. 122

6.6 Overall Conclusion. 123

References **124**

Appendix A **130**

Appendix B **138**

List of Figures

Figure 3.1 Examples of Open-ended Questions. 34
Figure 3.2 Examples of Interview Questions. 39
Figure 4.1 Example Extract of Written Response with Deductive Coding. 52
Figure 5.1 Example Extract of a Transcribed Interview Transcript. 97
Figure 5.2 Example Extract of Transcribed Interview Transcript with Inductive Coding. 97

List of Tables

Table 4.1: Productive Pedagogy Elements of Student Teacher One. 57
Table 4.2: Productive Pedagogy Elements of Student Teacher Two. 63
Table 4.3: Productive Pedagogy Elements of Student Teacher Three. 68
Table 4.4: Productive Pedagogy Dimensions and Elements of Student Teacher Participants with Regards to the Relevance of the Productive Pedagogy Framework. 71
Table 4.5: Productive Pedagogy Dimensions that Student Teacher Participants Foresee as Challenges. 74
Table 4.6: Productive Pedagogy Elements that Student Teacher Participants Anticipate Using in Their Lesson. 75
Table 4.7: Difficulties that Foundation Phase Teachers are Faced With in the Opinion of the Student Teacher Participants. 77
Table 4.8 Summary of Productive Pedagogy Dimensions and/or Elements from Lesson Plans. 78
Table 4.9 Summary of Productive Pedagogy Elements in Written Response, Lesson Plan and Reflective Journal of Student Teacher One. 87
Table 4.10 Summary of Productive Pedagogy Elements in Written Response, Lesson Plan and Reflective Journal of Student Teacher Two. 90
Table 4.11 Summary of Productive Pedagogy Elements in Written Response, Lesson Plan and Reflective Journal of Student Teacher Three. 93
Table 5.1 Interview Transcript Coding for Student Teacher One. 97
Table 5.2 Interview Transcript Coding for Student Teacher Two. 98
Table 5.3 Interview Transcript Coding for Student Teacher Three. 99
Table 5.4 Initial Across Interview Transcript Coding for All Three Student Participants. 100
Table 5.5 Initial Coding and Themes. 101
Table 5.6 Summary of Productive Pedagogy Dimensions and/or Elements from Interview Responses. 106
Table 5.6 Summary of Productive Pedagogy Elements for All Student Teacher Participant Across All Data Sets. 115

Chapter 1

Overview of the Research

1.1 Introduction.

Over the past years, international studies regarding teacher education have been in the foreground, as it is often believed that the practical task of teaching in the classroom plays a fundamental role with regards to making a difference in schools (McCormack, Gore & Thomas, 2006). In South Africa, teacher education is of particular importance as beginner teachers are expected to enter a classroom and teach young learners with diverse and extensive needs. Hemson (2006) suggests that there has been a major increase in learner diversity within South African schools, which ultimately has greater implications for beginner Foundation Phase and early childhood teachers. In addition to the diversity of race, gender, religion, class and language, which is evident within South African primary schools lies the long-lasting concern of not all young learners entering the formal schooling years ready to learn, which can ultimately impact learners' future school careers (Duncan, Dowsett, Claessens, Manguson, Huston, Klebanov, Pagani, Feinstein, Engel, Brooks-Gunn, Sexton, Duckworth & Japel, 2007; Van Zyl, 2011). It is thus of utmost importance that beginner teachers are sufficiently equipped in dealing with the multifaceted diversity apparent in today's South African schools so that all young learners are exposed to equitable education opportunities. Unfortunately, much research suggests that South African student teachers are not adequately trained in issues of diversity and that "there is little sense of urgency in meeting the challenges" (Hemson, 2006, p. v). This chapter will present the background to the study, which will contextualise the problem and purpose statement, the aim as to what this research will investigate, outline the research questions, as well as provide a rationale as to why this research will be conducted.

1.2 Background.

It is a matter of grave concern that the inherited legacy of Apartheid has left South Africa with various discrepancies with regards to learner diversity within South African schools (Chisholm, 2008). Learner diversity apparent in many South African primary as well as preprimary school classrooms today is not only concerned with issues of ethnicity, gender, religion, class and language, but also includes the cognitive and socio-emotional skills that are essential in order for learning to occur (Hemson, 2006). Not all young learners have the same or similar cognitive and socio-emotional skills when entering the early childhood or primary school classroom, and research suggests that learners' who lack the adequate cognitive and socio-emotional skills needed in the early school years, may also be disadvantaged in later school achievements (Duncan et al., 2007; Van Zyl, 2011).

In 2001 the South African Ministry of Education published *the Education White Paper 6 – Special Needs Education: Building an Inclusive Education and Training System*, which indicates the need to change the teacher education system in order to accommodate the diverse needs of all learners (Department of Education, 2001). This inclusive education policy has been adopted in order to address the growing concern of learner diversity in South African classrooms and attempts to create equitable education opportunities for all learners. Although this inclusive approach strives to create equal educational opportunities for all learners, it has posed new challenges not only for current teachers, but also for teacher education (Hemson, 2006). The *Guidelines for Responding to Learner Diversity in the Classroom through Curriculum and Assessment Policy Statements (CAPS)* makes an imperative that there should be differentiation in curriculum delivery in order to respond to the diverse needs of learners apparent within the classroom (Department of Basic Education, 2011a). This suggests that teacher education needs to equip student teachers with the necessary pedagogical skills to differentiate curriculum delivery and even more fundamentally to recognize and respond to the diverse needs of learners. According to Chataika, Mckenzie, Swart & Lyner-Cleophas (2012), teachers are regarded as the main role-players in implementing an inclusive education programme, but are often faced with many difficulties such as huge workloads, lack of resources and limited support. Granting

all this, research further suggests that the lack of adequate teacher skills and education in adapting the curriculum has been a major contributing factor for not successfully addressing the needs of diverse learners in South African classrooms (Dalton, McKenzie & Kahonde, 2012).

The above highlights the need for a framework that will equip student teachers with the necessary pedagogical skills in order to assist learners with diverse and extensive needs. The productive pedagogy framework (Lingard, Hayes & Mills, 2003), which was developed from the Queensland School Reform Longitudinal Study (QSRLS), has had a prominent influence for both learning and teaching in many Australian schools. Research indicates that the productive pedagogy model, "offers a framework for teacher education that goes beyond what have been understood as paradigmatic differences, by demanding attention to key concerns of each major tradition in teacher education" (Gore, Griffiths & Ladwig, 2004, p. 376). The framework of productive pedagogy consists of twenty elements, which are further classified into four main dimensions, namely intellectual quality, connectedness, supportive classroom environment, and working with and valuing difference (Hayes, Mills, Christie & Lingard, 2006). These dimensions of the productive pedagogy framework are designed in order to support both the social and intellectual outcomes of all learners (Lingard et al., 2003). The support that the framework of productive pedagogy offers for the social and intellectual outcomes of learners may potentially present a means for equipping student teachers pedagogically to better meet the demands of responding to the learner diversity that is evident in many South African classrooms today.

1.3 Problem Statement.

The Department of Basic Education (2011a) highlights that South African classrooms have diverse groups of learners who bring different experiences to the learning environment. As a result, this has posed new challenges for all teachers (Hemson, 2006). Although much research has been conducted with regards to why learner diversity exists in South African schools, little is known about how teachers

can successfully deal with and effectively teach a class of learners with extensive and diverse needs. A fundamental problem facing South African schooling today is the lack of adequate teacher education in order to prepare teachers to deal with the issue of learner diversity (Chataika et al., 2012). This results in many beginner Foundation Phase teachers not being able to successfully pedagogically address the diverse needs of learners entering the classroom. Current third year student teachers at a university in Johannesburg are exposed to the productive pedagogy framework as a means to enhance the quality of their teaching and the learning in the classroom (Gore et al., 2004). Gore et al. (2004) argue that not all student teachers graduate to become effective classroom teachers, which is why better teacher preparation is needed in order to rectify the problem of how one could better cope pedagogically with regards to the diverse needs of young learners. This study intends to explore how the productive pedagogy framework could be a potential supportive mechanism for Foundation Phase third year student teachers in pedagogically dealing with the issue of learner diversity in the Foundation Phase classroom.

1.4 Purpose Statement.

The purpose of this research is to explore how the productive pedagogy framework can be considered a potential supportive mechanism for Foundation Phase third year student teachers in pedagogically dealing with the issue of learner diversity in Foundation Phase classrooms.

1.5 Aim.

This research aims to investigate and describe the experiences and reflections of third year Foundation Phase student teachers with regards to how the productive pedagogy framework can be considered a potential supportive mechanism for pedagogically dealing with the issue of learner diversity in Foundation Phase classrooms.

1.6 Research Questions.

In this research, I address three main questions pertaining to how the productive pedagogy framework can be considered a potential supportive mechanism for pedagogically dealing with the issue of learner diversity in Foundation Phase classrooms.
These research questions are:

1. Based on the reflections of third year Foundation Phase student teachers, in what ways does the productive pedagogy framework assist in dealing with the issue of learner diversity apparent in Foundation Phase classrooms?

2. In what ways do third year Foundation Phase student teachers find the productive pedagogy framework pedagogically relevant for the Foundation Phase classroom?

3. How do third year Foundation Phase student teachers experience the implementation of the productive pedagogy framework in the Foundation Phase classroom?

a) What experiences do third year Foundation Phase student teachers report when they used the productive pedagogy framework in their lesson planning?
b) What experiences do third year Foundation Phase student teachers report when they used the productive pedagogy framework in their teaching?

1.7 Rationale.

The highlight of my teaching experience was receiving my first class of Grade One's. I will never forget standing outside my classroom with all these little faces looking at me with such excitement and eagerness to learn. I, too, was very enthusiastic about using the information that I had studied and finally implementing all the hard work that I had done in preparation for the start of my teaching career. Unfortunately, I was hit by a concrete wall a couple of weeks into the school year as

I noticed that not all learners entered the Foundation Phase classroom on an even footing, thus resulting in not all learners being able to deal with the pressures of formal schooling. Throughout the year a major concern of mine was whether my teaching efforts were able to address the diverse needs of the young learners sitting in front of me.

A recurring theme in literature reveals that the productive pedagogy framework offers support for the intellectual and social outcomes for all learners (Christie, 2008; Hayes et al., 2006; Lingard et al., 2003). Unfortunately, much of this literature is focused on the Intermediate and Senior Phases of schooling and very little studies, if any, are located in the Foundation Phase. This was a primary motivating factor for why I decided to conduct this research. The study provided the opportunity to explore in what ways the productive pedagogy framework could pedagogically assist in creating equitable learning opportunities for all young learners. In addition, I was able to explore in what ways the productive pedagogy framework could act as a potential supportive mechanism for third year Foundation Phase student teachers in pedagogically dealing with the issue of learner diversity in the Foundation Phase classroom.

1.8 Conclusion.

Learner diversity is apparent in many South African Foundation Phase classrooms. As a result, teacher education needs to prepare student teachers to pedagogically deal with issues related to the diverse needs of Foundation Phase learners. The support offered by the productive pedagogy framework to enhance the quality of teaching and learning in the classroom could potentially offer student teachers with a supportive mechanism with regards to pedagogically dealing with the growing concern of learner diversity in Foundation Phase classrooms. This chapter has outlined the background to the study, has contextualised the problem and purpose statement, followed by the aim as to what this research will investigate. Furthermore, it has outlined the research questions and has provided a rationale as to why this research will be conducted. In the chapter to follow, in order for me to

make the claim that the productive pedagogy framework could potentially be a successful and supportive mechanism for Foundation Phase third year student teachers in pedagogically dealing with the diverse needs of young learners in the Foundation Phase classroom, an extensive review of the literature and research that is related to this study will be discussed.

Chapter 2

Literature Review

2.1 Introduction.

The intention of this research is to investigate and describe the experiences and reflections of third year Foundation Phase student teachers with regards to how the productive pedagogy framework can be considered a potential supportive mechanism for pedagogically dealing with the issue of learner diversity in Foundation Phase classrooms. This chapter provides an extensive review of the literature and current research that is related to this study. It will be divided into sections that include a broad overview of why this study is to be conducted, factors influencing learner diversity, challenges faced by learners, challenges faced by teachers, the productive pedagogy framework, theoretical underpinnings of the productive pedagogy framework, and teacher education for diversity.

2.2 Overview.

“In responding to the diversity of learner needs in the classroom, it is imperative to ensure differentiation in curriculum delivery to enable access to learning for all learners” (Department of Basic Education, 2011a, p. 2).

In South Africa, the inherited legacy of Apartheid has left us with various discrepancies regarding ethnicity, gender and social class that are still apparent in many classrooms today (Chisholm, 2008). Inherent in the quote above lies the realisation that managing learner diversity is a growing concern for many teachers in South African schools. Furthermore, South African classrooms have rich diversity in the learner population, which reveals that not all learners have the same or similar cognitive and socio-emotional skills that are essential for learning to occur (Department of Basic Education, 2011a). It is imperative, however, that this be viewed not from a deficit perspective, but rather from an inclusive standpoint that

seeks ways to enable epistemological access for all learners. When a deficit perspective is viewed, it is assumed that there is a fault within the child, often resulting in the child being removed from the system. In contrast, an inclusive standpoint takes the position that the education system as a whole has to be looked at so that no child is discriminated against.

That being said, due to the significant increase in learner diversity within South African classrooms, it is of utmost importance that teachers adapt the prescribed curriculum so as to address the diverse needs of all learners (Department of Basic Education, 2011a). Thus, it is fundamentally important that teachers be adequately equipped with the necessary pedagogical skills to differentiate curriculum delivery and recognize and respond to the diverse needs of learners.

2.3 Factors Influencing Learner Diversity.

There are various factors influencing learner diversity within South African schools. These factors may include lack of pre-primary education, socio-economic deprivation (i.e. poverty), impairments (i.e. learning or developmental barrier), language barriers and cultural differences, and lack of parental involvement and support (Landsberg, 2007).

2.3.1 Lack of Pre-primary Education.

Research suggests that children enrolled in pre-primary schools are not only more ready to learn when entering the formal schooling system, but are also said to perform better in later school years than learners who have not gone through an early childhood educational programme (Umek, Kranjc, Fekonja & Bajc, 2008; Berlinski, Galiani & Gertler, 2006). Furthermore, many educationalists believe that meaningful play activities, which learners engage in during their pre-primary school years, could significantly direct learners' cognitive, physical and emotional development (Saracho, 1991). Bearing this in mind, it could be said that pre-primary education has a positive relationship with regards to preparing learners to be school-

ready, thus addressing one factor of learner diversity in the Foundation Phase classroom.

2.3.2 Socio-economic Deprivation.

Socio-economic deprivation refers to deficiencies evident socially as well as economically. These deficiency factors include poverty, lack of access to basic services, exposure to danger, inaccessible environments, HIV/Aids as well as exposure to unsafe buildings (Landsberg, 2007). In addition to these factors, the Department of Basic Education (2011a) postulates that South African schools are filled with a wide array of learners from different backgrounds, which results in learners bringing different experiences to the classroom. This delineates that a learner's socio-economic background can be a strong predictor of their school performance (Luke, Woods & Weir, 2013). As a result, these socio-economic elements that are apparent in many South African classrooms could have a negative impact on a learner's motivation to learn. For example, if a child has not eaten a proper meal before attending school, he/she may not be able to concentrate properly in the classroom, resulting in him/her not achieving to the best of his/her ability. With this said, issues of socio-economic deprivation are ubiquitous in South Africa and are growing concerns for South African teachers, as they are influencing factors of learner achievement.

2.3.3 Impairments.

A barrier to learning may arise from an impairment that a learner may possess. These impairments could include those of the physical (a child in a wheelchair), cognitive (a child with Attention Deficit Hyperactivity Disorder - ADHD), sensory (a visually impaired learner), developmental (a child that stutters), intellectual and learning type (Landsberg, 2007). Any one of these impairments could have a direct negative impact on a young learners ability to learn. For example, if a child has been diagnosed with Attention Deficit Hyperactivity Disorder (ADHD) and has not been given the necessary treatment, he/she may find it very difficult to concentrate and sit still in the classroom, which may impact his ability to fully engage in the learning

process. It is evident that the learning process of a child could be negatively impacted if a learner possesses any of the above-mentioned impairments and therefore demands teacher accommodation of these needs if such learners are to be fully engaged in meaningful learning.

2.3.4 Language Barriers and Cultural Differences.

A common problem in many South African schools is that the language of learning and teaching is different to the language of communication used in the home or in the community (Landsberg, 2007). In South Africa where there are eleven official languages, it is very possible that teachers are not adequately equipped and trained to ensure that all learners' language needs are catered for. This could influence a learner's ability to participate and fully comprehend tasks that are completed in the classroom. Landsberg (2007, p. 150) suggests that, "teachers need to realize that not all learners share the same cultural background, converse in the same home language or have the same pre-school experiences, and therefore the needs of the multilingual learners are diverse and need to be accommodated." Bearing this in mind, language barriers and cultural differences in the classroom could directly impact a learner's ability to learn to the best of his/her ability. Conversely, recognising and respecting difference offers teachers an opportunity to enrich the learning experience for all learners.

2.3.5 Lack of Parental Involvement and Support.

In today's world, many South African parents are both forced to work in order to make ends meet, thus resulting in less time being spent with their child. Additionally, many learners come from divorced, dysfunctional families and/or child-headed households where there is little, if any, support and involvement from both parents. This is a sad reality of many families in today's society. Unfortunately, less quality time spent with parents may result in some learners not being as school ready as others. Research suggests that parent-child interaction can be more influential than a family's socio-economic status with regards to a learner's school performance (Van Zyl, 2011). For example, a child who has a parent that fetches them everyday from

school and sits with them in the afternoon and does homework will have a better support system, which will result in better school performance than a child who doesn't have any, or very little parental involvement. Thus, parental involvement could have a positive relationship in addressing one factor of learner diversity in the Foundation Phase classroom.

In South Africa, there are various factors that influence the growing concern of learner diversity within schools. It is clear that these factors could negatively impact learners' learning experiences at school. With this said, it is important that teachers are aware of these influences so that they can adequately address the challenges that these learners may face in the classroom.

2.4 Challenges Faced by Learners.

South African learners who are faced with one or more of the above-mentioned factors may not be fully equipped in dealing with the pressures of formal schooling. In saying this, young learners could find it difficult in dealing with the socio-emotional and cognitive demands that are required in a formal classroom setting. It is thus of utmost importance that a teacher of a young school-going learner identifies and adequately assists these learning barriers as early as possible so that later school performance of the learner is not affected.

2.4.1 Socio-emotional Demands.

Research suggests that the emotional and social development of a child is directly related to academic school success (Wentzel & Asher, 1995). When children enter formal schooling there is an increased demand for the regulation of certain activities such as paying attention, controlling negative emotions (i.e. anger), compliance with rules as well as getting along with fellow peers (Bierman, Domitrovich, Nix, Gest, Welsh, Greenberg & Gill, 2008). These socio-emotional skills are essential in ensuring that learners are able to conform to the formal schooling system and could have a direct impact on the cognitive demands of young learners (Department of

Basic Education, 2011b). It is thus apparent that a young learner who is not equipped with the necessary socio-emotional skills may face various learning difficulties not only in the Foundation Phase classroom, but also with regards to future academic success.

2.4.2 Cognitive Demands.

Learners who are challenged by issues that give rise to such above-mentioned barriers may encounter learning challenges regarding perceptual skills (i.e. visual and auditory discrimination), perceptual motor skills (i.e. hand-eye co-ordination) as well as spatial awareness (i.e. left/right orientation) (Grove & Hauptfleisch, 1981). A young learner who is not school ready and does not possess these required skills could face challenges with regards to the cognitive demands required in the Foundation Phase classroom. Duncan et al. (2007, p. 1429) further emphasise the importance of cognitive skills such as oral language and conceptual ability and delineate that these cognitive abilities, "may be increasingly important for later mastery of more complex reading and mathematical tasks." In addition, the *Curriculum and Assessment Policy Statement Grade R – 3 English Home Language* document states that perceptual skills are of fundamental importance as they, "underpin and prepare the foundations for future learning" (Department of Basic Education, 2011b, p. 31). It is thus evident that a young learner who is not equipped with the necessary cognitive skills may face learning difficulties not only in the Foundation Phase classroom, but also further on in the learner's school career.

The *Curriculum and Assessment Policy Statement Grade R – 3 English Home Language* document that is issued to all South African Foundation Phase teachers recommends basic guidelines with regards to how Grade R teachers can possibly address the above-mentioned perceptual skills that influence cognitive learning (Department of Basic Education, 2011b). Many of the suggested guidelines, such as memory games and letter/word recognition can be used in most Foundation Phase classrooms, but are these suggestions enough to address the growing issue of learner diversity apparent in many South African Foundation Phase classrooms today? Furthermore, is it enough for universities to only prepare student teachers to

master a curriculum document? In South Africa, with the growing issue of learner diversity apparent in the classroom, this is clearly not the way forward.

2.5 Challenges Faced by Teachers.

It is evident that there are vast and complex challenges for existing teachers as well as for teacher education with regards to addressing learner diversity in South Africa. *The Curriculum and Assessment Policy Statement (CAPS)* documents are issued to all South African teachers in order to provide them with guidelines on what concepts, knowledge and skills should be taught per term, time allocation guidelines, formal as well as informal assessment requirements, and lists of recommended resources (Department of Basic Education, 2011b). Although the *Guidelines for Responding to Learner Diversity in the Classroom through Curriculum and Assessment Policy Statements (CAPS)* document states that all teachers should differentiate in curriculum delivery in order to enable equitable access to learning opportunities for all learners (Department of Basic Education, 2011a), the question must be asked whether student teachers feel adequately prepared to differentiate the prescribed curriculum in order to deal with the apparent learner diversity in the classroom? From what has been said, it is evident that the curriculum lies in the hands of the teacher and their pedagogical choices and therefore the question must be raised as to whether the utilisation of particular kinds of pedagogy could perhaps support the teacher in dealing with the differential needs of Foundation Phase learners?

2.6 Productive Pedagogy as a Possible Means for Foundation Phase Student Teachers to Address the Issue of Learner Diversity.

Research suggests that teachers are central to the success of improved student outcomes (Lingard et al., 2003). In order for this to be achieved in South Africa, it is important that teachers are equipped with additional knowledge in order to deal with the complex challenges that they face in the classroom (Christie, 2008). According to Christie (2008), additional knowledge in a South African context would include:

> *"how to work with cultural and linguistic diversity; how to teach students with different educational levels in the same classroom; how to deal with the complexities of HIV and AIDS; how to understand (and change) the challenges of recognition and redistribution in the complex South African context" (p. 202).*

In addition to the possession of additional knowledge, it is imperative that teachers are familiar with a pedagogical framework that can address the diverse needs of learners in the Foundation Phase classroom.

Student teachers at a university in Johannesburg are introduced to the framework of productive pedagogy in their third year of the undergraduate teaching degree. The support that the productive pedagogy framework offers for the social and intellectual outcomes of learners may potentially present a means for equipping student teachers to better meet the demands of responding to the diverse needs of learners that is evident in many South African Foundation Phase classrooms today.

The productive pedagogy framework emerged from one of the largest classroom-based research studies, the Queensland School Reform Longitudinal Study (QSRLS) that was conducted in Queensland, Australia (Hayes et al., 2006). The main focus of this study was to illustrate the, "kinds of classroom practices and organizational processes that make a difference to the academic and social learning of students" (Hayes et al., 2006, p. 4). Furthermore, the research argued that teaching strategies could improve the learning outcomes for all learners (Christie, 2008).

The productive pedagogy model consists of twenty elements, all of which are based on observable instances within the classroom. These twenty elements have been further categorized into four underlying dimensions namely, intellectual quality, connectedness, supportive classroom environment, and working with and valuing difference (Hayes et al., 2006). Furthermore, research suggests that through the use of these elements children's learning can be improved (Christie, 2008). These dimensions depict different types of classroom practices and could have the potential

in supporting teachers in pedagogically addressing the issue of learner diversity apparent in many Foundation Phase classrooms in South Africa.

2.6.1 Dimension 1: Intellectual Quality.

Research suggests that a key difficulty related to learners not being able to achieve a high academic performance throughout their school career is that schools do not necessarily allow learners to produce work of a highly intellectual quality (Department of Education, 2002). According to Lingard et al. (2003), intellectual quality in the classroom has a direct relationship with learners' academic performance. The elements regarding intellectual quality in the productive pedagogy framework include higher-order thinking, deep knowledge, deep understanding, knowledge problematic, substantive conversation and metalanguage.

2.6.1.1 Higher-order Thinking.

Higher-order thinking involves learners' manipulation of information and ideas so that there is a transformation of meanings (Hayes et al., 2006). This transformation occurs when ideas and facts are combined so that learners can, "synthesize, generalize, explain, hypothesize or arrive at some conclusion or interpretation" (Hayes et al., 2006, p. 42). Through the engagement in higher-order thinking tasks, learners are able to become producers of their own knowledge (Department of Education, 2002).

2.6.1.2 Deep Knowledge.

Deep knowledge is concerned with the main, key ideas and concepts of a specific topic. Knowledge that is said to be 'deep' has complex connections to the central ideas of the topic (Hayes et al., 2006).

2.6.1.3 Deep Understanding.

Deep understanding is established when learners are able to produce new knowledge by grasping the complex connections between the key concepts of the specific topic (Hayes et al., 2006). New knowledge is produced through, “discovering relationships, solving problems, constructing explanations and drawing conclusions” (Department of Education, 2002, p. 3).

2.6.1.4 Substantive Conversation.

Substantive conversation is concerned with the teacher-learner and learner-teacher interactions related to working with knowledge within the classroom (Hayes et al., 2006). This involves constant learner interaction and conversation with the teacher and is established when interactions are reciprocal and they promote shared understanding (Department of Education, 2002).

2.6.1.5 Knowledge as Problematic.

Knowledge as problematic involves presenting knowledge that is understood through construction rather than being fixed (Hayes et al., 2006). This could include influences of political, social as well as cultural aspects of learners’ lives (Hayes et al., 2006). The contrast in different views could therefore produce, “conflicting forms of knowledge” (Department of Education, 2002).

2.6.1.6 Metalanguage.

Metalanguage refers to the constant high level discussions regarding talking and writing, how written and spoken texts function, about technical language and words, about how sentences work or don’t (syntax/grammar), about meaning and text structures (semantic/genre), as well as about how discourses and ideologies function in speech and writing (Hayes et al., 2006).

2.6.2 Dimension 2: Connectedness.

Connectedness describes the extent to which classroom knowledge is built on and connected to the real world or existing knowledge (Hayes et al., 2006). It is the connection between the different types of knowledge found within the classroom as well as in the world. The elements of connectedness include knowledge integration, background knowledge, connectedness to the world as well as problem-based curriculum.

2.6.2.1 Knowledge Integration.

Knowledge integration can be recognized when two or more sets of subject area knowledge are made explicit or when no boundaries of subject areas are visible (Hayes et al., 2006). In other words, when knowledge is integrated over subject boundaries, an integration of knowledge occurs.

2.6.2.2 Background Knowledge.

Background knowledge plays an important role when linking learners' everyday experiences to the classroom. This involves allowing learners to share opportunities to connect their linguistic, cultural as well as everyday experiences to the specific subject topic (Hayes et al., 2006).

2.6.2.3 Connectedness to the World.

Connectedness to the world refers to the extent to which the classroom lesson has added value beyond the instructional pedagogical context, into the learners' real world experiences (Hayes et al., 2006). Real-world public problems and learners' personal experiences are two areas where connectedness to the real world is evident (Hayes et al., 2006).

2.6.2.4 Problem-based Curriculum.

A problem-based curriculum is a paradigm that encourages learners to construct their own knowledge in order to find a solution to a, “specific practical, real or hypothetical problem (set of problems)” (Hayes et al., 2006, p. 55).

2.6.3 Dimension 3: Supportive Classroom Environment.

A supportive classroom environment refers to a classroom that provides learners with a socially supportive atmosphere that offers equal treatment of all learners from various ethnicity groups, gender and socio-economic backgrounds (Hayes et al., 2006). Hayes et al. (2006) emphasize that a supportive classroom must also be intellectually demanding in order for learners to achieve academic success. The supportive classroom environment is concerned with the elements of academic engagement, student self-regulation, student direction of activities, social support and explicit criteria.

2.6.3.1 Academic Engagement.

Academic engagement is described as the attentiveness of learner participation in the assigned tasks (Hayes et al., 2006). Learner questioning, contribution to group activities as well as peer assistance reveals learners’ enthusiasm for their work (Hayes et al., 2006).

2.6.3.2 Student Self-regulation.

Self-regulation refers to learners being able to control their behaviour and/or bodily movements in the classroom environment (Hayes et al., 2006). Furthermore, it refers to the ability to follow instructions and to successfully complete tasks.

2.6.3.3 Student Direction of Activities.

Direction of activities takes place when learners influence the sequence and selection of what tasks or activities that they choose to engage in (Hayes et al., 2006). These activities are usually learner-centred, such as group work, whereby learners decide how the task will be completed (Hayes et al., 2006).

2.6.3.4 Social Support.

Social support is evident when teachers offer support to learners by conveying high expectations to all learners (Department of Education, 2002). These expectations include taking the necessary intellectual risks, encouraging all learners to master complex knowledge and skills, and creating mutual respect among all learners (Hayes et al., 2006).

2.6.3.5 Explicit Criteria.

Explicit criteria is present when there is, “frequent, detailed and specific statements” regarding what is expected of each learner (Hayes et al., 2006, p. 63). This creates opportunities for success, as expectations are clearly articulated.

2.6.4 Dimension 4: Working With and Valuing Difference.

This component of the productive pedagogy framework is of fundamental importance with regards to the improvement of learners’ intellectual and social outcomes, especially of those learners who are from disadvantaged backgrounds (Hayes et al., 2006). The elements that inform the valuing of difference component include cultural knowledge, inclusivity, narrative, group identities in a learning community and citizenship.

2.6.4.1 Cultural Knowledge.

Cultural knowledge is portrayed in cultural beliefs, languages, practices as well as in ways of knowing (Hayes et al., 2006). In a classroom environment, it is important that all cultural knowledges are valued through, “inclusion, recognition and transmission” (Hayes et al., 2006, p. 68).

2.6.4.2 Inclusivity.

Inclusivity describes the inclusion and incorporation of all learners regardless of socio-economic backgrounds, experiences and abilities (Department of Education, 2002).

2.6.4.3 Narrative.

Narrative is the linking of the sequence of events and is emphasized by the teacher and learner responses on various structures and forms (Hayes et al., 2006). These include stories of personal experiences, biographies and cultural texts (Hayes et al., 2006).

2.6.4.4 Group Identities in a Learning Community.

Group identity involves creating a supportive classroom community whereby learner differences and group identities are viewed in a positive manner and are valued (Hayes et al., 2006). The classroom is viewed as a community of practice.

2.6.4.5 Citizenship.

Citizenship refers to the acknowledgement that all learners have rights and responsibilities within a democratic society (Hayes et al., 2006).

Through the use of the above-mentioned elements, the framework of productive pedagogy could potentially be used as a supporting mechanism for student teachers in pedagogically addressing the issue of learner diversity apparent in many South African Foundation Phase classrooms. Furthermore, these elements could possibly provide a lens through which teachers reconceptualise existing classroom practices so that an increase in intellectual and social outcomes for all learners can be achieved (Lingard et al., 2003).

2.7 Theoretical Underpinnings of the Four Productive Pedagogy Dimensions.

The four dimensions of the productive pedagogy framework are informed by various theoretical underpinnings, which promote high quality education for all learners, particularly those from disadvantaged backgrounds (Mills, Goos, Keddie, Honan, Pendergast, Gilbert, Nichols, Renshaw, Wright, 2009). With this said, the relevance of the four productive pedagogy dimensions with regards to addressing the needs of learner diversity will be discussed in relation to social constructivism, connectedness, inclusive education as well as multiculturalism.

2.7.1 Intellectual Quality.

According to Christie (2008, p. 196), lessons that focus on high intellectual quality should, “engage students actively and critically with knowledge, including disciplinary knowledge and problem-solving approaches.” This relates to the theory of constructivism whereby learners’ prior knowledge is utilised for the creation of new knowledge and where learning is viewed as an active process (Cooper, 2007). A defining feature of the constructivist paradigm is that both learners and teachers are actively engaged in the learning and teaching process. In saying this, teachers are able to access and work within, what Lev Vygotsky, a prominent constructivist, defined as the Zone of Proximal Development (ZPD), of the learners. The ZPD can be viewed as the metaphorical space whereby, “tasks that are too complex to be mastered alone can be accomplished with guidance and encouragement from a more skillful partner” (Shaffer & Kipp, 2007, p. 278). During the course of the

interactional dyad, the teacher is able to gain an understanding of the learners' cognitive and conceptual limits pertaining to the subject at hand, and can then help to broaden the learners' epistemological horizons by questioning their assumptions and understanding about the subject matter. Through the use of this method, the teacher is able to assist learners to exceed the boundaries of what they are capable of achieving on their own, and the open-ended nature of this approach provides new areas for exploration about the subject matter that the learners may not have previously considered, thus leading to higher order thinking. Furthermore, it is evident that deep knowledge, deep understanding, substantive conversation, knowledge as problematic as well as metalanguage can be developed through this active learning approach.

2.7.2 Connectedness.

Pedagogies should relate to learners', "background knowledge and to events beyond the classroom" (Christie, 2008, p. 196). This requires teachers to employ intellectually challenging learning materials that are relevant and connected to the learners' everyday lives. According to the *Guidelines for Responding to Learner Diversity Through Curriculum and Assessment Policy Statements (CAPS),* South African teachers are encouraged to differentiate the content of the curriculum in order to ensure that it is meaningful so that all learners can attain the required knowledge, skills and competencies (Department of Basic Education, 2011a). With this said, teachers that employ the aspect of connectedness can intellectually challenge learners and cater for the differential needs that are apparent within the classroom (Zyngier, 2003).

According to Young (2011), connecting learners' everyday knowledge to school knowledge allows learning to be more meaningful. This requires the pedagogical process to be a more learner-centred approach whereby weak boundaries between the everyday and school knowledge are evident. According to Hoadley (2007, pp. 682-3), the, "*relations between* contents or contexts, and the degree of boundary-maintenance between categories" can be referred to as classification, and can be expressed as being strong or weak. Weak classification between the everyday and

school knowledge is particularly important in the Foundation Phase, as learners are still in the beginning phase of what Piaget, another prominent constructivist, termed the concrete operational stage of development. Hardman (2012) suggests that learners in the concrete operational stage of development base their thinking on concrete situations, thus using the learners' everyday knowledge or physical objects is important in ensuring that meaningful learning occurs.

A prominent feature evident in both the productive pedagogy dimension of intellectual quality and connectedness is that of a learner- or student-centred curriculum approach. Schiro (2008, p. 6) identifies learner-centred curricula as, "contexts, environments, or units of work in which students can make meaning for themselves by interacting with other students, teachers, ideas, and things." According to Chisholm and Leyendecker (2008), the main characteristic of a learner-centred educational perspective is the acknowledgement of the way that the mind works. This curriculum approach views learning and understanding as an active process, whereby knowledge is constructed in the minds of the learners (Chisholm & Leyendecker, 2008). The productive pedagogy dimensions of intellectual quality and connectedness demonstrate features of a learner-centred curriculum approach, as the weak knowledge boundaries highlight that learners' interests, experiences, and needs play an important role in assisting with the active construction of knowledge.

2.7.3 Supportive Classroom Environment.

During the apartheid era in South Africa, there were approximately 380 special needs school throughout the country, which catered for the diverse needs of learners (Eloff & Kgwete, 2007). Due to not all learners being sufficiently catered for in the special needs schools, learners with special needs have now been included into the mainstream education system, which has various implications for South African teachers. In order to ensure that all learners have access to equitable education opportunities, South African teachers need to ensure that a supportive classroom environment is established. Christie (2008) suggests that supportive pedagogy, which offers equal treatment to all learners regardless of race, ethnicity, disability or social-economic background, will enable learners to feel safe so that they are able to

undertake intellectual risks. Through creating a supportive classroom environment, learners are able to engage in various tasks, self-regulate and direct certain activities.

2.7.4 Working With and Valuing Difference.

Christie (2008, p. 196) proposes that pedagogy which engages with valuing difference, “draws on the beliefs, languages and ways of knowing of different cultures.” This aligns itself with the notion of multiculturalism whereby there is recognition of difference and can be said to be a key concern in South African schools due to the apparent culturally diverse society. According to Van der Merwe and Bekker (2013, p. 64), teachers who do not recognise leaners’ cultural backgrounds, “may show a lack of understanding of the influence of aspects like ethnicity, race, gender, social class, and language in learners’ lives, and that schools can perpetuate and legitimatise differences.” With this said, recognition of difference plays a fundamental role in ensuring that all learners are active participants and indirectly for the creation of a classroom that includes all learners (Christie, 2008).

From the above, it is evident that the four dimensions of the productive pedagogy framework play a key role in ensuring the promotion of a high quality education for all learners and that they, “have the best possible opportunities to learn” (Van der Merwe & Bekker, 2013, p. 60). In saying this, although the four dimensions are viewed as separate entities, it is clear that through the exploration of the theoretical underpinnings for each dimension, they do in fact correlate with each other and should not be viewed in isolation.

2.8 Teacher Education for Diversity.

International literature reveals that the conditions of schools have been, “consistently, systematically, and disproportionately unequal and unfair, and the major casualties have been those students who differ significantly in social class, race, ethnicity, native language, and gender from what is considered “mainstream””

(Nieto, 2000, p. 181). An influencing factor of this inequality rests on the various courses and practical experiences that student teachers receive from their enrolled teacher education programmes (Nieto, 2000). This emphasises the responsibility of schools and universities with regards to preparing student teachers to pedagogically deal with this growing issue of learner diversity, which is apparent in many classrooms around the world.

Post-1994, South Africa has undergone radical changes with regards to schools and classrooms, which requires teacher education programmes to equip student teachers with the necessary skills to deal with and meet the needs of changing times (Robinson, 1999). According to Darling-Hammond (2005, p. 3), if all learners are to successfully benefit from educational and social demands, teaching needs to go beyond the traditional educational view of, “dispensing information, giving a test, and giving a grade.”

With this said, teaching for a democratic education requires teachers to teach in ways that connect with learners, which involves an, “understanding of differences that may arise from culture, language, family, community, gender, prior schooling, and other factors that shape students’ experiences” (Darling-Hammond, 2005, p. 8). This is aligned with two of the productive pedagogy dimensions namely, connectedness and working with and valuing difference. The connectedness dimension of the productive pedagogy framework integrates school knowledge, links the learning process to learners’ background knowledge, connects classroom learning to the real world, assists in addressing an audience beyond the classroom, and engages with problem-based activities (Hayes et al., 2006). Hayes et al. (2006) postulate that when the learning process is connected to the learners’ real world, it offers a bridge that could encourage all learners to partake in classroom learning. Additionally, by linking pedagogy to learners’ background knowledge, many learners are able to move beyond the everyday level to more scientific knowledge and concepts (Christie, 2008).

To further illustrate this point, teaching in today’s complex educational conditions requires an understanding of learner differences (Darling-Hammond, 2005). The working with and valuing difference dimension of the productive pedagogy

framework ensures that all cultural knowledges are valued, group identities are positively recognised and developed, and encourages active citizenship (Hayes et al., 2006). Furthermore, it, “draws on beliefs, languages and ways of knowing of different cultures”, which allows for all learners to participate in the learning process, and creates an inclusive classroom (Christie, 2008, p. 196).

The notion of inclusion has become recognisable throughout South African classrooms, and is deemed an, “educational strategy that can contribute to a democratic society” (Engelbrecht, 2006). The introduction of the *Education White Paper 6 – Special Needs Education: Building an Inclusive Education and Training System*, as well as the *Guidelines for Responding to Learner Diversity in the Classroom through Curriculum and Assessment Policy Statements (CAPS)* has provided practical guidance to South African school principals and teachers, but research suggests that implementation is, “slow and only partial” (Dalton et al., 2012, p. 2). The productive pedagogy dimension of creating a supportive classroom environment could potentially be a supporting means of bridging this gap of inclusion implementation into South African classrooms, and assist all learners to achieve the desired objectives. The supportive classroom environment dimension ensures that all learners are engaged in activities, promotes self-regulation and social support, and ensures criteria for learner performance is made explicit (Hayes et al., 2006).

The above-mentioned inclusion policy in South Africa has resulted in an increase in number of learners with intellectual difficulties in mainstream classrooms (Engelbrecht, Oswald, Swart & Eloff, 2003). Research suggests that many learners, regardless of their socioeconomic backgrounds, are capable of achieving high academic performance if they are provided with classrooms that are intellectually challenging (Hayes et al., 2006). In many South African schools it is evident that not all young learners that enter the classroom come from the same or similar socioeconomic background, or have similar cognitive skills. This emphasises the need for a supporting framework that can assist in this aspect of classroom diversity. The intellectual quality dimension of the productive pedagogy framework integrates higher-order thinking, deep knowledge, deep understanding, substantive conversation, metalanguage, and knowledge as problematic, which could potentially assist all learners in achieving high academic performance (Hayes et al., 2006).

Hayes et al. (2006) postulate that the productive pedagogy framework is based on the premise that all learners need to be provided with intellectually challenging classrooms, as learners from marginalized backgrounds who are not exposed to intellectually challenging classrooms are victims of social injustice.

It is evident that post-1994, South Africa has undergone radical changes with regards to its education system. In saying this, it is of utmost importance that teachers are sufficiently equipped in pedagogically dealing with the multifaceted diversity apparent in today's South African classrooms so that all learners are exposed to equitable education opportunities. From the above, it is apparent that the framework of productive pedagogy has the potential to assist teachers and student teachers in addressing the growing concern of learner diversity within South African schools.

2.9 Conclusion.

Chapter 2 has presented an extensive review of the literature and current research that is related to this study. Given the literature that has been discussed above, learner diversity is a growing concern for many South African Foundation Phase teachers. In light of this, the purpose of this study is to attempt to discern in what ways the productive pedagogy framework can potentially act as a supportive mechanism for Foundation Phase student teachers in pedagogically dealing with the issue of learner diversity in Foundation Phase classrooms. The chapter to follow will discuss the research approaches and methodology that will be employed in this study.

Chapter 3

Research Design and Methodology

3.1 Introduction.

As the intention of this study is to explore how the productive pedagogy framework can be considered a potential supportive mechanism for Foundation Phase third year student teachers in pedagogically dealing with the issue of learner diversity in Foundation Phase classrooms, careful consideration of appropriate research design is essential. This chapter will outline the research approaches and methodology that are used during this research study. It begins by putting forth the approaches and data-collecting techniques, and goes on to justify why certain methods and instruments were employed.

3.2 Research Paradigm.

According to Opie (2004, p. 18), paradigm can be defined as a, “basic set of beliefs that guides action.” With this said, the main research paradigm or theoretical framework that was utilised in this study is that of interpretivism/constructivism. McMillan and Schumacher (2013, p. 14) suggest that interpretive researchers employ, “systemic procedures but maintain that there are multiple socially constructed realities.” Furthermore, this paradigm relies on participants’ views of particular phenomena and acknowledges, “the impact on the research of their own background and experiences” (Mackenzie & Knipe, 2006). The purpose of this research was to understand how third year Foundation Phase student teachers construct individual meanings around the phenomenon of interest; that being the productive pedagogy framework. The theoretical framework of interpretivism/constructivism provides the foundation for the qualitative educational research paradigm that will be additionally used in this study (McMillan & Schumacher, 2013). A qualitative research paradigm refers to, “an in-depth study using face-to-face or observation techniques to collect data from people in their natural environment” (McMillan & Schumacher, 2013, p. 5). Although this research

paradigm is often criticized for its small sample group, biased research opinions, and lack of rigour in findings, it is ideal for this study as very little is known about the reflections and experiences of third year Foundation Phase student teachers with regards to the framework of productive pedagogy (Patton & Cochran, 2007). These two complementary research paradigms were relevant to this study as third year Foundation Phase student teachers were asked to reflect on their experiences with regards to how the productive pedagogy framework deals with the issue of learner diversity evident in many South African Foundation Phase classrooms.

3.3 Research Methodology.

Opie (2004, p. 16) defines methodology as, "the theory of getting knowledge, to the consideration of the best ways, methods or procedures, by which data that will provide the evidence basis for the construction of knowledge about whatever it is that is being researched, is obtained." With this said, the methodological choices of the researcher inform the research design.

3.4 Research Design.

According to McMillan and Schumacher (2013, p. 28), a research design refers to, "the procedures for conducting the study, including when, from whom, and under what conditions the data will be obtained." In other words, the design of the research can be viewed as the building blocks that indicate the procedures that will be taken in order to execute the research. McMillan and Schumacher (2013, p. 31) suggest that qualitative research designs emphasise, "gathering data on naturally occurring phenomena," and are just as systematic as quantitative research designs. With this said, this study used a combination of two qualitative research designs, namely phenomenology and an exploratory design. A phenomenological research design refers to a study that, "describes and interprets the experiences of participants regarding a particular event in order to understand the participants' meanings ascribed to that event" (McMillan & Schumacher, 2013, p. 372). This research can be said to be a phenomenological study, as the experiences, thoughts and feelings of third year Foundation Phase student teachers on the productive pedagogy

framework as a potential supportive mechanism for learner diversity was investigated. Furthermore, the lived experiences of the third year Foundation Phase student teachers with regards to employing the productive pedagogy framework was transformed into, “a description of its ‘essence’, allowing for reflection and analysis” (McMillan & Schumacher, 2013, p. 32). The second research design that was employed in this study was that of the exploratory approach. According to Creswell (2008), an exploratory research design is a mixed method approach whereby qualitative data is collected first, followed by quantitative information. In this study however, only the qualitative aspect of the exploratory research design was utilised. This research design assists in exploring a specific topic of interest and helps in identifying important themes (Creswell, 2008). This research employed the exploratory research design, as the phenomenon of productive pedagogy was explored in relation to the experiences of third year Foundation Phase student teachers on the productive pedagogy framework as a potential supportive mechanism in pedagogically dealing with learner diversity. Additionally, important themes that arose from the topic of interest were studied.

3.5 Research Site and Participants.

3.5.1 Research Site.

Site selection refers to, “determining the best sites to gather data” (McMillan & Schumacher, 2013, p. 350). For this study, the site was a university in Johannesburg whose student teachers were exposed to the productive pedagogy framework in their third year of studying. This is ideal for this research as the experiences of third year Foundation Phase student teachers on the productive pedagogy framework as a potential supportive mechanism in pedagogically dealing with learner diversity could then be explored using the student teachers that have been exposed to the framework of productive pedagogy.

3.5.2 Qualitative Sampling.

Qualitative sampling involves, “selecting information-rich cases for study in-depth” and is employed in order to, “increase the utility of information obtained from small samples” (McMillan & Schumacher, 2013, pp. 349 - 350). McMillan and Schumacher (2013) propose that qualitative sampling yields in-depth insights into a specific phenomenon, as opposed to that of logic of probability sampling. Qualitative sampling was utilised in this research so that in-depth insights with regards to three third year Foundation Phase student teachers’ experiences on the productive pedagogy framework as a potential supportive mechanism in pedagogically dealing with learner diversity could be studied.

3.5.3 Research Participants.

Third year students who attended the Johannesburg university in which this research was conducted were chosen for this study as they had undergone the teaching practice experience in previous years of study, and engaged with the productive pedagogy framework as it was part of their third year *Diversity, Pedagogy and Inclusion* course.

This research employed purposive qualitative sampling whereby, “the researcher selects particular elements from the population that will be representative or informative about the topic of interest” (McMillan & Schumacher, 2013, p. 152). In purposive sampling, the sample is chosen for a specific purpose, i.e. third year Foundation Phase student teachers were chosen as this research studied the experiences of third year Foundation Phase student teachers on the productive pedagogy framework as a potential supportive mechanism in pedagogically dealing with learner diversity. It is clear that in-depth information was acquired from participants who are knowledgeable with regards to the topic of interest (Cohen, Manion & Morrison, 2007).

Purposive sampling can be less time-consuming, less costly, and ensures that the required information is received (McMillan & Schumacher, 2013, p. 154). The

problem, however, is that such samples are often biased and do not represent the wider population (Cohen et al., 2007).

For the purpose of this study, all third year student teachers that were enrolled for the *Diversity, Pedagogy and Inclusion* module at a university in Johannesburg were addressed with regards to the purpose of this study, as they were familiar with the topic of interest. Thereafter, the Foundation Phase student teachers were asked to volunteer to participate in the research if they were interested.

3.6 Data Sources.

In this study the main sources of data were third year Foundation Phase student teachers from a university in Johannesburg. These Foundation Phase student teacher participants were required to complete the following: a written response to a set of open-ended questions, a lesson plan using the productive pedagogy framework, a reflective journal, and a post-teaching experience interview.

3.7 Data Generating Instruments.

In this study four data analysis tools were used: a written response to a set of open-ended questions, lesson plans, reflective journals, and semi-structured interviews. The following section will discuss these data analysis tools.

3.7.1 Written Response to a Set of Open-Ended Questions.

According to McMillan and Schumacher (2013, p. 5), a questionnaire refers to, “a written set of questions or statements that is used to assess attitudes, opinions, beliefs, and biographical information.” Due to the small sample size employed in this study, an open-ended approach was utilised so that, “the specificity of a particular situation” could be captured (Cohen et al., 2007, p. 321). In this research, the questions that were used for the open-ended approach were based on the productive pedagogy framework (see Appendix B for the full open-ended questions schedule).

Figure 3.1 Examples of Open-ended Questions.

1. What do you understand by the productive pedagogy framework? 2. Do you foresee any difficulties or challenges in using the productive pedagogy framework when **planning** your lesson? If so, what are these challenges?

3.7.1.1 Advantages of a Written Response to a Set of Open-Ended Questions.

Open-ended questionnaires are considered useful tools for collecting data. Advantages include:

- They enable the respondents, “to write a free account in their own terms, to explain and qualify their responses and avoid the limitations of pre-set categories of response” (Cohen et al., 2007, p. 321).
- Participants can answer the question and write as much as they wish (Cohen et al., 2007).
- They are useful for, “investigating complex issues, to which simple answers cannot be provided” (Cohen et al., 2007, p. 321).
- Anonymity is assured, as they do not involve face-to-face interactions with the researcher (Opie, 2004).

3.7.1.2 Limitations of a Written Response to a Set of Open-Ended Questions.

As with many data analysis tools, open-ended questionnaires have their limitations. These limitations include:

- Participants may find it difficult to answer the questions (Opie, 2004).
- The open-endedness nature of the questions may lead to, “irrelevant and redundant information,” being supplied by the respondents (Cohen et al., 2007, p. 322).
- It can be time-consuming for the participants to write lengthy answers down (Cohen et al., 2007).
- The researcher may find the information supplied in the open-ended questions difficult to analyse (Opie, 2004).

3.7.1.3 Administering the Written Response to a Set of Open-Ended Questions.

The written responses to a set of open-ended questions were administered to the three third year Foundation Phase student teachers before embarking on their teaching practice experience. This was done so that the researcher could establish the primary knowledge that the three third year Foundation Phase student teachers had with regards to the productive pedagogy framework. Furthermore, it elicited baseline impressions and feelings that third year Foundation Phase student teachers possess regarding the framework of productive pedagogy.

3.7.2 Document Analysis.

Creswell (2008) suggests that documents play an important role in qualitative research, as they assist the researcher in understanding a specific topic of interest. According to Cohen et al. (2007, p. 201), documents can include, “field notes, diaries and journals, records, biographies… stories, annals and chronicles, photographs and artifacts.” McMillan and Schumacher (2013) categorise these documents into three forms: personal documents, official documents, and objects. In saying this, written documents signify, “a good source for text (word) data for a qualitative study,” as they represent the participants’ exact words and language (Creswell, 2008, p. 231). The problem, however, is that these documents may be, “incomplete, inauthentic, or inaccurate,” and can be difficult to decipher due to poor handwriting (Creswell, 2008, p. 231).

3.7.2.1 Document Analysis Steps.

Creswell (2008) outlines several guidelines for document collection. According to Creswell (2008), it is vital for researchers to first identify the types of documents that are needed in order to answer the research questions. For this study, two documents were collected from the three third year Foundation Phase student teachers: a lesson plan that utilised the productive pedagogy framework, and a reflective journal (see Appendix B for examples of the lesson plans and reflective journals). These are both personal documents as they are a, “first-person narrative that describe an

individual's actions, experiences, and beliefs" (McMillan & Schumacher, 2013, p. 387).

a. Lesson Plans.

The three third year Foundation Phase student teachers were designing lesson plans as part of their teaching practical experience and were asked to think about the productive pedagogy framework in doing so. They were allowed to utilise their own format for the lesson and could plan for any subject they wish. I reviewed each lesson plan that used the productive pedagogy framework and looked for the specific productive pedagogy elements that were utilised. Additionally, various themes throughout the lesson plans were identified.

b. Reflective Journals.

According to Creswell (2008), specific instructions need to be provided if participants are required to keep a journal. These guidelines include, "what topics and format to use, the length of journal entries, and the importance of writing their thoughts legibly" (Creswell, 2008, p. 231). The third year Foundation Phase student teachers were required to keep a reflective journal during their teaching experience and reflect on the various lessons that they conducted throughout the day. This forms part of the requirement for teaching experience as stipulated by the university. A specific reflective journal using the productive pedagogy framework (Appendix B) was developed for this research to focus on the specific lesson for this study, however only one student teacher completed it (Student Teacher Two). As a result, the compulsory reflective journals that the other two Foundation Phase student teachers completed for their teaching experience were utilised. I analysed each reflective journal to look for the Foundation Phase student teachers' experiences with using the productive pedagogy framework. Additionally, the reflective journals were reviewed to identify any difficulties that they may have encountered, and furthermore, to see whether aspects of learner diversity were pedagogically dealt with by using the productive pedagogy framework.

Once the lesson plans and reflective journals were collected, Creswell (2008, p. 231) suggests that they should be examined for, “accuracy, completeness, and usefulness” with regards to answering the research questions.

3.7.3 Interviews.

According to Cohen et al. (2007, p. 349), an interview can be referred to as, “a flexible tool for data collection, enabling multi-sensory channels to be used: verbal, non-verbal, spoken and heard.” A well-designed interview will allow the researcher to gain an in-depth understanding of the participants’ views as they enable respondents to, “discuss their interpretations of the world in which they live, and to express how they regard situations from their own point of view” (Cohen et al., 2007, p. 349). Opie (2004, p. 115) further suggests that a good interview will encourage participants, “to say what they think and to do so with greater richness and spontaneity.”

3.7.3.1 Semi-Structured Interviews.

According to Opie (2004, p. 118), a semi-structured interview is a, “more flexible version of the structured interview which will allow for a depth of feeling to be ascertained by providing opportunities to probe and expand the interviewee’s response.” This is aligned very closely to the interview guide approach whereby the issues to be covered are stipulated in advance, but during the interviewing process the interviewer decides on the sequence and may rework some of the questions (Cohen et al., 2007).

3.7.3.2 Advantages of Semi-Structured Interviews.

Opie (2004) suggests that interviews assist the exploration of certain findings in much more detail than many other data analysis tools. With this said, advantages of semi-structured interviews include:

- The interviewer can probe and expand on the interviewee’s responses, which can increase comprehensiveness (Opie, 2004).

- Interviews are conversational and situational (McMillan & Schumacher, 2013).
- It allows for deviation with regards to the prearranged text (Opie, 2004).

3.7.3.3 Limitations of Semi-Structured Interviews.

Although semi-structured interviews are useful for collecting valuable information, they do have limitations. These include:

- The interview may be prone to bias on the part of the researcher or interviewer (Opie, 2004).
- Important topics or information may be, “inadvertently omitted” (Patton, 1980, p. 206 as cited in Cohen et al., 2007, p. 353).
- Interviewer flexibility may lead to “substantially different responses, thus reducing the comparability of responses” (Patton, 1980, p. 206 as cited in Cohen et al., 2007, p. 353).

3.7.3.4 Designing the Interview Schedule.

According to Opie (2004, p. 113), an interview schedule is done in the preparation stages for an interview and is a, “critically important element in ensuring an interview goes well.” Turner (2010, p. 757) further suggests that taking the time to prepare the interview, “can help make or break the process and can either alleviate or exacerbate the problematic circumstances that could potentially occur once the research is implemented.” With this said, Opie (2004) delineates four stages that should be taken into account when preparing the interview. These four stages will be briefly discussed in relation to this research.

a. Translating the Research Questions into Interview Questions.

According to Turner (2010), this stage in the interview design process is the most crucial, as the questions need to be worded in such a way so as to gain maximum information from the participants. McNamara (2009) recommends that various elements need to be taken into consideration when designing or wording research

questions. With this said, research questions should be open-ended, neutral (wording should not influence certain answers), and clearly worded (McNamara, 2009). McNamara (2009) further suggests that “why” questions should be asked with care, as they may infer a cause-effect relationship that may not exist, and only one question should be asked at a time. In this research, the above considerations were taken into account when preparing the interview questions.

b. Deciding on the Structure of the Questions.

As mentioned earlier, this research employed semi-structured interview questions whereby the interview questions were fairly specific, but allowed for individual, open-ended responses (McMillan & Schumacher, 2013). The semi-structured questions were designed according to the above-mentioned principles suggested by McNamara (2009). In this study, the questions used for the semi-structured interviews were based upon the productive pedagogy framework (see Appendix B for the full semi-structured interview schedule).

Figure 3.2 Examples of Interview Questions.

1. Did you enjoy teaching the lesson that utilized the productive pedagogy framework?
2. a) In your **lesson planning,** did you find the productive pedagogy framework user-friendly?
b) Why/ why not?

c. Determining the Order of the Questions.

In order for an interview to achieve full participation from respondents, it is important that it is designed in such a way that the questions move from, “more structured to less structured questions as the interviewee becomes more at ease with the interview” (Opie, 2004, p. 115). Although this research adopted a semi-structured interview process, the researcher posed the questions in such a way so as to make

the participants feel relaxed and comfortable with the interviewer before more in-depth questions were posed.

d. Deciding on the Collection of Responses.

According to Opie (2004), there is no easy answer in choosing the correct method to collect interview responses, as it all depends on the research questions. Opie (2004) suggests two methods for collecting data using semi-structured interviews. The method of employing grids and coding may be used for factual questions, whereas notetaking may be required for open-ended questions, as coding may, "limit the richness of the response given by the interviewee" (Opie, 2004, p. 120). This will further be discussed in the data analysis section (Chapter 4) of this study.

3.7.3.5 Conducting the Semi-Structured Interview.

Three Foundation Phase student teachers that were enrolled for the *Diversity, Pedagogy and Inclusion* module at a university in Johannesburg took part in the semi-structured interview process. The researcher conducted separate interviews so that each student teacher participant's experiences on the productive pedagogy framework as a potential supportive mechanism for learner diversity could be studied. Interviews with the Foundation Phase student teachers were used to supplement the data collected from the written responses to the open-ended questions, lesson plans, as well as their reflective journals, so as to gain maximum in-depth data.

The interviews were audiotaped, with permission from the participants, in order to ensure that important verbal information was not lost in the transcribing process, and so as not to disturb the interviewing process through notetaking.

3.8 Research Procedure.

Data collection occurred in four ways. First, the student teacher participants completed a set of open-ended questions that was used to establish the participants' familiarity with regards to productive pedagogy. Furthermore, it elicited baseline impressions and feelings that third year Foundation Phase student teachers possess regarding the framework of productive pedagogy. The written response employed a standardised open-ended approach whereby all participants were asked the same questions. This method was chosen, as it allowed for honest and personal comments from the student teacher participants (Cohen et al., 2007).

Second, the third year Foundation Phase student teacher participants were required to plan one lesson using the productive pedagogy framework.

Thirdly, the third year Foundation Phase student teachers were required to keep a reflective journal in order to enhance the validity of the study. This personal document revealed the student teacher participants' experiences, beliefs and reflections regarding their use of the productive pedagogy framework in designing the lesson as well as the implementation thereof. The reflective document was given to the student teacher participants before designing their lesson plan so that reflections, challenges, strengths and any additional insights could be noted. Both the lesson plan and reflective journal were handed in to the researcher so that the documents could be further analysed.

Lastly, after the lesson took place, a post-teaching experience semi-structured interview was conducted by myself, the researcher. This interview employed a semi-structured approach, as the issues to be covered were stipulated in advance, but through interviewing all the third year student teachers, the interviewer decided on the sequence and reworked some of the questions according to the third year student teachers' lesson plans and reflective documents (Cohen et al., 2007). Furthermore, the interview was audiotaped in order to ensure that important verbal information was not lost in the transcribing process, thus establishing greater data validity.

3.9 Data Analysis.

McMillan and Schumacher (2013, p. 395) refer to qualitative data analysis as primarily, “an inductive process of organising data into categories and identifying patterns and relationships among the categories.” This research used a variety of approaches to data analysis. A deductive approach to data analysis, whereby the theoretical framework guides the coding process, was used to analyse the student teacher participants’ written responses and lesson plans. The student teacher participants’ reflective journals were analysed descriptively so as to engage with their thoughts and experiences in using the productive pedagogy framework. The process of Thematic Content Analysis was used to analyse the student teacher participants’ interview transcripts. This process of analysing the interview transcripts used an inductive approach, which allowed the themes that emerged from the interviews to be identified and discussed. Data findings from each of these data sets were then considered together to establish and discuss overall findings for the study.

3.9.1 Analysis of Written Responses, Lesson Plans and Reflective journals.

The productive pedagogy framework was utilized as a language of description to interpret the written responses of the participants and discuss their lesson plans. The written responses and lesson plans were read and reread, so that familiarisation could be made with regards to the written information (see Appendix B for the written responses and lesson plans). The written responses and lesson plans were analysed deductively by looking for anything in the data sets that aligned with the productive pedagogy framework. The written responses and lesson plans were analysed using a “theoretical thematic” approach, whereby the themes emerged from a theoretical base (Braun & Clarke, 2006). In this research, general ideas pertaining to the productive pedagogy framework, the four main dimensions of the productive pedagogy framework (intellectual quality, connectedness, supportive classroom environment, working with and valuing difference), the productive pedagogy elements, teacher assistance, and learner diversity were used as a basis for analysing the written responses, lesson plans and reflective journals. Once this

was done, lists of recurring themes or patterns that fall under the various categories were drawn up in tabular form so that similarities and differences could be identified.

Reflective journals were read and reread for familiarization (see Appendix B for the reflective journals). The reflective journal entries for participants were then analysed descriptively to obtain insight into the thoughts and experiences of the Foundation Phase student teacher participants, as these personal documents related to the planning and teaching of a lesson utilizing the productive pedagogy framework.

3.9.2 Analysis of Interview Transcripts.

The interview transcripts of the student teacher participants were analysed inductively using the process of Thematic Content Analysis (see Appendix B for interview transcripts). Six stages in the Thematic Content Analysis process are identified by Braun and Clarke (2006) and will be briefly discussed in relation to the student teacher participants' interview transcripts.

3.9.2.1 Stages in the Thematic Content Analysis Process.

a. Familiarisation with the Data.

The first component of this stage is to transcribe the verbal data collected during the interview into written form, which is, "an excellent way to start familiarizing yourself with the data" (Braun & Clarke, 2006, p. 87). In saying this, this step involves preliminary observations with regards to the data. In this study, the audiotaped interviews were first transcribed into tabular form and then checked against the original audiotaping in order to ensure accuracy (Braun & Clarke, 2006) (see Appendix B for the interview transcripts). The transcribed interview transcripts were additionally read and reread and any initial ideas that arose from them were jotted down.

b. Generating Initial Codes.

This step in the analysis process involves systematically coding noteworthy features that may arise across the entire data set (Braun & Clarke, 2006). Open coding was used in the semi-structured interview transcripts of this research as it involved, "exploring the data and identifying units of analysis to code for meanings, feelings, actions, events and so on" (Cohen et al., 2007, p. 493). This demonstrates an inductive approach to analysis, as relevant information was initially coded from the student teacher participants' interview transcripts. The initial codes from each interview transcript were summarised in tabular form, and then placed into one table so that similarities and differences between the initial codes could be clearly identified. Furthermore, colour coding was utilised to search for patterns across the initial codes.

c. Searching for Themes.

According to Braun and Clarke (2006), once all the data has been initially coded and collected, different codes should be sorted into potential themes and a thematic map should be established. In this research, initial codes that emerged from the interview transcripts were grouped and sorted according to different potential themes. This was achieved by using the table that summarised the initial codes from across the interview transcripts. This again demonstrates that the semi-structured interview transcripts were analysed inductively, as the identified potential themes emerged out of the collected data (Braun & Clarke, 2006).

d. Reviewing Themes.

This section of the data analysis process involves refining the themes that were previously established (Braun & Clarke, 2006). According to Braun and Clarke (2006, p. 91), this step includes reviewing the themes and looking for coherent patterns, and considering, "the validity of individual themes in relation to the [entire] data set." In other words, this step involves looking for insight into the commonalities

and differences of particular themes, thereby establishing coherent patterns and clustering these themes into broader overarching themes.

e. Defining and Naming Themes.

Once all the broad themes had been established, they were named and defined in terms of this study. Braun and Clarke (2006) suggest that each theme additionally needs to be accompanied by a detailed analysis in order to provide insight into the phenomenon of study.

f. Producing the Report.

The final step of the data analysis process comprises of, “a concise, coherent, logical, non-repetitive and interesting account of the story the data tell - within and across themes” (Braun & Clarke, 2006, p. 93). At this stage, the findings from all data sets were considered to produce a coherent report as well as to establish the overall findings. The following section will briefly describe how each data set was reported.

i. Written Responses.

The report of the written responses was initially done separately for each student teacher participant. Each question of the student teacher participants’ written response was discussed separately for each student teacher. Once this was done, an across analysis report was written up using key areas of the written response.

ii. Lesson Plans.

The productive pedagogy dimensions and elements extracted from the lesson plans became the guiding principles for the discussion of the student teacher participants’ lesson plans.

iii. Reflective Journals.

The student teacher participants' reflective journals were discussed separately with the intention of capturing the student teacher participants' thoughts and feelings regarding the teaching and planning of their lesson.

iv. Across Report of Written Responses, Lesson Plans and Reflective Journals.

The across report of the written responses, lesson plans and reflective journals was done by discussing the similarities and differences apparent across the three data sets of each student teacher participant.

v. Interview Transcripts.

The themes that arose from the interview transcripts were used as the basis for writing the interview report. Each theme was discussed in detail using the Foundation Phase student teachers' interview responses, relevant literature as well as insights gained from written responses, lesson plans and reflective journals.

Through the use of the above-mentioned data analysis processes, the experiences of third year Foundation Phase student teachers on the productive pedagogy framework as a potential supportive mechanism in pedagogically dealing with learner diversity were illuminated and overall findings were identified.

3.10 Ethical Considerations.

Ethical considerations were taken extremely seriously in this research. With this said, it was important to establish the level of risk that the participants were likely to experience during the study (Creswell, 2008). According to Creswell (2008), there are three types of risks that are present in research, namely less than minimal risk,

minimal risk and high risk. Less than minimal risk suggests that there is no known risk, whereas minimal risk refers to risk that is encountered in everyday life (Creswell, 2008). Research that is viewed as high risk employs a sensitive population such as pregnant women, children under the age of 18 and participants who are mentally incompetent to name but a few (Creswell, 2008). This research was of less than minimal risk, as there were no potential dangers for the participants. In order to ensure that participants felt safe and content, a comfortable environment during the post-teaching experience semi-structured interview was provided. Additionally, interviews were audiotaped and were organised at the student teacher participants' convenience and were conducted in a private space in order to maintain confidentiality.

Confidentiality in this research project was dealt with in several ways. Participants had the right to withdraw from the research project at any time without any prejudice. Furthermore, they were assured that they would not be advantaged or disadvantaged with regards to marks obtained for the *Diversity, Pedagogy and Inclusion* course, as participation in this research was not part of the course requirements. Additionally, the participants were assured that their course lecturers would not be informed with regards to who was or who was not participating in this research project, as participants' names were kept anonymous in the research project as well as in conversation thereof.

The raw research data, i.e. written responses, reflective journals, lesson plans and printed interview transcripts will be kept in a secure, locked safe at the researcher's place of residence and will be destroyed within three to five years after completion of the project. Data which is stored on the researcher's computer, i.e. interview audiotape and interview transcripts will also be kept in a secure, locked folder on a USB stick as well as in a secure, locked folder on an external hard-drive. Both these devices will be kept in a secure, locked safe at the researcher's place of residence and will be destroyed within three to five years after completion of the research project.

3.11 Research Rigour.

Morse, Barret, Mayan, Olson and Spiers (2002, p. 14) suggest that research without rigour is, “worthless, becomes fiction, and loses its utility.” According to Guba (1981), qualitative researchers should consider four criteria in order to pursuit a trustworthy study. These criteria include: credibility, transferability, dependability, and confirmability. This section will briefly describe each of these four criteria and will explain how each are employed in this study.

3.11.1 Credibility.

According to Guba (1981, p. 79), credibility in qualitative research refers to the establishment of, “confidence in the "truth" of the findings of a particular inquiry for the subjects (respondents) with which and the context in which the inquiry was carried out.” In other words, it is a study where the researcher has accurately represented collected data. Testing the credibility of findings in a qualitative research project requires member checking to be done. This involves, “testing the data with members of the relevant human data source groups” (Guba, 1981, p. 80). In this research, credibility was assured by providing the participants with the opportunity to member check the interview transcripts in order to ensure that their words had been accurately represented. According to Guba (1981, p. 85), member checks are, “the single most important action inquirers can take, for it goes to the heart of the credibility criterion.”

3.11.2 Transferability.

Krefting (1991, p. 216) suggests that qualitative research meets the criteria of transferability, “when the findings fit into contexts outside the study situation that are determined by the degree of similarity or goodness of fit between the two contexts.” With this said, Lincoln and Guba (1985, as cited in Krefting, 1991, p. 216) propose that the responsibility of transferability is not with the researcher of the study, but rather of the person, “wanting to transfer the findings to another situation or population.” Additionally, these authors argue that the researcher of the study is

required to provide sufficient descriptive data so that a comparison can be made if need be (Krefting, 1991). This study met the criterion of transferability through the use of purposive sampling, as this form of sampling, “is *not* intended to be representative or typical… but *is* intended to maximize the range of information uncovered” (Guba, 1981, p. 86).

3.11.3 Dependability.

A qualitative researcher who, “lays out his or her procedure and research instruments in such a way that others can attempt to collect data in similar conditions” can be said to have met the criterion of dependability (Given & Saumure, 2008, p. 4). Additionally, Shenton (2004, p. 71) suggests that in-depth coverage of the research procedure will, “allow the reader to assess the extent to which proper research practices have been followed.” According to Krefting (1991, p. 216), variables that might affect the dependability of a study could include, “increasing insight on the part of the researcher, informant fatigue, or changes in the informant’s life situation.” This research met the criterion of dependability through the establishment of an audit trail. According to Guba (1981, p. 87), an audit trail, “takes the form of documentation.” In this study, the audit trail consisted of the three Foundation Phase student teachers’ actual transcriptions from the interviews, lesson plans, written responses to the open-ended questions, as well as the reflective journals.

3.11.4 Confirmability.

Confirmability, “reflects the need to ensure that the interpretations and findings match the data” (Given & Saumure, 2008, p. 3). In other words, claims cannot be made without being supported by the collected data. In order for qualitative research to meet the criterion of confirmability, steps should be taken to ensure that the collected data represents the opinions and experiences of the participants, and not those of the researcher (Shenton, 2004). In this study, confirmability was achieved through the notion of triangulation. Guba (1981, p. 87) describes triangulation as, “collecting data from a variety of perspectives, using a variety of methods, and

drawing upon a variety of sources so that an inquirer's predilections are tested as strenuously as possible." This research used various instruments (interviews, lesson plans, written responses to the open-ended questions, and reflective journals) in order to ensure that certain claims could be made with the support of a variety of collected data.

3.12 Conclusion.

This chapter has described the research paradigm, research design and the methodology that will be used in this study. It has explained where the research took place and given a background on the participants. Additionally, it provided a description of the data analysis tools, and the procedures that were undertaken in order to collect the data. Lastly, this chapter has looked at the ways in which this study has established research rigour. The chapter to follow will present the data analysis and interpretation of written responses, lesson plans and reflective journals.

Chapter 4

Data Analysis and Interpretation of Written Responses, Lesson Plans and Reflective Journals

4.1 Introduction.

This chapter will focus on the analysis and interpretation of three data sets collected for this research study. This includes the analysis of three third year Foundation Phase student teachers' written responses to a set of open-ended questions, lesson plans and reflective journals. The intention of analysing these data sets is to see how and in what ways the productive pedagogy framework can potentially be a supportive mechanism for Foundation Phase third year student teachers in pedagogically dealing with the issue of learner diversity in Foundation Phase classrooms.

4.2 Analysis of Data.

The analysis of data involved looking at three third year Foundation Phase student teachers' written responses to a set of open-ended questions, lesson plans and reflective journals of the lesson plans.

4.2.1 Written Responses.

The process utilised to analyse the written responses of the three third year Foundation Phase student teachers was that of deductive coding (see Appendix B for student teacher participants' written responses). When using a deductive approach to data analysis, the themes or codes emerge from a theoretical framework. Each participant's written response was transcribed into tabular form and the theoretical framework of productive pedagogy provided the following codes: a) a generalisation of the productive pedagogy framework; b) the four dimensions of

productive pedagogy; c) any specifications of the twenty productive pedagogy elements; d) learner diversity; and e) teacher assistance. Figure 4.1 below provides an example extract from the tabulated written responses showing deductive coding (see Appendix B for fully coded written responses).

Figure 4.1 Example Extract of Written Response with Deductive Coding.

Line	Question/Answer	Code
1	1. What do you understand by the productive pedagogy framework?	
2 3 4	*It is a way of focusing children or providing the best and most suitable ways to build knowledge by providing children with support, reliability and conceptual knowledge.*	Productive Pedagogy Intellectual Quality Higher Order Thinking Deep Knowledge Deep Understanding Knowledge as Problematic Substantive Conversation Supportive Environment Social Support Academic Engagement Assistance Learner Diversity

4.2.1.1 Analysis of Written Response for Student Teacher One.

Questions to which participants were asked to respond sought to investigate in what ways the productive pedagogy framework could act as a potential supportive mechanism for the teacher in pedagogically dealing with various aspects of the learners i.e. recognition of difference. Student Teacher One, in her response that, "*it provides us with a structure and allows us to remember 'the whole child' in our teaching*" demonstrates a belief that productive pedagogy is useful in assisting teachers to take all aspects of learner development into consideration. The student teacher uses the word "structure" which is significant as it demonstrates that the student teacher feels supported in thinking about the holistic development of the child, as the structured framework of productive pedagogy focuses attention on key areas of this development. This relates to the student teacher's response to the question that asked if in her opinion the productive pedagogy framework is easy to understand. Her response, "*yes, it is divided into 3 main forms which have subcategories which relate to the form,"* demonstrates that the structured nature of

the organisation of this framework is appealing to her. What is interesting to note, however, is that she has incorrectly identified productive pedagogy as having three rather than four dimensions.

Student teacher participants were asked to respond to questions that sought to shed light on the relevance of the productive pedagogy framework in the Foundation Phase. Student Teacher One expressed the view, "*it is very relevant, as younger children need more concrete ways of learning. In relating content to background knowledge and the world, children can grasp knowledge better. Also, when the classroom environment is supportive, children have more confidence to learn in the classroom."* This response indicates that in the opinion of Student Teacher One, Foundation Phase learners learn best by engaging with the concrete. By introducing concrete tasks, deep knowledge and deep understanding of certain concepts can be achieved which aligns with elements to be considered in the intellectual quality dimension of the productive pedagogy framework. The response also indicates that background knowledge will allow learners to relate to certain concepts better, thus improving their understanding. This relates to the connectedness dimension of productive pedagogy. The response further suggests that making a wider social connection allows learners to engage in real world problems. This again relates to the connectedness dimension of productive pedagogy as there is a focus on identifying real world problems, which indicates a problem based curriculum. In addition, Student Teacher One expressed the view that a supportive classroom environment is important in developing confidence within young learners. Through the productive pedagogy elements of social support, academic engagement and self-regulation, Foundation Phase learners are able to feel secure in their learning environment, which provides all learners with the self-assurance and eagerness to learn. From this student teacher's response it is evident that all learners, regardless of socio-economic background, or differences, can be taken into consideration and can actively be engaged in the learning process.

The Foundation Phase student teachers were asked to elaborate on their understanding of the productive pedagogy framework. Student Teacher One expressed, "*it is a way of focusing children or providing the best and most suitable ways to build knowledge by providing children with support, reliability and conceptual*

knowledge." This response suggests that in the opinion of Student Teacher One, Foundation Phase classroom environments that are characterised by a milieu of support often result in successful learning or building of knowledge. This relates to the supportive classroom environment dimension of the productive pedagogy framework, as the elements of academic engagement and social support assist in building the intellectual quality dimension of productive pedagogy.

The question of whether the Foundation Phase student teachers foresee any difficulties or challenges in using the productive pedagogy framework when planning the lesson was posed. Student Teacher One expressed the view that, *"there is always difficulty in involving support and knowledge as well as relevance as it is often difficult to have a balance between the three."* This response indicates that in the view of Student Teacher One, it is difficult to ensure that each of the three dimensions of the productive pedagogy framework are used effectively. Again, this student teacher incorrectly identified productive pedagogy as having three rather than four dimensions. From this response, it is evident that according to Student Teacher One, the dimensions of supportive classroom environment, intellectual quality and connectedness are considered to be the three dimensions of the productive pedagogy framework.

When asked which of the twenty elements the Foundation Phase student teachers anticipate using in their lesson, Student Teacher One responded, "*substantive conversation… background knowledge… social support… self regulation… [and] inclusivity."* This is where for the first time, Student Teacher One acknowledges that there is a fourth dimension to productive pedagogy – inclusivity (recognition of difference). According to Student Teacher One, substantive conversation would be considered for use as, *"dialogue in ECD is fundamental for inquiry."* This relates to the intellectual quality dimension of productive pedagogy, as there is interaction amongst the learners and the teacher, and the interactional dyad can lead to higher order thinking. According to Student Teacher One, relating classroom concepts to learners' background knowledge will allow for it to be, "*more relatable to kids."* The social support and self-regulation elements fall under the supportive classroom environment dimension of the productive pedagogy framework. Here Student Teacher One expressed that, *"emotional support assists in providing kids with*

confidence to learn." Through this element, Student Teacher One suggests that Foundation Phase learners are able to feel secure in their learning environment, which provides all learners with the self-assurance and eagerness to learn. Additionally, according to Student Teacher One, the element of self-regulation, *"in the FP* [Foundation Phase] *is fundamental to teach children accountability and consequence."* This response indicates that in the view of Student Teacher One, the element of self-regulation assists in teaching young learners accountability and consequence. It can therefore be said that according to Student Teacher One, Foundation Phase teachers exert low implicit control as explicit statements such as "sit down" need to be made in order to discipline and regulate the movement of young learners. Lastly, and very interestingly, Student Teacher One suggested that she would use the element of inclusivity in her lesson. This reveals that Student Teacher One will in fact use the fourth dimension of the productive pedagogy framework, namely recognition of difference. In the view of Student Teacher One, inclusivity, "*promotes confidence and helps children to learn."* This response suggests that when young learners feel included and feel part of a community of practice, they will feel more self-assured and eager to learn.

Student teacher participants were asked what difficulties (i.e. emotional, social, cognitive, language, etc.) they think Foundation Phase teachers are faced with, and whether the framework of productive pedagogy could act as a supporting mechanism in assisting with these difficulties. Student Teacher One responded that, *"emotional, social,* [and] *language"* difficulties are faced by Foundation Phase teachers. This highlights the fact that learner diversity is present in Foundation Phase classrooms. With regards to whether productive pedagogy could assist in dealing with these issues, Student Teacher One expressed, *"no, I think the framework assists in guiding however it does not give examples of how this can be done, it is ultimately up to the teacher."* Although this response is a little contradictory, it is evident that the productive pedagogy framework can be used as a supportive mechanism in dealing with the notion of learner diversity, or rather, learner difficulties, but it is not a step-by-step guide that shows a teacher exactly how these learner difficulties can be overcome. Furthermore, Student Teacher One indicates that the teacher has to make the decision as to which elements of the

productive pedagogy framework to use in order to overcome the above-mentioned difficulties found in the Foundation Phase classroom.

The last question posed to the third year Foundation Phase student teachers looked at whether the productive pedagogy framework could successfully equip them in dealing with the diverse needs of young learners. Student Teacher One, in her response that, *"yes, together with what we learn in FP* [Foundation Phase]*, it will assist in creating a good classroom environment which will encourage difference and will help children learn more. It will also encourage children to enquire more"* demonstrates a belief that the productive pedagogy framework is a successful and useful tool in assisting teachers in dealing with the diverse needs of young learners. The response also indicates that creating a classroom milieu that is characterised by mutual respect and support denotes recognition of difference. This relates to the productive pedagogy dimension of supportive classroom environment and recognition of difference. Additionally, through these two dimensions, learners are able to feel more comfortable and self-assured in their learning environment, which according to Student Teacher One, leads to all learners participating in a successful learning process, which is aligned with the intellectual quality dimension of productive pedagogy.

All four of the productive pedagogy dimensions (intellectual quality, connectedness, supportive classroom environment, and recognition of difference) were evident in this student teacher's written response. This is interesting as earlier in the written response, this participant suggested that there were three forms but all four dimensions are actually included in the response. Student Teacher One did not include the productive pedagogy elements of metalanguage, knowledge integration, student direction, explicit quality performance criteria, cultural knowledge, and narrative in the written response.

a. Initial Findings for Student Teacher One.

The productive pedagogy framework provides a structure that guides both the teaching and planning of a lesson through the utilisation of the various elements.

These elements can assist the teacher with specific areas of the learning and the teaching process, i.e. intellectual quality. This will ensure that the teacher takes each individual learner's needs and interests into consideration, which supports the learner diversity aspect in the Foundation Phase classroom.

This set of data reveals that the productive pedagogy framework can act as a supportive mechanism for the teacher in dealing with various aspects of the learners, i.e. recognition of difference. This student teacher expresses that the productive pedagogy framework can assist with "whole child" development, as all aspects of all learners are taken into consideration.

The table below suggests that Student Teacher One finds these elements of productive pedagogy personally useful, and summarises the elements that are apparent in this student teacher's written response.

Table 4.1: Productive Pedagogy Elements of Student Teacher One.

Intellectual Quality	Higher Order Thinking Deep Knowledge Deep Understanding Knowledge as Problematic Substantive Conversation
Connectedness	Background Knowledge Connectedness to the World Problem based curriculum
Supportive Classroom Environment	Social Support Academic Engagement Self-Regulation
Recognition of Difference	Inclusivity Group Identity Active Citizenship

4.2.1.2 Analysis of Written Response for Student Teacher Two.

Student teacher participants were asked questions that sought to explore the relevance of the framework of productive pedagogy with regards to learner diversity in Foundation Phase classrooms. In the view of Student Teacher Two, "*it* [the productive pedagogy framework] *provides an environment where children are able to be included and not excluded and forms the basis of their learning which can be built upon in the future. It assists and develops their thinking and helps them to understand easier by making content relevant and linking it to their personal lives."* This demonstrates that the utilisation of various aspects of the productive pedagogy framework, i.e. supportive classroom environment, recognition of difference, intellectual quality, and connectedness, can assist with the diversity of learners. The response of, "*it* [the productive pedagogy framework] *provides an environment where children are able to be included and not excluded"* establishes that the productive pedagogy dimension of a supportive classroom environment ensures that all learners are included in the learning process and feel part of a community of practice. This additionally forms part of the productive pedagogy dimension of recognition of difference, whereby all learners, regardless of their socioeconomic background, are acknowledged and are taken into account in the learning process. "*It assists and develops their thinking and helps them to understand easier by making content relevant and linking it to their personal lives,"* demonstrates that in the view of Student Teacher Two, the productive pedagogy framework dimension of intellectual quality assists teachers in recognising that all learners can produce work of high intellectual quality through the elements of higher-order thinking and deep understanding. According to this student teacher, this is achieved through the productive pedagogy dimension of connectedness, whereby content is made relevant to the learners' everyday life and experiences. It is apparent from this student teacher's response, all learners can be taken into consideration and can be active learning participants through the utilisation of the productive pedagogy framework.

Student teacher participants were asked to respond to questions that sought to shed light on the ways in which the productive pedagogy framework could act as a supportive mechanism for the teacher in dealing with various aspects of the learners.

Student Teacher Two expressed, *"yes. Different aspects can be focused on depending on what I'd like to focus on within the lesson, given an overall understanding."* This demonstrates that in the view of Student Teacher Two, the productive pedagogy framework is a useful tool in assisting teachers in taking all aspects of learner development into account, depending on what he/she would like to focus on. Additionally, the framework of productive pedagogy provides guidelines that teachers can use in their lesson planning process as well as in their teaching, so that various features of learner diversity can be covered.

The Foundation Phase student teachers were asked to elaborate on their understanding of the productive pedagogy framework. Student Teacher Two expressed, "*it has 4 dimensions that focus on intellectual quality, recognition of difference, connectedness and supportive classroom environment as a means to develop and give learners access to epistemological access within the classroom."* This response reveals that in the view of Student Teacher Two, all four dimensions of the productive pedagogy framework assist learners in having epistemological access. Additionally, apparent from this response is that the productive pedagogy framework provides the teacher with guidance regarding the different dimensions that are needed in order for successful learning to occur. According to this view, the productive pedagogy framework allows learners to go beyond their everyday knowledge and provides access to more specialised or schooled knowledge.

The Foundation Phase student teachers were asked whether the productive pedagogy framework was a simple approach to understand. The response of, "*yes, it has specific elements to each dimension that can be focused on and used quite easily in a classroom environment"* demonstrates that in the view of Student Teacher Two, the framework of productive pedagogy is an understandable and accessible approach to use in the teaching of a lesson, as a result of the various elements that make up the four dimensions, i.e. recognition of difference, connectedness, supportive classroom environment, and intellectual quality. The words, "*quite easily"* does perhaps demonstrate some hesitation with regards to the utilisation of the productive pedagogy framework, but overall, Student Teacher Two does display that it is a simple approach to use.

Student Teacher Two did not anticipate any difficulties or challenges in using the productive pedagogy framework when planning the lesson.

The question of which of the twenty elements the Foundation Phase student teachers anticipate using in their lesson was posed. Student Teacher Two expressed the elements of inclusivity, recognition of difference, explicit criteria, deep knowledge, deep understanding, substantive conversation, and higher order thinking. In terms of inclusivity, Student Teacher Two expressed that it is an important element, "*so that all children feel the need to participate and be involved in risk taking. This links to recognition of difference – where each child is regarded as an individual not just a whole group and what they bring from home."* This demonstrates that in the view of Student Teacher Two, the element of inclusivity ensures that all learners feel part of a community of practice, as the diverse needs of learners are taken into consideration, which ultimately assists all learners in participating in the learning process. According to Student Teacher Two, the element of inclusivity is related to recognition of difference. This student teacher is not incorrect, as the inclusivity element falls under the recognition of difference dimension of the productive pedagogy framework. When looking at her response again, "*what they bring from home"* additionally demonstrates that the connectedness dimension of the productive pedagogy framework will be taken into consideration, as this dimension looks at how classroom knowledge is connected to the learners' world. This response from Student Teacher Two reveals that the productive pedagogy dimensions of connectedness and recognition of difference can assist with the issue of learner diversity. In the view of Student Teacher Two, the element of explicit criteria will ensure that the, "*learner*[s] *know what to expect and requirements to be successful in task."* This demonstrates that learners will be able to successfully complete an activity if they are made aware of what is required of them. Student Teacher Two expressed, "*relevance to (illegible) world to enable deep knowledge and deep understanding to allow for substantive conversation."* Unfortunately some of this response was illegible, but looking at the various dimensions of the productive pedagogy framework, this student teacher's response could fit in with the dimension of connectedness and the element of connectedness to the world. This is assumed as making classroom knowledge relevant to the learners' experiences and real world, could allow for deep knowledge and deep

understanding of complex concepts. Student Teacher Two further expressed that through the elements of connectedness to the world, deep knowledge and deep understanding, the element of substantive conversation can be achieved, as there would be a continuous interactional dyad between the learners and the teacher with regards to the above-mentioned three elements. For example, through substantive conversation the teacher is able to link classroom knowledge to the learners' experiences and real world, which would lead to deep knowledge and deep understanding. In relation to this response, Student Teacher Two expressed that she would utilise, "*higher order thinking to develop deep knowledge and understanding."* This response indicates that in the view of Student Teacher Two, higher order thinking leads to the development of deep knowledge and deep understanding.

When the Foundation Phase student teacher participants were asked about the difficulties they think Foundation Phase teachers are faced with, Student Teacher Two responded, "*they might not know the background (social, emotional) that children come from and this constrains their ability to help the learner. Lang child might not be used to the language and communication to the child (unable to read) – no work's done. Child struggles to grasp concept and teachers often don't know how to deal with it."* This demonstrates that in the view of Student Teacher Two, Foundation Phase teachers are faced with various challenges. From this response difficulties that Foundation Phase teachers face include: unaware of learners' socio-economic backgrounds, language barriers and the inability to deal with the diverse needs of learners.

In addition to the above-mentioned question, the student teachers were asked whether the productive pedagogy framework could act as a supporting mechanism in assisting with these difficulties. Student Teacher Two, in her response that, "*yes, because in order for a child to be receptive and engaged in the knowledge, these factors need to be considered and taken into consideration for overall understanding"* demonstrates a belief that productive pedagogy can be a valuable tool in assisting teachers to take all aspects of learner development into consideration. In saying this, according to Student Teacher Two, it is vitally important for teachers to be aware of the diverse needs of all learners, so that successful learning can take place. Additionally, Student Teacher Two demonstrates that the productive pedagogy

framework can provide guidelines that teachers can utilise in dealing with learner diversity, so that there can be holistic development for all learners.

The Foundation Phase student teachers were asked whether they think the productive pedagogy framework could assist them in dealing with the diverse needs of young learners. Student Teacher Two expressed, "*yes, all aspects need to be covered to promote overall understanding. All needs will be adhered to to allow for inclusivity and engagement with content."* This response demonstrates that the productive pedagogy framework provides teachers with guidelines that ensure all aspects of the learning/teaching process are taken into consideration. Additionally, all dimensions of the productive pedagogy framework need to be considered in order for learners to develop holistically. It is further apparent that the element of inclusivity will ensure that all learners' needs are taken into consideration so that successful learning can occur. This highlights the fact that the productive pedagogy can act as a supportive mechanism for Foundation Phase teachers in dealing with the diverse needs of all learners.

All four of the productive pedagogy dimensions (intellectual quality, connectedness, supportive classroom environment, and recognition of difference) were evident in this student teacher's written response. Student Teacher Two did not include the productive pedagogy elements of metalanguage, knowledge integration, problem-based curriculum, student direction, self-regulation, cultural knowledge, and narrative in the written response.

a. Initial Findings for Student Teacher Two.

The data from Student Teacher Two reveals that the four dimensions of the productive pedagogy framework assist with providing young learners with epistemological access. This especially highlights the intellectual quality dimension of the productive pedagogy framework, as through higher order thinking, deep knowledge, deep understanding, and substantive conversation, learners are given the opportunity for epistemological access. Although the dimension of intellectual quality is highlighted here, the dimensions of supportive classroom environment,

connectedness, and recognition of difference, assist in ensuring that the intellectual quality or the epistemological access is achieved, as all four dimensions work hand-in-hand.

The data extracted from Student Teacher Two reveals that the productive pedagogy framework provides guidance to teachers with regards to the different elements that are needed in order for successful planning, learning and teaching to occur.

The notion of learner diversity is highlighted in this student teacher's response, as the diverse socioeconomic backgrounds and language challenges of young learners is emphasised. With this said, a recurring idea throughout the data reveals that the four dimensions of the productive pedagogy framework provide teachers with guidelines so that all learners' needs and interest are taken into consideration, and can assist with the growing concern of learner diversity apparent in Foundation Phase classrooms.

The table below suggests that Student Teacher Two finds these elements of productive pedagogy personally useful, and summarises the elements that are apparent in this student teacher's written response.

Table 4.2: Productive Pedagogy Elements of Student Teacher Two.

Intellectual Quality	Higher Order Thinking Deep Knowledge Deep Understanding Knowledge as Problematic Substantive Conversation
Connectedness	Background Knowledge Connectedness to the World
Supportive Classroom Environment	Social Support Academic Engagement Explicit Criteria
Recognition of Difference	Inclusivity Group Identity Active Citizenship

4.2.1.3 Analysis of Written Response for Student Teacher Three.

Foundation Phase student participants were asked if they foresee any challenges in using the framework of productive pedagogy in planning their lesson. Student Teacher Three's response, "*yes, mainly trying to recognize the individual differences in the children and also being able to include all the interest of the learners in the classroom,"* demonstrates that learner diversity is a concern for student teachers. Additionally, this response highlights the point that the aspect of learner diversity is a difficult notion to take into consideration when planning a lesson, as various individual learner needs and interests need to be taken into consideration. In relation to this question, the participants were asked whether the productive pedagogy framework could assist them in planning and teaching their lesson. Student Teacher Three, in her response, "*yes because it will allow the teacher to think about being inclusive of all the learners in the classroom,"* demonstrates a belief that the productive pedagogy framework is a useful tool in assisting teachers in addressing the individual needs of all learners, and recognises that learner diversity is apparent in Foundation Phase classrooms. This response from Student Teacher Three relates to the question regarding her understanding of the productive pedagogy framework. In her response, "*it is techniques used in order to better understand the learner,"* demonstrates that the productive pedagogy framework provides teachers with guidelines that assist in understanding young learners. The student teacher uses the word "techniques" which is noteworthy as it establishes that in the view of Student Teacher Three the structured nature of the organisation of the productive pedagogy framework, i.e. the four dimensions and underlying elements, can be supportive for the teacher in understanding the needs of all learners.

Student teacher participants were asked about the relevance of the productive pedagogy framework in the Foundation Phase. Student Teacher Three expressed the view that, "*it helps the teacher to link the everyday knowledge to the topic being learnt."* This demonstrates that in the view of Student Teacher Three, the productive pedagogy framework assists the teacher in linking the learners' experiences and interests to the school knowledge. This relates to the productive pedagogy dimension of connectedness, and specifically with the elements of background knowledge and connectedness to the world. Linking the learners' background

knowledge to school or specialised knowledge enables learners to grasp certain complex concepts a bit easier.

Student teacher participants were asked to respond to questions that sought to shed light on whether they think the productive pedagogy framework is an easy approach to understand. Student Teacher Three expressed, "*yes because it helps the teacher to focus on specific points and required for teaching a subject."* The "specific points" that Student Teacher Three refers to are the four dimensions and the underlying elements of the productive pedagogy framework. This demonstrates that in the view of Student Teacher Three the productive pedagogy framework is an easy approach to utilise and understand, as it provides teachers with guidelines, i.e. the dimensions and elements, that assist in understanding individual learners, which in turn assist in the teaching/learning process.

When asked which of the twenty elements the student teacher participants anticipate using in their lesson, Student Teacher Three expressed that the elements of academic engagement and deep understanding would be utilised. Her response, "*engagement due to allowing all the children to have an opportunity to experience learning,"* demonstrates the productive pedagogy elements of academic engagement. This element falls under the productive pedagogy dimension of supportive classroom environment, which ensures that all learners from various racial groups, gender, and socio-economic backgrounds are provided with equal educational opportunities. Through academic engagement, Student Teacher Three demonstrates that all young learners are given these equal educational opportunities. Although Student Teacher Three doesn't explicitly say it, the productive pedagogy element of inclusivity is also apparent, as she expresses that *all* learners will have an opportunity to experience learning. This correlates to the element of inclusivity as all learners regardless of socio-economic backgrounds, experiences and abilities, are taken into consideration. Her response, "*deep understanding because it can allow the child to understand what the concepts being done in the classroom are about,"* demonstrates that the productive pedagogy element of deep understanding will be utilised. According to Student Teacher Three, deep understanding is established when learners are able to fully grasp complex concepts learnt in class.

When the Foundation Phase student teacher participants were asked about the difficulties they think Foundation Phase teachers are faced with, Student Teacher Three responded, *"every child is different so the language barrier is one of the difficulties seen in the ECD classroom. Also all children come from different backgrounds so being able to include all their interests is difficult."* This response demonstrates that in the view of Student Teacher Three, language and learners' diverse socio-economic backgrounds are two of the main challenges that are faced by Foundation Phase teachers. In relation to this question, student teacher participants were asked if they think the productive pedagogy framework can act as a supportive mechanism in dealing with the challenges faced by Foundation Phase teachers. Student Teacher Three responded, *"yes, because it allows the teacher to recognize the different skills and abilities each child possesses."* This reveals that the productive pedagogy framework assists teachers in choosing specific elements that can assist with particular areas of the teaching and learning process. This in turn assists teachers with taking individual learners' needs, skills, interests, and abilities into consideration, which supports the aspect of learner diversity apparent in Foundation Phase classrooms.

When the Foundation Phase student teacher participants were asked if they the think that the productive pedagogy framework will equip them in dealing with the diverse needs of young learners Student Teacher Three responded, *"yes because it will allow me to have a greater understanding on what is required in order to fully develop the holistic aspect of the child."* This demonstrates a belief that the productive pedagogy framework is a useful tool for teachers to gain a greater understanding of each individual learner. This is significant as it reveals that in the view of Student Teacher Three, the productive pedagogy framework focuses on key areas of the development of learners, and assists in the holistic development of learners.

All four of the productive pedagogy dimensions (intellectual quality, connectedness, supportive classroom environment, and recognition of difference) were evident in Student Teacher Three's written response. Student Teacher Three did not include the productive pedagogy elements of metalanguage, deep knowledge, higher-order thinking, substantive conversation, knowledge as problematic, knowledge

integration, problem-based curriculum, student direction, self-regulation, explicit criteria, cultural knowledge, and narrative in the written response.

a. Initial Findings for Student Teacher Three.

The information obtained from the written response of Student Teacher Three reveals that the productive pedagogy framework can provide teachers with guidelines that assist in understanding young learners, i.e. emotionally, socially, and psychologically. This highlights the fact that there are diverse learner needs within the Foundation Phase classroom, and that the productive pedagogy framework can assist student teachers in understanding each individual learner and their needs. Additionally, Student Teacher Three discloses that the productive pedagogy framework provides teachers with guidelines for the assistance of the teaching and learning process.

Student Teacher Three reveals that the productive pedagogy framework can assist with the “holistic” development of the learner, as all aspects of all learners are taken into consideration. This reveals that all learners, regardless of differences, can be taken into consideration and can actively be engaged in the learning process.

The productive pedagogy element of background knowledge is highlighted in Student Teacher Three’s written response. Background knowledge assists the teacher with linking the learners’ everyday experiences to the classroom. Through this linking process, learners are able to better grasp certain schooled concepts. The productive pedagogy framework provides assistance to teachers in order to make this link between the learners’ background knowledge and the schooled concepts.

The table below suggests that Student Teacher Three finds these elements of productive pedagogy personally useful, and summarises the elements that are apparent in this student teacher’s written response.

Table 4.3: Productive Pedagogy Elements of Student Teacher Three.

Intellectual Quality	Deep Understanding
Connectedness	Background Knowledge Connectedness to the World
Supportive Classroom Environment	Social Support Academic Engagement
Recognition of Difference	Inclusivity Group Identity Active Citizenship

4.2.1.4 Analysis Across Written Responses.

The process of across analysis was conducted by studying all three of the third year Foundation Phase student participants' written responses. Coding and identifying themes or patterns was utilised in this process in order to recognise any similarities and/or differences between the student teachers' written responses. This was achieved by separating each question and placing each student teacher participant's response to that question underneath each other in tabular form. Themes such as the productive pedagogy framework, productive pedagogy dimensions and elements, learner diversity, and teacher assistance were identified. Figure 4.2 below provides an example extract from the tabulated across analysis of written responses showing question 2 with coding (see Appendix B for tabulated across analysis of all questions in written responses).

Figure 4.2 Example Extract of Tabulated Across Analysis of Written Responses.

Key:
Productive Pedagogy Framework; Productive Pedagogy Dimensions; Productive Pedagogy Elements; Teacher Assistance.

Line	Question/Answer	Code
1 2	2. In your opinion, do you think that the productive pedagogies framework is a simple approach to understand? Why/why not?	

3 4	**Student Teacher 1** *Yes, it is divided into 3 main forms which have subcategories which relate to the form.*	Productive Pedagogy
5 6	**Student Teacher 2** *Yes, it has specific elements to each dimension that can be focused on and used quite easily in a classroom environment.*	Productive Pedagogy Intellectual Quality Connectedness Supportive Environment Recognition of Difference Assistance
7 8	**Student Teacher 3** *Yes because it helps the teacher to focus on specific points and required for teaching a subject.*	Productive Pedagogy Intellectual Quality Supportive Environment Recognition of Difference Connectedness Assistance

This section reports findings across participants in the following key areas: understanding of productive pedagogy framework; relevance of the productive pedagogy framework; the productive pedagogy framework as a supportive tool for lesson planning and teaching; anticipated utilisation of productive pedagogy elements; and productive pedagogy as a supportive mechanism for dealing with Foundation Phase difficulties and learner diversity.

a. Student Participants' Understanding of the Productive Pedagogy Framework.

Each participant's response revealed the structured nature of the organisation of the productive pedagogy framework. This is evident in the phrases or words, *"best and most suitable ways," "4 dimensions,"* and *"techniques."* Each of the student teacher's response demonstrates that in their view the productive pedagogy framework provides them with some sort of structure and guidance with regards to working with the learners. Student Teacher One and Student Teacher Two demonstrate the importance of support with regards to the productive pedagogy framework. In this instance, both student participants use the word *"support"* in relation to the learners.

This demonstrates that in the view of Student Teacher One and Student Teacher Two, the productive pedagogy framework provides all learners with the support that is needed for successful learning to occur. Interestingly, again, only Student Teacher One and Student Teacher Two elaborate on the intellectual quality of the productive pedagogy framework. Both Student Teacher One and Student Teacher Two reveal that the productive pedagogy framework provides learners with epistemological access and conceptual knowledge. The words, *"providing children," "means to develop"* and *"better understand,"* demonstrate that in the opinion of all three student teachers, the productive pedagogy framework focuses on various ways that assist the teacher in supporting all learners' needs.

All three student teacher participants expressed that the productive pedagogy framework is an easy approach to understand. The student teachers expressed that the productive pedagogy framework consists of various elements, and Student Teacher One and Student Teacher Two demonstrated that the framework contains dimensions. The words, *"focus on"* demonstrate that in the view of Student Teacher Two and Student Teacher Three, the productive pedagogy framework provides the teacher with guidance with regards to the different dimensions and/or elements that are needed in order for successful learning to occur.

b. The Relevance of the Productive Pedagogy Framework.

All three student participants expressed that the productive pedagogy framework assists in linking school knowledge to the learners' everyday knowledge, which in turn makes content relevant and more meaningful to the learners. These student responses correlate to the productive pedagogy dimension of connectedness, whereby the element of background knowledge is taken into consideration. Student Teacher One and Student Teacher Two demonstrated that the productive pedagogy dimension of supportive classroom environment plays an integral role for all learners to feel included through the element of academic engagement. This correlates to the productive pedagogy dimension of recognition of difference, with specific reference to the productive pedagogy element of inclusivity. Student Teacher One expressed the notion of inclusion as, *"children have more confidence to learn"* whereby Student

Teacher Two expressed this idea as, *"where children are able to be included and not excluded."* Student Teacher Three did not include these dimensions in her response. Student Teacher One and Student Teacher Two included the productive pedagogy dimension of intellectual quality. Student Teacher One expressed the notion of intellectual quality as, *"children need more concrete,"* which results in deep knowledge and deep understanding of certain concepts. Student Teacher Two demonstrated this idea by expressing that the productive pedagogy framework, *"develops their thinking… understand easier."* This correlates to the productive pedagogy elements of higher-order thinking and deep understanding. Student Teacher Two was the only participant who included the element of higher-order thinking in her response. Again, Student Teacher Three did not include the productive pedagogy dimension of intellectual quality.

The table below summarises the productive pedagogy dimensions and elements that the student teacher participants find significant with regards to the relevance of the productive pedagogy framework in the Foundation Phase classroom. It depicts the similarities and differences between the productive pedagogy dimensions and elements of the student teachers. Additionally, the table illustrates the productive pedagogy elements that the student teacher participants didn't include in their response.

Table 4.4: Productive Pedagogy Dimensions and Elements of Student Teacher Participants with Regards to the Relevance of the Productive Pedagogy Framework.

Productive Pedagogy Dimensions and Elements		Student Teacher One	Student Teacher Two	Student Teacher Three
Connectedness				
	Background Knowledge			
	Knowledge Integration			
	Connectedness to the World			
	Problem-based Curriculum			
Supportive Classroom Environment				
	Academic Engagement			

	Student Direction			
	Student Support			
	Explicit Criteria			
	Self-regulation			
Recognition of Difference				
	Inclusivity			
	Cultural Knowledge			
	Narrative			
	Group Identity			
	Active Citizenship			
Intellectual Quality				
	Deep Knowledge			
	Deep Understanding			
	Higher-order Thinking			
	Substantive Conversation			
	Knowledge as Problematic			
	Metalanguage			

c. The Productive Pedagogy Framework as a Supportive Tool for Lesson Planning and Teaching.

All three student teacher participants agreed that the productive pedagogy framework would benefit them in the planning and teaching of a lesson. All three student teacher participants expressed that the productive pedagogy framework would assist them in thinking about various aspects of each individual learner. Student Teacher One expressed, *"the whole child,"* while Student Teacher Two responded, *"overall understanding"* and Student Teacher Three expressed, *"think about being inclusive."* This demonstrates that the productive pedagogy dimension of recognition of difference is a key aspect that the participants take into consideration when planning and teaching their lesson. Noticeable from all three student teachers' responses was the notion of teacher assistance with regards to the productive pedagogy framework. The words, *"focus on", "provides us"* and *"allow the teacher"*

demonstrate that the productive pedagogy framework provides teachers with the necessary guidelines that they can utilise in the planning and teaching process so that various aspects of learners can be taken into consideration. The words, *"structure"* and *"different aspects"* in Student Teacher One and Student Teacher Two responses, demonstrates the organised nature of the productive pedagogy framework. This establishes that Student Teacher One and Student Teacher Two feel supported when using the productive pedagogy framework when planning and teaching their lesson, as the structured nature of productive pedagogy allows them to focus on key aspects, i.e. recognition of difference, of all learners.

There was a mixed response from the student teacher participants with regards to foreseeing any difficulties or challenges in using the productive pedagogy framework in the planning of their lesson. Student Teacher Two expressed that there would be no difficulties in using the productive pedagogy framework in her lesson planning and did not elaborate. Student Teacher One and Student Teacher Three both said that they foresee difficulties in using the productive pedagogy framework in the planning of their lessons. Similarities between Student Teacher One and Student Teacher Three reveal that they would have difficulties with incorporating the productive pedagogy dimensions of supportive classroom environment and connectedness. Where they differ is that Student Teacher One expressed that the dimension of intellectual quality would be a challenge for her to incorporate into her lesson planning, whereas Student Teacher Three demonstrated that she would find it difficult to incorporate the productive pedagogy dimension of recognition of difference in the planning of her lesson.

The table below summarises the productive pedagogy dimensions that the student teacher participants foresee as being challenging with regards to their lesson preparation. It further depicts the similarities and differences between the productive pedagogy dimensions of the student teachers.

Table 4.5: Productive Pedagogy Dimensions that Student Teacher Participants Foresee as Challenges.

Productive Pedagogy Dimensions	Student Teacher One	Student Teacher Two	Student Teacher Three
Connectedness			
Supportive Classroom Environment			
Recognition of Difference			
Intellectual Quality			

d. Anticipated Utilisation of Productive Pedagogy Elements.

Student Teacher One and Student Teacher Two expressed that they anticipate using the elements of background knowledge. Only Student Teacher Two said that she would perhaps use the element of connectedness to the world.

With regards to the productive pedagogy dimension of supportive classroom environment, Student Teacher Two and Student Teacher Three expressed that they would perhaps utilise the element of academic engagement. This was the only element in this dimension that Student Teacher Three said that she would use. Student Teacher One indicated that she additionally anticipated using the elements of student support and self-regulation. Whereas Student Teacher Two expressed that she anticipated utilising the productive pedagogy element of explicit criteria.

All three of the student teacher participants expressed that they anticipate using the productive pedagogy element of inclusivity, which falls under the dimension of recognition of difference. Both Student Teacher Two and Student Teacher Three additionally said that they would perhaps use the element of active citizenship. Student Teacher Two was the only participant who anticipated using the element of group identity.

Lastly, with regards to the productive pedagogy dimension of intellectual quality, Student Teacher One and Student Teacher Two expressed that they anticipate using the elements of substantive conversation and higher order thinking. Additionally,

Student Teacher Two and Student Teacher Three said that they would perhaps use the element of deep understanding. Student Teacher Two was the only participant who anticipated using the element of deep knowledge.

Productive pedagogy elements that the student teacher participants do not anticipate using include knowledge integration, problem-based curriculum, student direction, cultural knowledge, narrative, knowledge as problematic, and metalanguage.

The table below summarises the productive pedagogy dimensions and elements that the student teacher participants anticipate using in their lesson.

Table 4.6: Productive Pedagogy Elements that Student Teacher Participants Anticipate Using in Their Lesson.

Productive Pedagogy Dimensions and Elements	Student Teacher One	Student Teacher Two	Student Teacher Three
Connectedness			
Background Knowledge			
Knowledge Integration			
Connectedness to the World			
Problem-based Curriculum			
Supportive Classroom Environment			
Academic Engagement			
Student Direction			
Student Support			
Explicit Criteria			
Self-regulation			
Recognition of Difference			
Inclusivity			
Cultural Knowledge			
Narrative			
Group Identity			
Active Citizenship			
Intellectual Quality			

	Deep Knowledge			
	Deep Understanding			
	Higher-order Thinking			
	Substantive Conversation			
	Knowledge as Problematic			
	Metalanguage			

e. Productive Pedagogy as a Supportive Mechanism for Dealing with Foundation Phase Difficulties and Learner Diversity.

There was a mixed response from the participants with regards to whether the productive pedagogy framework could act as an effective supporting mechanism in assisting with the difficulties faced by Foundation Phase teachers. Student Teacher One answered, *"no,"* whereas Student Teacher Two and Student Teacher Three responded, *"yes."* All three student teacher participants demonstrate that the structured nature of the organisation of the productive pedagogy framework assists or guides teachers in considering various learner difficulties, i.e. recognition of difference.

All three of the student teacher participants acknowledged that language is a difficulty that Foundation Phase teachers are faced with. Student Teacher One and Student Teacher Two expressed that Foundation Phase teachers are faced with social and emotional difficulties. Ultimately, it can be said that these social and emotional demands work hand-in-hand. Student Teacher Two and Student Teacher Three articulated that Foundation Phase teachers are faced with learners from different socio-economic backgrounds, which according to these participants is a difficulty for Foundation Phase teachers.

The table below summarises the difficulties that the student teacher participants think Foundation Phase teachers are faced with.

Table 4.7: Difficulties that Foundation Phase Teachers are Faced With in the Opinion of the Student Teacher Participants.

Difficulties	Student Teacher One	Student Teacher Two	Student Teacher Three
Language			
Socio-emotional Demands			
Different Socio-economic Backgrounds			

All three of the student teacher participants agreed that the productive pedagogy framework would equip them in dealing with diversity apparent in Foundation Phase classrooms. Student Teacher One and Student Teacher Two expressed that the productive pedagogy dimension of supportive classroom environment was an important aspect to address the notion of learner diversity. Additionally, Student Teacher One and Student Teacher Two acknowledge the productive pedagogy dimension of recognition of difference. The words, *"encourage difference"* and *"inclusivity"* demonstrate that these two student teachers view the productive pedagogy element of inclusivity as a key feature in dealing with the diverse needs of learners. Lastly, Student Teacher Two and Student Teacher Three express that the productive pedagogy framework can be a useful tool in ensuring a holistic development for all learners.

4.2.2 Lesson Plans.

The lesson plans of the three student teacher participants were analysed using coding (see Appendix B for student teacher participants' lesson plans). Each participant's lesson plan was coded as follows: a) a generalisation of the productive pedagogy framework; b) the four dimensions of productive pedagogy; c) any specifications of the twenty productive pedagogy elements; d) learner diversity; and e) other. The table below summarises the productive pedagogy dimensions and elements that the student teacher participants mentioned in their lesson plans. These dimensions and elements extracted from the lesson plans will be the guiding principles for the discussion that follows.

Table 4.8 Summary of Productive Pedagogy Dimensions and/or Elements from Lesson Plans.

Productive Pedagogy Dimensions and Elements		Student Teacher One	Student Teacher Two	Student Teacher Three
Connectedness				
	Background Knowledge			
	Knowledge Integration			
	Connectedness to the World			
	Problem-based Curriculum			
Supportive Classroom Environment				
	Academic Engagement			
	Student Direction			
	Social Support			
	Explicit Criteria			
	Self-regulation			
Recognition of Difference				
	Inclusivity			
	Cultural Knowledge			
	Narrative			
	Group Identity			
	Active Citizenship			
Intellectual Quality				
	Deep Knowledge			
	Deep Understanding			
	Higher-order Thinking			
	Substantive Conversation			
	Knowledge as Problematic			
	Metalanguage			

4.2.2.1 Intellectual Quality.

a. Higher-order Thinking.

The productive pedagogy element of higher-order thinking was apparent in all three student teacher participants' lesson plans. Higher-order thinking requires learners to manipulate information through generalizing, synthesizing, explaining and hypothesizing in order to arrive at a new understanding (Christie, 2008). Lesson outcomes for Student Teacher One stated, *"children will develop their knowledge of how books work"* and *"children will develop conceptual knowledge of questions of the world."* Further on in this student teacher participant's lesson, she asks learners various higher-order thinking questions such as, "*so where do you think you go when you sleep?"* and, "*what do you think you are meant for or why do you think you are here?"* While introducing the concept of estimation, Student Teacher Two says to the learners*, "when we say how many we think are in the container or we try and come up with a number, we have a special name for this… do you know what is called?"* Student Teacher Three incorporates the productive pedagogy element of higher-order thinking in one of her outcomes of the lesson. She suggests that learners should be able to, "e*xplain to the teacher what the difference between an Impala and a lion is- based on looking at the picture."*

b. Substantive Conversation.

All three of the student teacher participants used the productive pedagogy element of substantive conversation in their lesson plans. Hayes et al. (2006) suggest that the element of substantive conversation involves reciprocal interactional dyads between the teacher and the learners. The lesson outcomes of Student Teacher One indicate that teacher-learner exchanges will be made, "*children will enhance their ability to question and inquire"* and, "*children will develop their confidence to ask questions when they don't understand something."* In the conclusion to the lesson of Student Teacher One, she demonstrates the lesson outcomes by asking the learners various higher-order thinking questions (as mentioned above). As a result of asking questions, the learners and the teacher are able to engage in an interactional and

reciprocal conversation where ideas can be expressed and a shared coherent understanding can be established. Student Teacher Two expressed the productive pedagogy element of substantive conversation through both teacher-learner and learner-learner interactions. Teacher-learner reciprocations were done through the teacher asking the learners various questions regarding the topic at hand. For example, *"how many* [counters] *do you think are in container number 1?"* This student teacher further noted that if a learner cannot individually do an activity, then learner-learner interactions could occur by, "*allow*[ing] *a friend to explain it."* Student Teacher Three employed substantive conversation by asking learners various questions relating to animals. Here learners were able to engage in conversation with the teacher and their peers and were able to share their ideas and/or experiences that they may have previously had with these animals.

c. Deep Understanding.

The productive pedagogy element of deep understanding was only apparent in the lesson plan of Student Teacher Two. At the end of the lesson plan, Student Teacher Two incorporated a consolidation activity, which ensured that a deep understanding of the topic of estimation was established. Additionally, this student teacher participant noted, *"children have done estimation and written an introductory assessment and thus this activity will aid and assist their understanding."* The lesson plan of Student Teacher Two demonstrates that learners were given the opportunity to problem solve, i.e. to guess how many counters were in the container, and were able to discover relations, i.e. to see where they can use estimation in their everyday life from using the information presented in this lesson.

4.2.2.2 Supportive Classroom Environment.

a. Academic Engagement.

The productive pedagogy element of academic engagement is apparent in the lesson plans of Student Teacher One and Student Teacher Two. Student Teacher One introduces the book to her learners and before reading she asks them some

general questions such as, *“what do you think this story is about?”* and *“what do you think might happen to the bear?”* These questions attract the attention of the learners and make them want to listen to the story to find out what will happen to the bear. Academic engagement is evident here, as learners remain attentive while the story is being read and they are interested to see what the outcome of the story will be. Throughout the lesson, Student Teacher Two asks the learners questions such as, *”how many do you think are in container number 2?”* The task presented in this lesson is also very hands-on as learners are constantly engaging in conversation with the teacher, estimating, counting, and writing. This illustrates that learners are kept focused and attentive on the task at hand.

b. Social Support.

All three student teacher participants demonstrated the productive pedagogy element of social support in their lesson plan. This is illustrated in the lesson outcomes whereby high expectations are conveyed to all learners. Student Teacher One mentioned, *“children will develop their knowledge of how books work, from left to right and turning pages.”* Student Teacher Two illustrated that, “*the child will demonstrate the ability to estimate objects,”* in her lesson outcomes. The lesson outcome evident in the lesson plan of Student Teacher Three states that the learners will demonstrate an, “*extension of the vocabulary by the means of giving children a variety of words in an African language while also providing the English meaning.”*

4.2.2.3 Recognition of Difference.

a. Inclusivity.

The productive pedagogy element of inclusivity was evident in the lesson plans of all the student teacher participants. All three student teacher participants’ lesson plans demonstrate the element of inclusivity, as all learners were involved and that there is no indication that any learner was excluded on the basis of gender, race, or ability. However, specific aspects of inclusivity, or lack thereof, are explicitly evident in the lesson plan of Student Teacher Two. In the beginning of her lesson plan, Student Teacher Two acknowledges the fact that learner diversity is present in her class.

This student teacher participant further suggests various steps that could be taken if these challenges should arise. For example, with regards to differing cognitive abilities, Student Teacher Two suggests that, *"a solution to this problem would be dividing your class into ability groups (weak, average and strong) and pitch activities according to their particular cognitive level so as to ensure that their personal interests are met."* Although Student Teacher Two classifies this suggestion under an inclusive standpoint, the participant displays a lack of knowledge with respect to the inclusive education perspective.

c. Cultural Knowledge.

The lesson plan of Student Teacher Three was the only lesson plan that demonstrated the productive pedagogy element of cultural knowledge. Student Teacher Three valued two cultural groups in her lesson plan by incorporating the IsiZulu and English names of various animals. For example, she explains to the learners, *"today we will be playing a game called 'Mbube'. It is an African game which is played by children. The word 'Mbube' means 'lion' in IsiZulu."*

4.2.2.4 Connectedness.

a. Background Knowledge.

The productive pedagogy element of background knowledge was apparent in all three student teacher participants' lesson plans. Student Teacher One chose a story that related to the daily activities or personal experiences of the learners, thus they were able to easily relate to the character of the little bear in the story. In her lesson plan, Student Teacher Two mentions that this lesson will, "*build on prior knowledge of estimation that has been done already."* This student teacher participant takes the learners' prior knowledge into account in this lesson plan and, "*expands* [the] *children's current knowledge"* of estimation. Student Teacher Three demonstrates the element of background knowledge when she asks the learners to explain, *"the difference between an Impala and a lion - based on looking at the picture or having prior knowledge."* This student teacher has taken into account that some learners

might not have background knowledge with regards to certain animals and has provided pictures of animals to assist these learners.

b. Knowledge Integration.

The lesson plans of Student Teacher Two and Student Teacher Three illustrate the productive pedagogy element of knowledge integration. In both lesson plans, knowledge integration is done across subject boundaries. The lesson plan of Student Teacher Two demonstrates a Mathematics lesson, whereby the topic of estimation is to be taught. In order to relate the topic to the learners, the teacher has used a story problem. This highlights an integration of Literacy, whereby learners are required to read the story problem in order to answer the Mathematical word problem. At the beginning of her lesson plan, Student Teacher Three acknowledges that this is a movement ring and incorporates or integrates knowledge and ideas from other subject areas such as Literacy, Numeracy, Music, and Biology. For example, the student teacher demonstrates that aspects of Numeracy are evident in the lesson, "*counting the number of children in the class; using sequencing to recognise to see which child have already played the game and which child was the lion/ impala first; second; third and so forth."*

c. Connectedness to the World.

All three of the student teacher participants used the productive pedagogy element of connectedness to the world in their lesson plans. The lesson outcome of Student Teacher One used states, *"children will develop conceptual knowledge of questions of the world and how it works."* The story presented to the learners focused directly on learners' daily experiences and made them think deeper about certain daily activities such as where they go when they sleep. In the lesson plan of Student Teacher Two, she used a real-world Mathematical problem that appealed to the learners' personal experiences of buying movie tickets. For example, the teacher explained that the learners must use the taught skill of estimation to try and solve this word problem, "*if I sold 7 tickets and I got R100 in total, how many adults and children were at the show? Adults: R10. Children: R7."* Student Teacher Three used

the element of connectedness to the world in her lesson plan by including another language into the lesson. The integration of IsiZulu into the lesson allows learners to see that different languages are used in South Africa and furthermore, assists learners to expand on the language beyond the pedagogical context.

4.2.3 Reflective Journals.

Student teacher participants were asked to reflect on their lessons in a reflective journal entry (see Appendix B for student teacher participants' reflective journal entries). These reflections were analysed descriptively with the intention of capturing the student teacher participants' thoughts and feelings regarding the teaching and planning of their lesson.

4.2.3.1 Analysis of Reflective Journal for Student Teacher One.

Student Teacher One used her own teaching experience reflective journal. In her reflective journal, Student Teacher One noted that the story was, "*well received and evoked children's interest."* This illustrates the productive pedagogy element of academic engagement as the student teacher participant ensured that all learners were attentive and showed enthusiasm towards the story. The student teacher participant highlighted that the discussion after the story was a bit short. She further illustrated that she needed to research the topic a bit more. Student Teacher One noted, *"there is a need to teach children big words and their meanings."* This is an interesting observation as she taught a group of Grade R learners. From this student teacher's reflective journal it is clear that she intellectually challenged the learners in her class, as learners were encouraged to think about words and ideas that they perhaps had not been exposed to before. It is also interesting to note that Student Teacher One was able to reflect on her teaching practice, as she came to the realization that her own content knowledge was important if she were to effectively challenge learners intellectually.

4.2.3.2 Analysis of Reflective Journal for Student Teacher Two.

Student Teacher Two was the only participant who used the given reflective journal. This student teacher participant's reflective journal clearly illustrates the productive pedagogy dimensions and elements that were used in her lesson. This student teacher participant does not highlight any challenges in using the productive pedagogy framework in her lesson, instead she describes where and how she used the productive pedagogy dimensions and elements. In her concluding remarks, Student Teacher Two highlighted that the productive pedagogy assisted her to better "*structure my lesson and helped me to work on different dimensions within the lesson."* This illustrates that in the view of Student Teacher Two, the productive pedagogy framework can be used as a guide for teachers when planning their lessons. Additionally, this student noted that the framework helped her to pay "*attention to these aspects* [which] *improved my pedagogy so that teaching and learning can be maximized and outcomes can also be achieved."* Her reflection, "*it* [the productive pedagogy framework] *is very useful and helped me increase learning in the same amount of time used"* demonstrates that this student teacher thinks that productive pedagogy is a valuable framework for teachers to use in their lessons as it allows learning to be increased. From this student teacher participant's reflective journal it is clear that the productive pedagogy framework allowed her to successfully reflect on her own teaching.

4.2.3.3 Analysis of Reflective Journal for Student Teacher Three.

The reflective journal of Student Teacher Three was kept short as she used her own teaching experience reflective journal. This student teacher participant highlighted that her lesson went well, as she incorporated elements of the productive pedagogy framework. Student Teacher Three noted that the learners in her class were a, *"little restless"* during the movement ring. This is the only challenge that the student teacher highlighted in her reflective journal. In her concluding remarks, Student Teacher Three described how she could improve on the lesson. She feels that she could allow learners to think more deeply about their answers to the questions by asking them higher-order questions such as, *"why do you think that the Lion only eat*

meat and the Impala eat leaves?" This concluding comment illustrates that the productive pedagogy framework allowed this student teacher to reflect on her pedagogical practice.

4.2.4 Analysis Across Written Responses, Lesson Plans and Reflective Journals.

In this section the data analysis from the three data sets (written responses, lesson plans and reflective journals) are considered together for each participant.

4.2.4.1 Analysis Across Student Teacher One.

In her written response, Student Teacher One suggests that productive pedagogy is a relevant framework as, "*relating content to background knowledge and the world, children can grasp knowledge better."* The notion of relating background knowledge to the task at hand was evident in the lesson plan of Student Teacher One, as the story that she chose related to the daily activities and personal experiences of the learners, thus they were able to easily relate to the character of the little bear in the story.

Student Teacher One expresses in her written response that she anticipated using the productive pedagogy elements of, "*substantive conversation… background knowledge…social support…self regulation… [and] inclusivity."* The elements evident in her lesson plan included: background knowledge, connectedness to world, academic engagement, social support, inclusivity, higher order thinking, and substantive conversation. The productive pedagogy elements evident in the reflective journal of Student Teacher One were higher-order thinking and academic engagement. The table below summarises the productive pedagogy elements evident in the written response, lesson plan and reflective journal of Student Teacher One.

Table 4.9 Summary of Productive Pedagogy Elements in Written Response, Lesson Plan and Reflective Journal of Student Teacher One.

Productive Pedagogy Dimensions and Elements	Written Response (anticipated use)	Lesson Plan	Reflective Journal
Connectedness			
Background Knowledge			
Knowledge Integration			
Connectedness to the World			
Problem-based Curriculum			
Supportive Classroom Environment			
Academic Engagement			
Student Direction			
Social Support			
Explicit Criteria			
Self-regulation			
Recognition of Difference			
Inclusivity			
Cultural Knowledge			
Narrative			
Group Identity			
Active Citizenship			
Intellectual Quality			
Deep Knowledge			
Deep Understanding			
Higher-order Thinking			
Substantive Conversation			
Knowledge as Problematic			
Metalanguage			

The table above reveals that the productive pedagogy elements of background knowledge, social support, inclusivity and substantive conversation were apparent in both the written response and lesson plan of Student Teacher One. In her written

response, Student Teacher One suggests that substantive conversation is, "*fundamental for inquiry."* Her lesson plan demonstrates that learners are engaged in an interactional and reciprocal conversation where ideas are expressed. Student Teacher One expresses in her written response that inclusivity, "*promotes confidence and helps children to learn."* The lesson plan of Student Teacher One demonstrates the productive pedagogy element of inclusivity, as all learners were involved and there is no indication that any learner was excluded on the basis of gender, race or ability. In the view of Student Teacher One, the productive pedagogy element of social support provides, "*emotional support* [and] *assists in providing kids with confidence to learn."* In her lesson plan, the productive pedagogy element of social support is apparent as high expectations are conveyed to all learners, thus learners are aware of what is expected of them and are provided with the confidence to engage in the required activity. Student Teacher One reveals in her written response that background knowledge allows the topic at hand to be, "*more relatable to kids."* The story that Student Teacher One chose related to the learners daily activities and thus allowed learners to associate the little bear in the story with themselves.

Student Teacher One mentioned the productive pedagogy element of self-regulation in her written response, but this element is not apparent in her lesson plan. Additionally, the productive pedagogy elements of connectedness to the world, academic engagement and higher-order thinking are evident in the lesson plan of Student Teacher One, but not in her written response. The productive pedagogy elements of academic engagement and higher-order thinking, however, were apparent in the reflective journal of Student Teacher One. In her lesson plan, Student Teacher One demonstrates academic engagement by asking the learners questions before reading the story so that they are attentive while the story is being read. In her written response, Student Teacher One noted that the story was, "*well received and evoked children's interest,"* which illustrates the element of academic engagement. The productive pedagogy element of higher-order thinking is evident in the lesson plan of Student Teacher One as higher-order questions are asked, which allows learners to engage in higher-order thinking. In her reflective journal, Student Teacher One explains that the learners in her class were intellectually challenged by

the higher-order questions as she states, "*there is a need to teach children big words and their meanings."*

4.2.4.2 Analysis Across Student Teacher Two.

In her written response, Student Teacher Two suggests that the productive pedagogy framework provides teachers with assistance as, "*different aspects can be focused on depending on what I'd like to focus on within the lesson, given an overall understanding."* It is apparent in the reflective journal of Student Teacher Two that the productive pedagogy framework assisted her to better, "*structure* [her] *lesson and helped* [her] *to work on different dimensions within the lesson."*

The question regarding the relevance of the productive pedagogy framework with regards to learner diversity was posed to the student teacher participants. In her written response, Student Teacher Two suggests, "*it* [the productive pedagogy framework] *provides an environment where children are able to be included and not excluded."* In her lesson plan, Student Teacher Two acknowledges that learner diversity is apparent in her Foundation Phase class. She additionally notes the diversity present in her class and suggests ways that these diverse learner needs can be addressed through the use of the productive pedagogy framework. This demonstrates the inclusion of all learners in her class. Student Teacher Two additionally suggests that the productive pedagogy framework, "*assists and develops* [learners'] *thinking and helps them to understand easier by making content relevant and linking it to their personal lives."* In her lesson plan, Student Teacher Two uses real-world Mathematical problems so that the content is made relevant to the learners in her class.

In the written response of Student Teacher Two, she anticipates using the productive pedagogy elements of inclusivity, connectedness to the world, recognition of difference, explicit criteria, deep knowledge, deep understanding, substantive conversation, and higher-order thinking. Her lesson plan includes the productive pedagogy elements of background knowledge, knowledge integration, connectedness to world, academic engagement, social support, inclusivity, deep

understanding, higher-order thinking and substantive conversation. Student Teacher Two used the given reflective journal and highlighted the productive pedagogy elements that were used in her lesson plan. In her concluding remarks, however, only the productive pedagogy element of inclusivity is apparent. The table below summarises the productive pedagogy elements evident in the written response, lesson plan and reflective journal of Student Teacher Two.

Table 4.10 Summary of Productive Pedagogy Elements in Written Response, Lesson Plan and Reflective Journal of Student Teacher Two.

Productive Pedagogy Dimensions and Elements		Written Response (anticipated use)	Lesson Plan	Reflective Journal
Connectedness				
	Background Knowledge			
	Knowledge Integration			
	Connectedness to the World			
	Problem-based Curriculum			
Supportive Classroom Environment				
	Academic Engagement			
	Student Direction			
	Social Support			
	Explicit Criteria			
	Self-regulation			
Recognition of Difference				
	Inclusivity			
	Cultural Knowledge			
	Narrative			
	Group Identity			
	Active Citizenship			
Intellectual Quality				
	Deep Knowledge			
	Deep Understanding			

	Higher-order Thinking			
	Substantive Conversation			
	Knowledge as Problematic			
	Metalanguage			

From the table, the productive pedagogy element of inclusivity was evident in the written response, lesson plan and reflective journal of Student Teacher Two. In her written response, Student Teacher Two suggests that the element of inclusivity allows, *"all children* [to] *feel the need to participate and be involved in risk taking."* In her lesson plan, Student Teacher Two acknowledges that learner diversity is present in her class and suggests ways in which all learners' needs can be accommodated. This correlates with her written response, as she ensures that all learners feel included and are involved in the task at hand. Student Teacher Two notes in her reflective journal that the utilisation of the productive pedagogy framework helped, *"improve* [her] *pedagogy so that teaching and learning can be maximized."* This again reveals that all learners' needs are taken into consideration so that they can achieve to their full potential.

According to the written response of Student Teacher Two, the productive pedagogy element of higher-order thinking assists learners, "*to develop deep knowledge and understanding."* In her lesson plan, Student Teacher Two asks the learners questions that require them to combine ideas and synthesize so that the construction of deep knowledge and deep understanding can be achieved. Additionally, in her written response, this student teacher participant illustrates that the element of connectedness to the world, "*enables deep knowledge and deep understanding"* to occur. The use of real-world Mathematical problems in the lesson plan of Student Teacher Two allowed learners to relate the school knowledge to the everyday, which enabled them to acquire deep knowledge and a deep understanding of the topic being taught.

The productive pedagogy element of substantive conversation is additionally evident in the written response and lesson plan of Student Teacher Two. In her lesson plan, Student Teacher Two reveals that interactions between the teacher and the learners,

as well as between the learners allows for a better understanding of the task at hand. She included this element so that learners are able to acquire deep knowledge and a deep understanding of the topic. This contradicts with what Student Teacher Two says in her written response, as she suggests that the elements of deep knowledge and deep understanding, "*allow for substantive conversation"* not the other way around.

The elements of explicit criteria and deep understanding are only evident in the written response of Student Teacher Two. Additionally, the productive pedagogy elements of background knowledge, knowledge integration, academic engagement and social support are only evident in the lesson plan of Student Teacher Two.

In her written response, Student Teacher Two foresees no challenges in using the productive pedagogy framework in the planning as well as in the teaching of her lesson. In her reflective journal, no difficulties were mentioned.

With regards to the productive pedagogy framework equipping teachers in dealing with learners' diverse needs, in her written response Student Teacher Two mentions, "*yes, all aspects need to be covered to promote overall understanding. All needs will be adhered to allow for inclusivity and engagement with content."* This corresponds to what Student Teacher Two wrote in her reflective journal, *"paying attention to these aspects* [of productive pedagogy] *improved* [her] *pedagogy so that teaching and learning can be maximized and outcomes can also be achieved."* This reflective journal response suggests that using the different productive pedagogy dimensions in her lesson assisted with her teaching, as well as ensuring that all learners' needs are taken into account so that all learners have an understanding of the topic at hand so that the lesson outcomes could be achieved.

4.2.4.3 Analysis Across Student Teacher Three.

When asked whether the productive pedagogy framework could benefit the student teacher participants with regards to their lesson planning as well as in the teaching of the lesson, Student Teacher Three replied, *"yes because it will allow the teacher to*

think about being inclusive of all the learners in the classroom." This written response corresponds to the lesson plan of Student Teacher Three whereby the productive pedagogy element of inclusivity is apparent, as all learners were involved and there is no indication that any learner was excluded on the basis of gender, race or ability. From this it is evident that the productive pedagogy assisted Student Teacher Three to think about including all learners' needs in her lesson.

In her written response, Student Teacher Three suggests that the productive pedagogy framework, *"helps the teacher to link the everyday knowledge to the topic being learnt."* In her lesson plan, Student Teacher Three links the learners' everyday knowledge to the school knowledge by using their everyday knowledge of an impala and a lion in order to identify any differences between these two animals.

Student Teacher Three anticipated using the productive pedagogy elements of academic engagement, deep understanding and inclusivity in her written response. In the lesson plan of Student Teacher Three, the productive pedagogy elements of background knowledge, knowledge integration, connectedness to world, social support, inclusivity, cultural knowledge, higher-order thinking, and substantive conversation, are evident. The table below summarises the productive pedagogy elements evident in the written response, lesson plan and reflective journal of Student Teacher Three. The productive pedagogy element of higher-order thinking is the only element apparent in the reflective journal of Student Teacher Three.

Table 4.11 Summary of Productive Pedagogy Elements in Written Response, Lesson Plan and Reflective Journal of Student Teacher Three.

Productive Pedagogy Dimensions and Elements		Written Response (anticipated use)	Lesson Plan	Reflective Journal
Connectedness				
	Background Knowledge			
	Knowledge Integration			
	Connectedness to the World			
	Problem-based Curriculum			

Supportive Classroom Environment				
	Academic Engagement			
	Student Direction			
	Social Support			
	Explicit Criteria			
	Self-regulation			
Recognition of Difference				
	Inclusivity			
	Cultural Knowledge			
	Narrative			
	Group Identity			
	Active Citizenship			
Intellectual Quality				
	Deep Knowledge			
	Deep Understanding			
	Higher-order Thinking			
	Substantive Conversation			
	Knowledge as Problematic			
	Metalanguage			

The table above reveals that the productive pedagogy element of inclusivity was evident in both the written response and lesson plan of Student Teacher Three. In her written response, Student Teacher Three suggests that academic engagement will allow, *"all the children to have an opportunity to experience learning."* This relates to the productive pedagogy element of inclusivity where all learners' needs are taken into consideration and whereby all learners are involved in the learning process. In the lesson plan of Student Teacher Three, the productive pedagogy element of inclusivity is apparent as all learners were involved and there is no indication that any learner was excluded on the basis of gender, race or ability.

The productive pedagogy element of higher-order thinking is evident in both the lesson plan and reflective journal of Student Teacher Three. In the outcomes of her

lesson plan, Student Teacher Three utilises the element of higher-order thinking by noting that learners should be able to, "e*xplain to the teacher what the difference between an Impala and a lion is- based on looking at the picture."* In her reflective journal, Student Teacher Three expresses that in her next lesson she will allow learners to, "*think more deeply about their answers."* Although the element of higher-order thinking is evident in the lesson plan of Student Teacher Three, her reflective journal reveals that she feels she should perhaps have used this element more.

The productive pedagogy element of deep understanding is only evident in the written response of Student Teacher Three. Additionally, the elements of background knowledge, knowledge integration, connectedness to world, social support, cultural knowledge, and substantive conversation are only apparent in the lesson plan of Student Teacher Three.

In her written response, Student Teacher Three explains that teachers are faced with the difficulties of language barriers and learners from different backgrounds. In her lesson plan, no difficulties are evident. In the reflective journal of Student Teacher Three, she notes that learners were, *"a little restless,"* which reveals another challenge that Foundation Phase teachers are faced with.

4.3 Conclusion.

This chapter has discussed three third year Foundation Phase student teachers' data sets, namely written responses, lesson plans and reflective journals. Additionally, this chapter has discussed the similarities and differences apparent across all three third year Foundation Phase student teacher participants' data sets. In the chapter to follow, the semi-structured interview transcripts for each student teacher participant will be analysed and interpreted.

Chapter 5

Data Analysis and Interpretation of Interview Transcripts

5.1 Introduction.

This chapter will focus on the analysis and interpretation of the three third year Foundation Phase student teacher participants' semi-structured interview transcripts with the intention of exploring in what ways the framework of productive pedagogy can act as a potential supportive mechanism for Foundation Phase third year student teachers in pedagogically dealing with the issue of learner diversity in Foundation Phase classrooms.

5.2. Interview Transcripts.

Thematic Content Analysis was utilised in order to analyse the Foundation Phase student teacher participants' interviews (see Appendix B for student teacher participants' interview transcripts). This section will describe the Thematic Content Analysis steps that were taken in the interview analysis process as well as present and discuss the findings from the analysis as they emerge.

5.2.1 Step 1: Familiarisation with the Data.

According to Braun and Clarke (2006), the first step of Thematic Content Analysis involves transcribing the verbal data into written form. All three of the student teacher participants' interviews were transcribed into tabular form. This was of assistance as familiarisation with the data was established. Figure 5.1 below provides an example extract of the transcribed interview transcripts (see Appendix B for transcribed interview transcripts).

Figure 5.1 Example Extract of a Transcribed Interview Transcript.

Line		Question/Answer	Code
1 2	I	Did you enjoy teaching the lesson that used the productive pedagogy framework?	
3 4 5 6	ST2	Yes, I did. Quite a lot. It was very interactive, umm, there was lots of learning. The kids were very responsive, so it was a different approach that had quite a lot more learning than just a normal teaching approach.	

5.2.2 Step 2: Generating Initial Codes.

Braun and Clarke (2006) delineate that step 2 of Thematic Content Analysis involves systematically coding noteworthy features. An inductive approach was utilised in this step, as significant or relevant information that came up repeatedly throughout the transcripts was initially coded. Figure 5.2 below provides an example extract of the transcribed interview transcripts with inductive coding (see Appendix B for transcribed interview transcripts with inductive coding).

Figure 5.2 Example Extract of Transcribed Interview Transcript with Inductive Coding.

Line		Question/Answer	Code
8 9	I	In your lesson planning, did you find the productive pedagogies user-friendly? Was it easy to use?	
10 11 12	ST1	Yeah, pretty much. As a teacher you think about it anyway. You do think about using all those different, you know the different pedagogies, so it's pretty simple to apply.	Productive pedagogy elements/dimensions Easily applicable

Once the inductive approach to coding was done on all three student teacher participants' interview transcripts, each interview transcript was summarised. The following tables (Table 5.1; Table 5.2; Table 5.3) summarise each student teacher participants' interview transcript.

Table 5.1 Interview Transcript Coding for Student Teacher One.

Code	Example and Line Number	Additional Lines
Holistic learner development	"all the different sides of the children…" (6)	7, 57.

Socio-emotional demands	“all about the emotional side…” (5)	93, 94, 101.
Productive pedagogy elements and/or dimensions	“different pedagogies…” (11)	12, 21, 35, 38 – 44, 46 – 49, 51, 55, 64, 65, 106, 107,109, 119.
Easily applicable framework	“pretty simple to apply” (12)	17, 18, 85.
Teacher assistance	“to direct you or to guide…” (23)	24, 116.
Lesson outcomes	“outcomes of the lesson…” (22)	23.
Active learning	“kids are always responsive…” (28)	32, 45.
Everyday vs school knowledge	“engaging and connecting their knowledge” (30 – 31)	
Questioning	“a lot of questioning” (36)	38, 46, 60, 61, 72, 114, 115.
Link between productive pedagogy elements and dimensions	“they all connect…” (39)	42.
Positive reinforcement	“encouraging responses, encouraging them..” (44)	
Learner support	“not be scared…” (45)	
Unconsciously use productive pedagogy	“without realizing…” (54)	83, 84, 85, 122, 124, 125.
Learner development	“trying to get what you really want to out of their thinking” (63 – 64)	
Planning different to reality	“you cant really plan exactly what they are going to say” (69 – 71)	
Teacher flexibility	“have to adapt it as you’re teaching” (71)	72.
Flexible framework	“it’s easy to adapt” (78)	77.
Learning barriers	“learners who had some learning difficulties” (92 – 93)	
Different backgrounds	“kids came from households which were broken up households” (96 – 97)	

Table 5.2 Interview Transcript Coding for Student Teacher Two.

Code	Example and Line Number	Additional Lines
Active learning	“It was very interactive” (3)	4, 15, 16, 34, 35, 36, 40, 41, 55, 56, 58, 87.
Teacher knowledge	“a lot more insight…” (9)	19.
Productive pedagogy elements and/or dimensions	“the different aspects” (10)	21, 22, 33, 35, 37, 44, 45, 49, 50, 51, 55, 60, 63, 64, 65, 83, 84, 93, 94.
Holistic learner development	“a more holistic approach to things” (11 – 12)	
Questioning	“questions I could have were more detailed” (9 – 10)	19, 20, 57, 58, 82, 83.
Easily applicable framework	“It was easy” (14)	
Teacher assistance	“I could actually expand on what was in the lesson plan” (27)	29, 30, 101 – 103, 109, 110.
Collaborative learning	“they helped each other” (68)	41 – 43, 90, 91.

Everyday vs school knowledge	“pull on their previous knowledge” (47)	48.
Positive reinforcement	“encouraging them or motivating them” (53)	54.
Learner support	“having that support that they are not learning in fear” (56 – 57)	61 – 64.
Tedious to prepare lessons	“taking a lot of my time” (72)	78, 79.
Socio-emotional demands	“some of them are withdrawn” (90)	
Cognitive demands	“you know, who the weaker ones are” (95)	94 – 97.
Learner development	“mould them... answer that question” (97)	

Table 5.3 Interview Transcript Coding for Student Teacher Three.

Code	Example and Line Number	Additional Lines
Link between productive pedagogy elements and dimensions	“put inclusiveness and try and connect all the themes together” (6)	69.
Difficulty in using productive pedagogy	“first it was a bit difficult” (5)	32, 59, 60, 69.
Easily applicable framework	“became a lot easier” (8)	11, 12, 19, 34, 35,
Teacher assistance	“It gave you a guideline…” (19)	25, 27, 28, 113, 115 – 117.
Lesson outcomes	“which outcome you want to take” (20)	93.
Productive pedagogy elements and/or dimensions	“under each dimension you’ve got smaller sub-dimensions” (25 – 26)	38, 42, 45, 49, 50, 59, 60, 63, 70, 71.
Questioning	“actually maybe phrase questions” (28)	60, 61.
Everyday vs school knowledge	“connect it with what the children know about South Africa” (44)	
Active learning	“where you can get information from all the children” (63 – 64)	87, 109.
Planning different from reality	“the answers were a bit different from what you had actually planned” (89 – 90)	
Teacher flexibility	“maybe divert my lesson” (92)	
Flexible framework	“you can be flexible” (96)	
Socio-emotional demands	“there were like social difficulties” (100 – 101)	103.
Positive reinforcement	“kind of encourage them to answer” (109 – 110)	

After each interview transcript had been summarised, the initial codes for all three student teacher participants were translated into one table so that similarities and differences between the initial coding phase could be clearly identified. Colour

coding was utilised to search for patterns across initial codes. Table 5.4 below provides the initial across coding analysis of the interview transcripts for all three student teacher participants.

Table 5.4 Initial Across Interview Transcript Coding for All Three Student Participants.

Student Teacher One	Student Teacher Two	Student Teacher Three
Holistic learner development	Active learning	Link between productive pedagogy elements and dimensions
Socio-emotional demands	Teacher knowledge	Difficulty in using productive pedagogy
Productive pedagogy elements and/or dimensions	Productive pedagogy elements and/or dimensions	Easily applicable framework
Easily applicable framework	Holistic learner development	Teacher assistance
Teacher assistance	Questioning	Lesson outcomes
Lesson outcomes	Easily applicable framework	Productive pedagogy elements and/or dimensions
Active learning	Teacher assistance	Questioning
Everyday vs school knowledge	Collaborative learning	Everyday vs school knowledge
Questioning	Everyday vs school knowledge	Active learning
Link between productive pedagogy elements and dimensions	Positive reinforcement	Planning different from reality
Positive reinforcement	Learner support	Teacher flexibility
Learner support	Tedious to prepare lessons	Flexible framework
Unconsciously use productive pedagogy	Socio-emotional demands	Socio-emotional demands
Learner development	Cognitive demands	Positive reinforcement
Planning different to reality	Learner development	
Teacher flexibility		
Flexible framework		
Learning barriers		
Different backgrounds		

5.2.3 Step 3: Searching for Themes.

Step 3 of the Thematic Content Analysis process involves, “sorting the different codes into potential themes, and collating all the relevant coded data extracts within the identified themes” (Braun and Clarke, 2006, p. 89). Using the table that summarised the initial coding from across interview transcripts (Table 5.4), different codes were sorted into potential themes (see Table 5.5).

5.2.4 Step 4: Reviewing Themes.

According to Braun and Clarke (2006), step 4 of Thematic Content Analysis involves refining the previously established themes. In this step, the initial coding themes were reviewed and coherent patterns were established. Additionally, a brief justification was given as to why certain initial codes were clustered into certain themes so that broader overarching themes could be recognised (see Table 5.5).

5.2.5 Step 5: Defining and Naming Themes.

Once the broad themes were established, the “essence of what each theme is about” was identified, and the themes were named and defined in relation to this research (Braun & Clarke, 2006, p. 92). The following themes were identified: learner diversity, learner-centred pedagogy, productive pedagogy framework, support for teacher practice, and support for learner diversity.

Table 5.5 Initial Coding and Themes.

Step 3: Initial Codes from Interview Transcripts			Step 4: Reviewing Themes	Step 5: Naming Theme
Student Teacher One	Student Teacher Two	Student Teacher Three		
Socio-emotional demands	Socio-emotional demands	Socio-emotional demands	These ideas relate to the challenges faced by learners	Learner Diversity.
Learning barriers	Cognitive			

	demands		as well as to the factors related to learner diversity.	
Different backgrounds				
Active learning	Active learning	Active learning	The words “active” and “collaborative” portray a learner-centred pedagogical approach.	Learner-centred pedagogy.
	Collaborative learning			
Productive pedagogy elements and/or dimensions	Productive pedagogy elements and/or dimensions	Productive pedagogy elements and/or dimensions	These concepts relate to the different productive pedagogy dimensions and elements.	Productive pedagogy framework.
Link between productive pedagogy elements and dimensions		Link between productive pedagogy elements and dimensions		
Questioning	Questioning	Questioning	Intellectual Quality	
Everyday vs school knowledge	Everyday vs school knowledge	Everyday vs school knowledge	Connectedness	
Unconsciously use productive pedagogy			Reveals that productive pedagogy is a simple and flexible framework to use.	Support for Teacher Practice.
Easily applicable framework	Easily applicable framework	Easily applicable framework		
Flexible framework		Flexible framework		
Teacher flexibility		Teacher flexibility	Productive pedagogy guides teachers & allows teachers to be flexible so as to assist the diverse needs of learners.	
Teacher assistance	Teacher assistance	Teacher assistance		

Lesson outcomes		Lesson outcomes	Productive pedagogy allowed teachers to divert from their planning and still achieve the lesson outcomes.	
Planning different from reality		Planning different from reality		
Positive reinforcement	Positive reinforcement	Positive reinforcement	These ideas relate to learner support. Reveals that these aspects can assist with learner diversity.	Support for learner diversity.
Learner support	Learner support			
Holistic way of teaching	Holistic way of teaching			

5.2.6 Step 6: Producing the Report.

Braun and Clarke (2006, p. 93) describe the final step of the Thematic Content Analysis as comprising of "a concise, coherent, logical, non-repetitive and interesting account of the story the data tell - within and across themes." The above themes of learner diversity, learner-centred pedagogy, the productive pedagogy framework, support for teacher practice, and support for learner diversity will be discussed in detail using the student teacher participants' interview responses in order to support the findings. Reference will also be made to relevant literature as well as to insights gained from written responses, lesson plans and reflective journals in chapter 4.

5.2.6.1 Learner Diversity.

According to the *Guidelines for Responding to Learner Diversity Through Curriculum and Assessment Policy Statements* (Department of Basic Education, 2011a), all classrooms in South Africa have learners with diverse learning needs.

Student teacher participants highlighted the issue of learner diversity in their interviews. Socio-emotional concerns were noted. Student Teacher Two suggested that, *"some of them* [learners] *are withdrawn"*. Student Teacher Three mentioned

that amongst the learners in her class, *"there were like social difficulties… they kept to themselves."* Student Teacher One claimed that in order to teach effectively, it was important for teachers to pay attention to the emotional aspects of learner development as it was, *"all about the emotional side…"* This relates to the written responses of Student Teacher One and Student Teacher Two, as they expressed that socio-emotional difficulties amongst learners are a challenge for Foundation Phase teachers. Socio-emotional factors, as related to learner diversity, are highlighted by Bierman et al. (2008, p. 1803) who illustrate that learners are "faced with heightened demands for well-regulated and goal-directed activity" at school entry. As evident in the student teacher participants' responses, socio-emotional demands are a predominant feature amongst South African Foundation Phase learners.

Research suggests that there is a direct correlation between learners' socio-emotional skills and cognitive development (McClelland, Morrison, & Holmes, 2000; Bierman et al., 2008; La Paro & Pianta, 2000). With this said, an additional factor related to learner diversity that the student teacher participants highlighted was that of cognitive concerns. Student Teacher Two highlighted that, "*it's very easy to spot, you know, who the weaker ones* [learners] *are."* This correlates to the written response of Student Teacher Two, as she claimed that Foundation Phase teachers are faced with learners who, "*struggle to grasp concept*[s]." Additionally, in the lesson plan of Student Teacher Two, the learner diversity aspect of having weaker learners in her class is acknowledged and practical methods of dealing with this are highlighted. Student Teacher One suggested that, "*there were learners who had some learning difficulties."* Student Teacher Three claimed that there were, *"not like intellectual,"* difficulties present amongst her Foundation Phase learners. This response contrasts with what Student Teacher Three wrote in her written response, "*every child is different so the language barrier is one of the difficulties seen in the ECD classroom."* The responses of Student Teacher One and Student Teacher Two highlight the diverse cognitive demands that are evident amongst young learners in South African Foundation Phase classrooms. According to Duncan et al. (2007), cognitive skills such as oral language and conceptual ability play an important role in the mastery of reading and mathematics tasks. These tasks are apparent throughout

schooling, and thus it is of utmost importance that teachers of Foundation Phase learners identify and assist learners with these cognitive learning barriers.

5.2.6.2 Learner-centred Pedagogy.

Features of a learner-centred pedagogy were made apparent in all three student teacher participants' interview responses. Student Teacher One expressed the view that, "*kids are always responsive towards things."* Student Teacher Two mentioned, "*it was very interactive… the kids were very responsive."* Additionally, this student used the productive pedagogy element of higher-order thinking, *"so that it's not simple recall, that they* [the learners are] *actually inquiring, they're thinking, they're exploring, and they're actually learning. It's not just me giving them the information and then rote learning."* Student Teacher Three suggested, "*student control maybe creating an environment in that small classroom where you can get information from all the children."* Research suggests that one of the underlying assumptions of a learner-centred pedagogical approach is the constructivist view of teaching and learning (O'Sullivan, 2004; Chisholm and Leyendecker, 2008). A central notion of constructivism is that learning is an active and generative process. From the student teacher participants' responses, the concept of active learning comes through strongly, as all student teacher participants indicate that the learners are actively engaged in the learning process. Additionally, the productive pedagogy element of student control, as mentioned by Student Teacher Three, illustrates that learners influence certain tasks and activities, which correlates to a constructivist learner-centred pedagogy.

5.2.6.3 Productive Pedagogy Framework.

The productive pedagogy framework was highlighted in the student teacher participants' interview responses. The three student teacher participants mentioned various dimensions and elements of the productive pedagogy framework. The productive pedagogy dimensions and/or elements of higher-order thinking, deep knowledge, deep understanding, supportive classroom environment, engagement, social support, inclusivity, connectedness to the world, and recognition of difference

were mentioned throughout the interview responses of Student Teacher One. Student Teacher Two expressed the productive pedagogy dimensions and/or elements of supportive classroom environment, higher-order thinking, deep knowledge, substantive conversation, knowledge integration, background knowledge, connectedness to the world, social support, engagement, explicit criteria, recognition of difference, group identity, and inclusivity. The productive pedagogy dimensions and/or elements of higher-order thinking, connectedness, knowledge integration, supportive classroom environment, and student direction were evident throughout the interview responses of Student Teacher Three. Lingard et al. (2006) suggest that all elements of the productive pedagogy framework do not have to be present at all times, as some elements might be more appropriate than others during certain times of a lesson. The table below summarises the productive pedagogy dimensions and elements that were apparent in the student teacher participants' interview responses.

Table 5.6 Summary of Productive Pedagogy Dimensions and/or Elements from Interview Responses.

Productive Pedagogy Dimensions and Elements		Student Teacher One	Student Teacher Two	Student Teacher Three
Connectedness				
	Background Knowledge			
	Knowledge Integration			
	Connectedness to the World			
	Problem-based Curriculum			
Supportive Classroom Environment				
	Academic Engagement			
	Student Direction			
	Student Support			
	Explicit Criteria			
	Self-regulation			
Recognition of Difference				
	Inclusivity			

	Cultural Knowledge			
	Narrative			
	Group Identity			
	Active Citizenship			
Intellectual Quality				
	Deep Knowledge			
	Deep Understanding			
	Higher-order Thinking			
	Substantive Conversation			
	Knowledge as Problematic			
	Metalanguage			

According to Zyngier (2005), there is interconnectedness in the productive pedagogy framework as there, "is a porous nature to the dimensions and their elements which overlap, so that elements flow in from one to the other." This correlates with the interview responses of Student Teacher One and Student Teacher Three. Student Teacher One expressed the view that, "*a lot of the questioning had to do with high-order thinking, so that, but I think they all connect… cause deep knowledge is as a result of the higher-order thinking and deep-understanding is also, so it's pretty much they connect."* Student Teacher Three mentioned, "*you actually have to put inclusiveness and try and connect all the themes together."* Interestingly, although Student Teacher Two does not highlight the interconnectedness of the productive pedagogy framework in her interview, she does acknowledge this notion in her written response as she claims*, "higher order thinking* [is important] *to develop deep knowledge and understanding,"* and, *"relevance to* [unable to read] *world to enable deep knowledge and deep understanding to allow for substantive conversation."*

The idea of relating everyday knowledge to school knowledge was apparent throughout all three student teacher participants' interview responses. Student Teacher One expressed, "*the productive pedagogies is all about engaging and connecting their* [the learners] *knowledge."* In her written response this is further highlighted as she claims that by, "*relating content to background knowledge and the world, children can grasp knowledge better."* Additionally, in her lesson plan, this

student teacher chose a story that relates to the learners' daily activities so that they are able to easily relate to the character of the little bear. Student Teacher Two suggested that, "*you need to pull on their previous knowledge and what they obviously bringing from home in order to make it more relevant for them, make it more real, and they can relate and better understand."* This relates to the written response of Student Teacher Two, as she suggests that the productive pedagogy framework, "*helps them* [the learners] *to understand easier by making content relevant and linking it to their personal lives."* Furthermore, in her lesson plan, Student Teacher Two uses real-world Mathematical examples, which provides a link between the everyday and the school knowledge and makes the topic at hand more relevant to the learners. Student Teacher Three mentioned that in her classroom she had to, "*connect it* [school knowledge] *with what the children know about South Africa."* This correlates to the written response of Student Teacher Three, as she expresses that the productive pedagogy framework, "*helps the teacher to link the everyday knowledge to the topic being learnt."* These responses correlate to the productive pedagogy dimension of connectedness, or more specifically, the element of background knowledge. According to Lingard et al. (2006, p. 37), connecting learners' background knowledge to classroom learnings, "may provide a bridge that motivates all students to engage with the learning process." Additionally, Young (2011) suggests that connecting learners' everyday knowledge to school knowledge allows learning to be more meaningful. This is particularly important in the Foundation Phase, as learners are still in the beginning phase of what Piaget termed the concrete operational stage of development. According to Hardman (2012), learners in this developmental stage still base their thinking on concrete situations, thus physical objects or familiar knowledge is essential in ensuring that meaningful learning occurs.

5.2.6.4 Support for Teacher Practice.

The main purpose of this research is to see if the productive pedagogy framework can act as a supportive mechanism for Foundation Phase teachers. Research by Gore et al. (2004) illustrates that pre-service and beginner teachers find productive pedagogy a very useful framework to guide their teaching. Student Teacher One

suggested that the utilisation of productive pedagogy can, *"direct you or guide what or where your lesson is going.*" This relates to the written response of Student Teacher One, as she claims that the productive pedagogy framework, "*assists in guiding"* the teacher. Additionally, Student Teacher One expressed that she used the elements of the productive pedagogy framework, "*without realizing,"* which illustrates that it is an easy framework to use. Furthermore, this indicates that sometimes teachers work instinctively and the productive pedagogy framework offers opportunities for teachers to reflect explicitly. In the view of Student Teacher Two, *"you were able to pinpoint where your problems* [learner difficulties] *are and you use the productive pedagogies framework as a guideline as to how to improve."* Student Teacher Three mentioned, *"it* [the productive pedagogy framework] *gave you a guideline to see, like how you can take your lesson…* [and] *it actually helped you and made it easier to see how you can actually maybe phrase questions or do something differently."* The interview responses from the student teacher participants illustrate that the different productive pedagogy elements have assisted in directing their teaching practice.

In general, the student teacher participants viewed the productive pedagogy framework as easily applicable. Student Teacher One expressed that the productive pedagogy framework was, "*pretty simple to apply"* in both the planning as well as the teaching of the lesson. This student further added that, "*this* [using the productive pedagogy framework] *is pretty much what we do in Foundation phase, so we are used to actually doing lessons based on these things."* Student Teacher Two mentioned that the use of the productive pedagogy framework was, *"fun! It was easy."* She further explained that planning the lesson, *"did take a lot of time though, but it went a lot quicker than most lesson plans."* Student Teacher Three suggested that, "*at first it was a bit difficult"* planning and teaching the lesson using the productive pedagogy framework, but concluded by saying, "*it became a lot easier."* The view of Student Teacher One confirms the findings of the Queensland School Reform Longitudinal Study (QSRLS), that the productive pedagogy framework is, "not something new or groundbreaking… [but rather] describes what good teachers have always been doing in their classes with their students" (Zyngier, 2005). The student teacher participants' responses that the productive pedagogy framework was a, *"simple"* and *"easy"* framework to apply in the planning and teaching of a lesson

correlates with the findings proposed by Zyngier (2005), whereby productive pedagogy is a “compatible” framework that can be used in various grades and with different teaching styles.

5.2.6.5 Support for Learner Diversity.

A strong feature that was mentioned by all three student teacher participants was the notion of positive reinforcement. Student Teacher One highlighted that the productive pedagogy element of social support was achieved through, “*encouraging responses, encouraging them* [the learners]*, you know to respond.”* Student Teacher Two suggested, “*they’re* [the learners] *obviously not going to learn if they are fearful or if you’re not encouraging them or motivating them.”* Student Teacher Three mentioned that some learners in her class were withdrawn from the group thus she, *“had to like kind of encourage them to answer.”* The words, “*encourage”* and “*motivate”* used in the three student teacher participants’ interview responses are examples of positive reinforcers. A positive reinforcer is one that acts as a stimulus to the learner and increases the frequency of a desired behaviour (Howie & Winkleman, 1977). The student teacher participants used verbal positive reinforcers to demonstrate learner support, which encouraged the learners to answer questions and to feel safe in the classroom. Hayes et al. (2006) suggest that learners are able to take risks and master difficult academic activities when the teacher has created a classroom environment where learners feel safe from insult and diminishment.

Student Teacher One and Student Teacher Two highlight the notion of learner support. In the view of Student Teacher One, the productive pedagogy dimension and element of a supportive classroom environment and social support allow teachers to encourage and motivate learners, which allows learners, “*not* [to] *be scared.”* Student Teacher Two expressed that the productive pedagogy dimension of a supportive classroom environment and element of social support would offer learners with “*support* [so] *that they are not learning in fear, or that they are able to ask questions and take a risk and participate.”* According to Hayes et al. (2006), the productive pedagogy dimension of supportive classroom environment provides all learners with the opportunity to learn in a socially supportive environment. Christie

(2008) further illustrates that learners feel safe to take intellectual risks when pedagogy is supportive.

The notion of a holistic approach to teaching was highlighted in two of the student teacher participants' interviews. A holistic approach to teaching focuses on the intellectual, social and emotional aspects of learner development, and highlights life experiences and, "learning beyond the confines of the classroom" (Hare, 2010, p. 3). Student Teacher One suggested, "*it's* [the productive pedagogy framework] *about all the different sides of the children so it's interesting to have a lesson which focuses on all the different parts."* Additionally, Student Teacher One mentioned, "*so if you apply these things* [productive pedagogy] *it actually does provide for a whole holistic approach to teaching."* This correlates to what Student Teacher One wrote in her written response, whereby she claimed that the productive pedagogy framework "*allows us* [the teacher] *to remember 'the whole child' in our teaching."* Student Teacher Two expressed the view that, "*it was a more holistic approach"* to teaching. Interestingly, although Student Teacher Three does not mention the notion of a holistic approach to teaching in her interview, she does mention it in her written response, whereby she suggests that using the productive pedagogy framework, "*will allow me to have a greater understanding on what is required in order to fully develop the holistic aspect of the child."* The four dimensions of the productive pedagogy framework; namely intellectual quality, connectedness, supportive classroom environment, and working with and valuing difference offer support for the social, emotional and intellectual outcomes of learners.

5.3 Overall Findings.

Considering the analysis of written responses, lesson plans, reflective journals and themes that emerged from the interviews the following overall findings are presented.

5.3.1 Finding One: Productive Pedagogy Assists Student Teachers with Planning.

The student teacher participants mentioned that using the productive pedagogy framework in the planning of their lesson assisted them in thinking about specific dimensions and elements that could be incorporated into the lesson, i.e. connectedness and background knowledge. According to Zyngier (2005), the utilisation of the productive pedagogy framework assists student teachers in identifying certain dimensions and elements that assist in enriching the learning process for young learners. Although the student teacher participants initially thought that using the productive pedagogy framework was difficult, there was a general acknowledgement that the productive pedagogy framework provided them with opportunities to think around certain productive pedagogy dimensions and elements at the lesson planning stage, which enhanced the learning and teaching process.

5.3.2 Finding Two: Productive Pedagogy Assists in Selection of Teaching Strategies.

From the data sets it is apparent that the productive pedagogy framework assisted the student teacher participants with the selection of various teaching strategies. The student teacher participants mentioned that the productive pedagogy framework provided them with awareness that made them teach for the diverse needs of their learners. Additionally, it was noted that the productive pedagogy framework allowed the student teacher participants to make a conscious effort of including real-world problems and linking school knowledge to the learners' background knowledge, so as to make the topic at hand more relatable to the learners. According to Young (2011), connecting learners' everyday knowledge to school knowledge ensures that learning is made meaningful and that learners are able to grasp complex concepts more easily. The use of higher-order thinking and substantive conversation reveals additional teaching strategies that were consciously applied in the lesson plans of the student teacher participants. This again relates to the study of Zyngier (2005), which reports that the productive pedagogy framework assists student teachers in

choosing appropriate dimensions and elements so as to enhance the learning process and to make teaching more satisfying.

5.3.3 Finding Three: Productive Pedagogy Enables Student Teachers to Consider and Deal with Diversity.

The student teacher participants' data sets reveal that the productive pedagogy framework enabled them to consider and deal with the diverse needs of learners in their classroom, so as to ensure social justice and equitable educational opportunities for all learners. In a Foundation Phase classroom there are various factors that could influence learner diversity. According to Landsberg (2007), these influencing factors include: lack of pre-primary education, socio-economic deprivation, impairments, language barriers, cultural differences, and lack of parental involvement and support. Overall, the student teacher participants identified socio-economic background, language barriers, intellectual challenges, and learners from broken-up households as the predominant influencing factors of learner diversity. Christie (2008) suggests that supportive pedagogy which provides equal treatment to all learners regardless of race, ethnicity, disability or social-economic background, enables learners to feel secure so that they are able to undertake intellectual risks. Through the utilisation of the productive pedagogy dimension of supportive classroom environment, student teachers are able to create a supportive environment whereby all learners' needs are accommodated and where all learners are exposed to equitable education opportunities. Based on identification from the student teacher participants' data sets, it is apparent that the productive pedagogy framework could act as a supportive mechanism in pedagogically dealing with the diverse needs of learners in the Foundation Phase classroom.

5.3.4 Finding Four: Productive Pedagogy Supports a Learner-centered Pedagogical Approach.

The notion that the productive pedagogy framework supports a learner-centred pedagogical approach was made apparent throughout the student teacher participants' data sets. According to Schiro (2008), a learner-centred curriculum

approach provides learners with opportunities to make meaning for themselves through the interaction with peers, teachers, thoughts, and objects. An underlying principle of a learner-centred pedagogical approach is that of constructivism, whereby learning is viewed as an active and generative process. Through the use of the productive pedagogy elements of substantive conversation, higher-order thinking and student direction the student teacher participants provided the learners with opportunities to be actively involved in the learning process, whereby the learners were able to engage in tasks that allowed them to think for themselves and actively share their thoughts and ideas.

5.3.5 Finding Five: Some Elements of Productive Pedagogy were Considered More Relevant to Foundation Phase than Others.

Based on the anticipated use of the productive pedagogy elements in the written response, the use of the elements in the lesson plans, and the discussion of the elements in the interviews, it became evident that some productive pedagogy elements were considered more relevant to Foundation Phase than others. Overall, the productive pedagogy elements of background knowledge, knowledge integration, connectedness to the world, academic engagement, social support, self-regulation, inclusivity, cultural knowledge, deep knowledge, deep understanding, higher-order thinking, and substantive conversation were apparent throughout the student teacher participants' data sets, thus could be said to be more relevant to the Foundation Phase. In the Foundation Phase, many learners are said to be in what Piaget termed the concrete operational stage of development (Hardman, 2012). The use of the productive pedagogy elements that relate to the backgrounds of young learners such as, background knowledge and connectedness to the world, allow for the topic being taught to be more relatable to the young learners as they still require concrete and known ideas in order to fully understand new information. The utilisation of these productive pedagogy elements leads to the use of the productive pedagogy elements such as, deep understanding, deep knowledge and higher order thinking. Zyngier (2005) suggests that many of the productive pedagogy elements are related and explains that there is no barrier between the different productive pedagogy dimensions, thus it is made apparent as to why these productive pedagogy elements

were used as opposed to others. The productive pedagogy elements of problem-based curriculum, explicit criteria, narrative, group identity, active citizenship, knowledge as problematic, and metalanguage were not evident in any of the student teacher participants' data sets. Zyngier (2005) explains that not all elements of the productive pedagogy framework need to be used in one lesson. This could perhaps be the reason as to why these elements were not present in the student teacher participants' data sets, as they were only required to do one lesson. For example, if an English lesson was done, the element of metalanguage would possibly be evident. Thus, one cannot really conclude that these elements are not relevant in the Foundation Phase. From this overall finding, it is apparent that the student teacher participants mostly used the productive pedagogy dimension of intellectual quality. The table below summarises the productive pedagogy elements that the three Foundation Phase student teachers used across the data sets.

Table 5.6 Summary of Productive Pedagogy Elements for All Student Teacher Participant Across All Data Sets.

	ST1				ST2				ST3				
Productive Pedagogy Dimensions and Elements	**Written Response (anticipated use)**	**Lesson Plan**	**Reflective Journal**	**Interview**	**Written Response (anticipated use)**	**Lesson Plan**	**Reflective Journal**	**Interview**	**Written Response (anticipated use)**	**Lesson Plan**	**Reflective Journal**	**Interview**	**No. Of Times Used**
Connectedness													
Background Knowledge													8
Knowledge Integration													2
Connectedness to World													7
Problem-based Curriculum													0
Supportive Classroom Enviro													
Academic Engagement													10
Student Direction													0
Social Support													8
Explicit Criteria													0
Self-regulation													1

		ST1				ST2				ST3				
	Productive Pedagogy Dimensions and Elements	Written Response (anticipated use)	Lesson Plan	Reflective Journal	Interview	Written Response (anticipated use)	Lesson Plan	Reflective Journal	Interview	Written Response (anticipated use)	Lesson Plan	Reflective Journal	Interview	No. Of Times Used
Recognition of Difference														
	Inclusivity													8
	Cultural Knowledge													1
	Narrative													0
	Group Identity													0
	Active Citizenship													0
Intellectual Quality														
	Deep Knowledge													4
	Deep Understanding													5
	Higher-order Thinking													11
	Substantive Conversation													8
	Knowledge as Problematic													0
	Metalanguage													0

5.3.6 Finding Six: Student Teachers were Enthusiastic About the Potential of Productive Pedagogy to Enhance Their Practice in Foundation Phase Classrooms.

Gore et al. (2004) suggest that the productive pedagogy framework will better equip student teachers with the necessary tools that make the teaching and learning process successful. From the data sets it is apparent that the student teacher participants were enthusiastic about the potential of the productive pedagogy framework to enhance their practice in Foundation Phase classrooms. Although some difficulties in using the productive pedagogy framework were expressed, the general consensus throughout the data sets was that productive pedagogy was user-friendly, easily applicable and a simple framework to use in Foundation Phase classrooms.

5.4 Conclusion.

The three third year Foundation Phase student teacher participants' interview transcripts have been analysed and discussed in this chapter. Additionally, overall findings across all four data sets (written responses, lesson plans, reflective journals, and interviews) have been identified and discussed. The chapter to follow will

discuss the results and the overall findings in relation to the posed research questions.

Chapter 6

Discussion and Critical Reflection

6.1 Introduction.

This study intended to explore how the productive pedagogy framework can be considered a supportive mechanism for pedagogically dealing with the issue of learner diversity in Foundation Phase classrooms. This chapter will conclude this study by relating the overall findings to the research questions and offer a personal reflection on the research. Additionally, the limitations of this research will be discussed, followed by some recommendations for future research.

6.2 Relating Overall Findings to the Research Questions.

Research question one posed for this study looks at the reflections of third year Foundation Phase student teachers, regarding **the ways in which the productive pedagogy framework assisted in dealing with the issue of learner diversity apparent in Foundation Phase classrooms**. The third year Foundation Phase student teacher participants shared the view that the productive pedagogy framework assisted them in thinking around the notion of diversity in their lesson planning as well as in their teaching. Through the use of the productive pedagogy framework, the student teacher participants say that they utilised a learner-centred pedagogical approach, which provided *all* learners with the opportunity to share their ideas and make meaning for themselves through an interactional learning experience. Additionally, the student teacher participants highlighted that the productive pedagogy framework assisted in the holistic development of learners. In the view of the third year Foundation Phase student teacher participants, the framework of productive pedagogy assisted in the selection of various teaching strategies such as an awareness of learner diversity, the inclusion of real-world problems, and linking school knowledge to the learners' background knowledge.

Additionally, the productive pedagogy framework assisted the Foundation Phase student teacher participants with the planning of their lesson, as well as in the teaching thereof, as they made a conscious effort to think around the diverse needs of the learners. The Foundation Phase student teacher participants further highlighted that the productive pedagogy framework supports a learner-centred, constructivist pedagogical approach, which takes into account the diverse needs of all learners, as they are all actively involved in the learning process. Thus, in the view of the third year Foundation Phase student teacher participants, the productive pedagogy framework assisted them in dealing with the issue of learner diversity evident in the Foundation Phase classroom.

The second research question posed in this study explores **the ways in which the third year Foundation Phase student teachers find the productive pedagogy framework pedagogically relevant for the Foundation Phase classroom.** This question was considered as it became evident during the literature review that whilst much research has been conducted on productive pedagogy in Intermediate and Senior Phases, little data was available that focused specifically on the Foundation Phase. The third year Foundation Phase student teacher participants shared the view that the productive pedagogy framework enabled them to consider and deal with the notion of learner diversity, so as to ensure that all learners are exposed to equitable educational opportunities. From the data sets of the Foundation Phase student teacher participants, it was apparent that some productive pedagogy elements were considered more relevant than others. The notion of dealing with learner diversity came through strongly in the productive pedagogy elements that were mostly used by the Foundation Phase student teacher participants. These elements included background knowledge, academic engagement, social support, inclusivity, higher-order thinking, and substantive conversation.

The third question posed for this study highlights the **experiences of the third year Foundation Phase student teacher with regards to the implementation of the productive pedagogy framework in the Foundation Phase classroom**. Although the Foundation Phase student teacher participants initially highlighted some difficulties regarding the implementation of the productive pedagogy framework, there was a general acknowledgement that the framework was user-friendly, easily

applicable and a simple framework to use in the Foundation Phase classroom. The second part of this question looks at the **experiences that the third year Foundation Phase student teachers reported when they used the productive pedagogy framework in their lesson planning**. While the third year Foundation Phase student teacher participants initially mentioned that they had a bit of difficulty in using the framework of productive pedagogy in their lesson planning, there was an overall consensus that the productive pedagogy framework assisted them to consciously think about certain productive pedagogy dimensions and elements that could be incorporated into their lesson plan. Additionally, the student teacher participants highlighted that the productive pedagogy framework assisted in guiding their teaching practice, as well as in the selection of certain teaching strategies, which is of fundamental importance at the lesson planning stage. The third part to this question explores the **experiences that the third year Foundation Phase student teachers reported when they used the productive pedagogy framework in their teaching**. The third year Foundation Phase student teacher participants shared the view that they enjoyed using the productive pedagogy framework in the Foundation Phase classroom. There was an overall acknowledgement that they were enthusiastic about the potential of the productive pedagogy framework, so as to enhance their teaching practice in the Foundation Phase classroom.

6.3 Personal Reflection.

The intention of this research was to see in what ways the productive pedagogy framework could act as a supportive mechanism for Foundation Phase student teachers in dealing with the issue of learner diversity in Foundation Phase classrooms. This was personally important to me because I, a first year Foundation Phase teacher, was challenged by the diverse needs of the learners in my class, and was always concerned as to whether my teaching efforts were able to address all the learners' needs. I identify myself with the three student teacher participants used in this study, and share their enthusiasm and enjoyment that they have for the teaching profession. Through exploring the views and experiences of these Foundation Phase

student teachers, it is apparent that they too feel that Foundation Phase teachers are faced with various challenges regarding learner diversity. Personally, the fact that all three student teacher participants found the use of the productive pedagogy framework beneficial in their lesson planning and teaching, as well as towards addressing the issue of learner diversity, reveals that the framework of productive pedagogy is fundamental in providing student teachers with the confidence to walk into a Foundation Phase classroom and be assured that their teaching efforts will successfully address the needs of all their learners.

6.4 Limitations of this Study.

The main purpose of this study was to explore whether the productive pedagogy framework can potentially act as a supportive mechanism for Foundation Phase third year student teachers in dealing with the issue of learner diversity in Foundation phase classrooms. Although the purpose of this research was achieved, the following limitations were apparent in achieving the purpose.

Perhaps the most glaring limitation of this research was the fact that this study employed a very small sample size. This means that the findings of this study cannot be generaised beyond the sample, as only the student teacher participants' views, experiences and opinions regarding whether the productive pedagogy framework could act as a supportive mechanism for learner diversity in the Foundation Phase classroom were taken into consideration.

Another significant limitation was that the student teacher participants had only recently been exposed to a very generalized idea of the productive pedagogy framework and furthermore, had only encountered the productive pedagogy framework in one of their university course modules. Additionally, this was the first time that the student teachers had been given the opportunity to incorporate the productive pedagogy framework in their teaching experience.

According to Opie (2004), the analysis method of using coding should be employed for factual questions, whereas open-ended questions should rather be analysed using a notetaking approach. In this research, coding was used for the open-ended written responses and interviews. This is viewed as a limitation to this study, as the utilisation of coding in the data analysis of the written responses and interviews may have limited the richness of the student teacher participants' responses.

6.5 Recommendations for Future Research.

In order to strengthen the overall findings of this research, this section will discuss various recommendations for future research.

In order for meaningful conclusions to be reached, research should consider a larger sample size, drawn from more than one university, as it is unreasonable to assume that the population from one university is representative of all third year Foundation Phase student teachers' experiences and views.

The student teacher participants' data sets reveal that the understanding of the productive pedagogy framework could be reinforced for student teachers within the undergraduate programme. The confusion of there being three dimensions instead of four, not incorporating certain productive pedagogy elements in lesson plans and the view that all elements must be included in a lesson, reveal that the student teacher participants have a basic understanding of the productive pedagogy framework and do not yet demonstrate an ease of familiarity with the framework. In order for the understanding of the productive pedagogy framework to be enhanced amongst the student teachers within the undergraduate programme, more opportunities should be provided for the student teachers to engage with the productive pedagogy during their undergraduate studies. This aligns very closely to the observations of Gore et al. (2004), whereby it is suggested that the framework of productive pedagogy needs to be introduced early on in the teacher education programme so that it can be well understood by the student teachers. Additionally, the third year student teachers are exposed to the productive pedagogy framework

in a very generalized manner, i.e. across all learning phases and across all subjects as an addition to other teacher education programmes. This correlates to the argument made by Gore et al. (2004), whereby they postulate that the productive pedagogy framework should not be viewed as something additional, but rather as an extensive and integrated programme.

As a recommendation, student teachers should be provided with more exposure to the productive pedagogy framework at an undergraduate level, as well as be provided with opportunities for incorporating the use of the productive pedagogy framework in their specific phase and methodologies. This can be done through their compulsory teaching experiences throughout the four year programme so that they are able to relate the knowledge of the productive pedagogy framework to their context, thus achieving a better understanding of the framework.

Future research in this domain should consider using Foundation Phase student teacher participants who have a more indepth understanding of the productive pedagogy framework, as well as those that have previously used the framework in their teaching experience.

6.6 Overall Conclusion.

The inherited legacy of Apartheid has left various discrepancies with regards to ethnicity, gender and social class in many of today's South African Foundation Phase classrooms (Chisholm, 2008). Additionally, research suggests that not all young learners enter the Foundation Phase classroom with the same or similar cognitive and social-emotional skills that are essential in ensuring successful later school achievements (Duncan et al., 2007; Van Zyl, 2011). This growing concern of learner diversity has now become a prominent challenge amongst many Foundation Phase teachers. This research has explored the ways in which the productive pedagogy framework can act as a supportive mechanism for Foundation Phase student teachers in dealing with the issue of learner diversity in Foundation Phase classrooms.

References

Berlinski, S., Galiani, S., & Gertler, P. (2006). *The Effect of Pre-Primary Education on Primary School Performance* (No. 838). Michigan.

Bierman, K. L., Domitrovich, C. E., Nix, R. L., Gest, S. D., Welsh, J. A., Greenberg, M. T., Gill, S. (2008). Promoting academic and social-emotional school readiness : The Head Start REDI Program. *Child Development*, *79*(6), 1802–1817.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*(2), 77 – 101.

Chataika, T., Mckenzie, J. A., Swart, E., & Lyner-Cleophas, M. (2012). Access to education in Africa : responding to the United Nations Convention on the Rights of Persons with Disabilities. *Disability and Society*, *27*(3), 385 – 398.

Chisholm, L. (2008). The meaning of racial redress in South African schools, 1994 to 2006. In A. Habib & K. Bentley (Eds.), *Racial redress and citizenship in South Africa.* (pp. 230–262). Cape Town: HSRC Press. Retrieved from www.hsrcpress.ac.za

Chisholm, L., & Leyendecker, R. (2008). Curriculum reform in post-1990s sub-Saharan Africa. *International Journal of Educational Development*, *28*(2), 195–205.

Christie, P. (2008). *Opening the Doors of Learning Changing Schools in South Africa*. Johannesburg: Heinemann Publishers.

Cohen, L., Manion, L., & Morrison, K. (2007). *Research methods in Education* (6th ed.). London: Routledge.

Cooper, R. (2007). An investigation into constructivism within an outcomes based curriculum. *Issues In Educational Research*, 17(1), 15-39. http://www.iier.org.au/iier17/cooper.html

Creswell, J. (2008). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research* (3rd ed.). Upper Saddle River, New Jersey: Pearson/Merril Prentice Hall.

Dalton, E. M., McKenzie, J. A., & Kahonde, C. (2012). The implementation of inclusive education in South Africa: Reflections arising from a workshop for teachers and therapists to introduce Universal Design for Learning. *African Journal of Disability*, *1*(1).

Darling-Hammond, L. (2005). Educating the new educator: Teacher education and the future of democracy. *The New Educator*, *1*(1), 1 –18.

Department of Basic Education (2011a). *Guidelines for Responding to Learner Diversity in the Classroom through Curriculum and Assessment Policy Statements (CAPS).* Pretoria: Department of Education.

Department of Basic Education. (2011b). *Curriculum and Assessment Policy Statement Grade R – 3 English Home Language.* Pretoria: Department of Education.

Department of Education (2001). *Education White Paper 6 – Special Needs Education.* Pretoria: Department of Education.

Department of Education (The State of Queensland). (2002). *A guide to productive pedagogies: classroom reflection manual.*

Duncan, G. J., Dowsett, C. J., Claessens, A., Magnuson, K., Huston, A. C., Klebanov, P., Pagani, L., Feinstein, L., Engel, M., Brooks-Gunn, J., Sexton, H., Duckworth, K. & Japel, C. (2007). School readiness and later achievement. *Developmental Psychology*, *43*(6), 1428–46.

Eloff, I., & Kgwete, L. K. (2007). South African teachers' voices on support in inclusive education. *Childhood Education*, *83*(6), 351 – 355.

Engelbrecht, P. (2006). The implementation of inclusive education in South Africa after ten years of democracy. *European Journal of Psychology of Education*, *XXI*(3), 253–264.

Engelbrecht, P., Oswald, M., Swart, E., & Eloff, I. (2003). Including learners with intellectual disabilities: stressful for teachers ? *International Journal of Disability, Development and Education*, *50*(3), 293 – 308.

Given, L. M., & Saumure, K. (2013). Trustworthiness. In L. M. Given (Ed.), *The SAGE encyclopedia of qualitative research methods* (pp. 896–897). Thousand Oaks: Sage Publications, Inc.

Gore, J. M., Griffiths, T., & Ladwig, J. G. (2004). Towards better teaching: productive pedagogy as a framework for teacher education. *Teaching and Teacher Education*, *20*(4), 375–387.

Grove, M. C., & Hauptfleisch, H. M. A. M. (1981). *Threshold: a school readiness programme*. Pretoria: De Jager - HAUM.

Guba, E. G. (1981). Criteria for assessing the trustworthiness of naturalistic inquiries. *ECTJ*, *29*(2), 75–91.

Hardman, J. (2012). Theories of development. In J. Hardman (Ed.), *Child and adolescent development*. Cape Town: Oxford University Press.

Hare, J. (2010). *Holistic education: An interpretation for teachers in the IB programmes Introduction to IB position papers* (pp. 1–8).

Hayes, D., Mills, M., Christie, P., & Lingard, B. (2006). *Teachers and schooling making a difference: productive pedagogies, assessment and performance*. Australia: Allen & Unwin.

Hemson, C. (2006). *Teacher education and the challenge of diversity in South Africa*. Cape Town: HSRC Press.

Hoadley, U. (2007). The reproduction of social class inequalities through mathematics pedagogies in South African primary schools. *Journal of Curriculum Studies*, *39*(6), 679 – 706.

Howie, P. A. & Winkleman, G. (1977). *Behavior modification: a practical guide for the classroom teacher.* New York: Parker Publishing Company, Inc.

Krefting, L. (1991). Rigor in qualitative research: The assessment of trustworthiness. *The American Journal of Occupational Therapy*, *45*(3), 214–222.

Landsberg, E. (2007). *Addressing barriers to learning: a South African perspective*. (D. Kruger & N. Nel, Eds.) (Third edit.). Pretoria: Van Schaik Publishers.

La Paro, K. M., & Pianta, R. C. (2000). Predicting children's competence in the early school years: a meta-analytic review. *Review of Educational Research*, *70*(4), 443–484.

Lingard, B., Hayes, D., & Mills, M. (2003). Teachers and productive pedagogies: contextualising, conceptualising, utilising. *Pedagogy, Culture & Society*, *11*(3), 399–424.

Luke, A., Woods, A., & Weir, K. (2013). Curriculum syllabus design and equity: a primer and mode. New York: Routledge.

Mackenzie, N., & Knipe, S. (2006). Research dilemmas: Paradigms, methods and methodology. *Issues In Educational Research*, *16*(2), 193 – 205. Retrieved from http://www.iier.org.au/iier16/mackenzie.html

McClelland, M. M., Morrison, F. J., & Holmes, D. L. (2000). Children at Risk for Early Academic Problems: The Role of Learning-Related Social Skills. *Early Childhood Research Quarterly*, *15*(3), 307–329.

McCormack, A., Gore, J., & Thomas, K. (2006). Early Career Teacher Professional Learning. *Asia-Pacific Journal of Teacher Education*, *34*(1), 95–113.

McMillan, J., & Schumacher, S. (2013). *Research in Education: Evidence based inquiry* (7th ed.). London: Pearson.

McNamara, C. (2009). General guidelines for conducting interviews. Retrieved August 12, 2014, from http://managementhelp.org/evaluatn/intrview.htm

Mills, M., Goos, M., Keddie, A., Honan, E., Pendergast, D., Gilbert, R., Nichols, K., Renshaw, P., & Wright, T. (2009). Productive pedagogies: A redefined methodology for analysing quality teacher practice. *The Australian Educational Researcher*, *36*(3), 67–87.

Morse, J. M., Barret, M., Mayan, M., Olson, K., & Spiers, J. (2002). Verification strategies for establishing reliability and validity in qualitative research. *International Journal of Qualitative Methods*, *1*(3), 13–22.

Nieto, S. (2000). Placing equity front and center: Some thoughts on transforming teacher education for a new century. *Journal of Teacher Education*, *51*(3), 180 – 187.

Opie, C. (2004). *Doing educational research*. London: Sage Publications Ltd.

O'Sullivan, M. (2004). The reconceptualisation of learner-centred approaches: a Namibian case study. *International Journal of Educational Development*, *24*(6), 585–602.

Patton, M. Q., & Cochran, M. (2007). *A guide to using qualitative research methodology*.

Robinson, M. (1999). Initial teacher education in changing South Africa: experiences, reflections and challenges. *Journal of Education for Teaching: International Research and Pedagogy*, *25*(3), 191 – 201.

Saracho, O. N. (1991). Educational play in early childhood education. *Early Child Development and Care*, *66*(1), 45–64.

Schiro, M. S. (2008). *Curriculum theory: Conflicting visions and enduring concerns*. Boston: Sage Publications.

Shaffer, D. and Kipp, K. (2007). Developmental psychology: childhood & adolescence. Seventh Edition. Thomson Wadsworth: Canada.

Shenton, A. K. (2004). Strategies for ensuring trustworthiness in qualitative research projects. *Education for Information*, *22*, 63–75.

Turner, D. W. (2010). Qualitative interview design: A practical guide for novice investigators. *The Qualitative Report*, *15*(3), 754–760.

Umek, L. M., Kranjc, S., Fekonja, U., & Bajc, K. (2008). The effect of preschool on children's school readiness. *Early Child Development and Care*, *178*(6), 569–588.

Van der Merwe, M. P., & Bekker, T. L. (2013). Exploring pedagogical choices of preservice teachers for culturally responsive teaching. *Educational Research for Social Change (ERSC)*, *2*(2), 59–75.

Van Zyl, E. (2011). The relation between school readiness and school performance in Grade 1 and Grade 7. *SA-eDUC Journal*, *8*(2), 34–42.

Wentzel, K. R., & Asher, S. R. (1995). The academic lives of neglected, rejected, popular, and controversial children. *Child Development*, *66*(3), 754–63.

Young, M. (2011). What are schools for? *Educacao Sociedade & Culturas*, *32*, 145–155.

Zyngier, D. (2005). Choosing our ideas, words and actions carefully: Is the language of Productive Pedagogies intelligible for pre-service teachers?. *Issues In Educational Research*, 15(2), 225-248. http://www.iier.org.au/iier15/zyngier.html

Zyngier, D. (2003). Connectedness - Isn't it time that education came out from behind the classroom door and rediscovered social justice. *Social Alternatives*, *22*(3), 41 – 49.

Appendix A

Table of Contents

Ethics Clearance Letter. 131

Example of Consent Form for the Head of School. 132

Example of Student Teacher's Consent Form. 133

Example of Letter to Head of School. 134

Example of Letter to Student Teacher Participants. 136

Ethics Clearance Letter.

Example of Consent Form for the Head of School.

Please fill in and return the reply slip below indicating your willingness to be a participant in my voluntary research project called **Productive Pedagogy: Experiences of Third Year Foundation Phase Student Teachers.**

I, _____ give my consent for the following:

Permission to review/collect documents/artifacts **Circle one**

I agree that the third year student teachers' lesson plan and reflective journal can be used for this study. YES/NO

Permission to be audiotaped

I agree that the third year student teachers' can be audiotaped during the post-teaching experience interview. YES/NO

I know that the audiotapes will be used for this project only. YES/NO

Permission to be interview

I give permission for the third year student teachers' to be interviewed for this study. YES/NO

Permission for written response

I agree that the third year student teachers' can fill in a question and answer sheet for this study.

YES/NO

Informed Consent

I understand that:

- my name and information will be kept confidential and safe and that my name and the name of my university will not be revealed.
- all the data collected during this study will be destroyed within 3-5 years after completion of my project.

Sign_____ Date_____

Example of Student Teacher's Consent Form.

Please fill in and return the reply slip below indicating your willingness to be a participant in my voluntary research project

I, _____ give my consent for the following:

Permission for documents

I agree that my lesson plan and reflective journal can be used for this study only.

YES/NO

Permission for interview

I would like to be interviewed for this study. YES/NO

I know that I can stop the interview at any time and don't have to answer all the questions asked. YES/NO

Permission for written response

I agree to complete a written response. YES/NO

I know that Nicole Konrad will keep my information confidential and safe and that my name will not be revealed. YES/NO

I know that I do not have to answer every question and can withdraw from the study at any time. YES/NO

I know that I can ask not to be audiotaped, photographed and/or videotaped. YES/NO

I know that all the data collected during this study will be kept in a secure place and will be destroyed within 3-5 years after completion of project. YES/NO

Sign_____ Date_____

Example of Letter to Head of School.

August 2014

Dear Professor Baxen,

My name is Nicole Konrad and I am a Masters student in the School of Education at the University of the Witwatersrand.

I am undertaking research in order to **explore the reflections and experiences of three third year foundation phase student teachers, to determine how the productive pedagogies framework could be a supportive mechanism in dealing with the issue of learner diversity in foundation phase classrooms in Gauteng, South Africa.**

My research will require third year students to provide a written response to a set of open-ended questions before they begin their practical teaching experience. This should take no longer than ten minutes of the student teachers' time. Additionally, the third year student teachers will be required to design one lesson plan using the productive pedagogies framework for the Grade that they will be teaching, and they will be asked to fill in a reflective journal with regards to their one lesson plan and the teaching thereof. Furthermore, the student teachers will be required to partake in an audiotaped interview after completion of their practical teaching experience, which will last approximately thirty minutes. This will be done so that I can discuss the student teachers' experiences, reflections and feelings with regards to the productive pedagogies framework and to identify how this framework could be a supportive mechanism in dealing with the issue of learner diversity apparent in foundation phase classrooms. The date and venue of the interview will be organised at the participants' convenience and will be conducted in a private space in order to maintain confidentiality.

Once my research project is complete, all raw data, i.e. written responses, reflective journals, lesson plans, interview audiotape and interview transcripts will be kept in a secure, locked safe at my place of residence and will be destroyed within three to

five years after completion of the project. Furthermore, the written responses, reflective journals, lesson plans and interview transcripts may be attached in the appendix of my research report, so that others may be exposed to the student teachers' own words. Participants of the study will be invited to member check the transcripts in order to ensure that their words have been represented accurately. Once my research report is complete, I may use the raw data, i.e. written responses, reflective journals, lesson plans and interview transcripts (not the audiotape recording of the interview) at a conference presentation, in a journal article or in the development or advocacy for policy.

The reason why I have chosen the University of the Witwatersrand is because I am currently a student here and would like to hear fellow student teachers' reflections, experiences and feelings with regards to the productive pedagogies framework and to identify whether this framework can be a supportive mechanism in dealing with the issue of learner diversity apparent in foundation phase classrooms.

The research participants will not be advantaged or disadvantaged in any way. They will be reassured that they can withdraw their permission at any time during this project without any penalty. There are no foreseeable risks in participating in this study. The participants will not be paid for this study.

The names of the research participants and identity of the university will be kept confidential at all times and in all academic writing about the study. Individual privacy will be maintained in all published and written data resulting from the study.

Please let me know if you require any further information. I look forward to your response as soon as is convenient.

Yours sincerely,

Nicole Konrad

Example of Letter to Student Teacher Participants.

August 2014

Dear third year student teacher,

My name is Nicole Konrad and I am a Masters student in the School of Education at the University of the Witwatersrand.

I am undertaking research in order to **explore the reflections and experiences of three third year foundation phase student teachers, and to determine whether the productive pedagogies framework can be a supportive mechanism in dealing with the issue of learner diversity in foundation phase classrooms in Gauteng, South Africa.**

My research will require you to provide a written response to a set of open-ended questions before you begin your practical teaching experience. This should take no longer than ten minutes of your time. Additionally, you will be required to design one lesson plan using the productive pedagogies framework for the Grade that you will be teaching and you will be asked to fill in a reflective journal with regards to your one lesson plan and the teaching thereof. Furthermore, you will be required to partake in an audiotaped interview after completion of your practical teaching experience, which will last approximately thirty minutes. This will be done so that I can discuss your reflections, experiences and feelings with regards to the productive pedagogies framework and to identify whether this framework can be a supportive mechanism in dealing with the issue of learner diversity apparent in foundation phase and pre-primary school classrooms. The date and venue of the interview will be organised at your convenience and will be conducted in a private space in order to maintain confidentiality.

Once my research project is complete, all raw data, i.e. written responses, reflective journals, lesson plans, interview audiotape and interview transcripts will be kept in a secure, locked safe at my place of residence and will be destroyed within three to

five years after completion of the project. Furthermore, the written responses, reflective journals, lesson plans and interview transcripts may be attached in the appendix of my research report, so that others may be exposed to your own words. You will be invited to member check the transcripts in order to ensure that your words have been represented accurately. Once my research report is complete, I may use the raw data, i.e. written responses, reflective journals, lesson plans and interview transcripts (not the audiotape recording of the interview) at a conference presentation, in a journal article or in the development or advocacy for policy.

I was wondering whether you would mind participating in my research by partaking in the above-mentioned requirements. I need your help with a pre-teaching experience written response, the preparation of one lesson plan using the productive pedagogies framework, a reflective journal and a post-teaching experience audiotaped interview, which were discussed above.

Your name and identity will be kept confidential at all times and in all academic writing about the study. Your individual privacy will be maintained in all published and written data resulting from the study.

You will not be advantaged or disadvantaged in any way. Your participation is voluntary, so you can withdraw your permission at any time during this project without any penalty. There are no foreseeable risks in participating and you will not be paid for this study.

Please let me know if you require any further information. Thank you very much for your help.

Yours sincerely,

Nicole Konrad

Appendix B

Table of Contents

Open-ended Question Schedule (Written Response). 140

Example of Reflective Journal. 141

Semi-structured Interview Schedule. 145

Written Response of Student Teacher One (Without Coding). 147

Written Response of Student Teacher Two (Without Coding). 149

Written Response of Student Teacher Three (Without Coding). 151

Written Response of Student Teacher One (With Coding). 153

Written Response of Student Teacher Two (With Coding). 156

Written Response of Student Teacher Three (With Coding). 160

Across Analysis of Written Responses. 163

Lesson Plan of Student Teacher One (Without Coding). 172

Lesson Plan of Student Teacher Two (Without Coding). 174

Lesson Plan of Student Teacher Two (Without Coding). 180

Lesson Plan of Student Teacher One (With Coding). 183

Lesson Plan of Student Teacher Two (With Coding). 186

Lesson Plan of Student Teacher Three (With Coding). 194

Reflective Journal of Student Teacher One. 198

Reflective Journal of Student Teacher Two. 199

Reflective Journal of Student Teacher Three. 203

Interview Transcript of Student Teacher One (Without Coding). 204

Interview Transcript of Student Teacher Two (Without Coding). 208

Interview Transcript of Student Teacher Three (Without Coding). 212

Interview Transcript of Student Teacher One (With Inductive Coding). 216

Interview Transcript of Student Teacher Two (With Inductive Coding). 220

Interview Transcript of Student Teacher Three (With Inductive Coding). 224

Open-ended Question Schedule (Written Response).

1.What do you understand by the productive pedagogies framework?
2.In your opinion, do you think that the productive pedagogies framework is a simple approach to understand? Why/why not?
3.What, in your opinion, is the relevance of the productive pedagogies framework in a foundation phase or early childhood development classroom?
4.Do you think that the productive pedagogies framework will benefit you with regards to your **lesson planning** as well as in your **teaching** of the lesson? Why/why not?
5.Do you foresee any difficulties or challenges in using the productive pedagogies framework when **planning** your lesson? If so, what are these challenges?
6.Which of the twenty elements do you anticipate using in your lesson? Why did you choose these aspects?
7.What difficulties (i.e. emotional, social, cognitive, language, etc.) do you think teachers are faced with in a foundation phase or early childhood development classroom?
8.In your opinion, do you think that the productive pedagogies framework could be an effective supporting mechanism or tool for a teacher to use in order to deal with the issues mentioned in question 7? Why/why not?
9.Do you think that the productive pedagogies framework will equip you, a third year student teacher, in dealing with the diverse needs of young learners? Please elaborate.

Example of Reflective Journal.

Reflective Journal

Reflective journal using the productive pedagogies framework.

While planning your lesson as well as after you've taught the lesson, please fill in your experiences, feelings, opinions, why you chose the specific dimension, difficulties/challenges you faced, etc. under the various productive pedagogies aspects that you chose. Remember there are no right or wrong answers and not all aspects need to be utilised!

Name:_____

Grade (lesson):_____

Intellectual Quality	
Higher Order Thinking	
Deep Knowledge	
Deep Understanding	
Substantive Conversation	
Knowledge Problematic	
Metalanguage	
Additional Notes:	

Relevance	
Knowledge Integration	
Background Knowledge	
Connectedness to the World	
Problem Based Curriculum	
Additional Notes:	

Supportive Classroom Environment	
Student Control	
Social Support	
Engagement	
Explicit Criteria	
Self-regulation	

Additional Notes:	

Recognition of Difference	
Cultural Knowledge	
Inclusivity	
Narrative	
Group Identity	
Citizenship	
Additional Notes:	

Any additional notes regarding your overall experience (opinions, feelings, challenges faced, improvements, etc.)

Semi-structured Interview Schedule.

1. Did you enjoy teaching the lesson that utilized the productive pedagogies framework?

2. a) In your **lesson planning,** did you find the productive pedagogies framework user-friendly?
   b) Why/ why not?

3. a) In the **teaching** of your lesson, did you find the productive pedagogies framework user-friendly?
   b) Why/ why not?

4. a) Did you find the framework of productive pedagogies beneficial with regards to your lesson **planning**?
   b) Why/ why not?

5. a) Did you find the framework of productive pedagogies beneficial with regards to the **teaching** of your lesson?
   b) Why/ why not?

6. a) Which of the twenty elements of the productive pedagogies framework did you use in your lesson?
   b) Why did you choose these elements?

7. a) Did you encounter any difficulties or challenges when **preparing** your lesson using the productive pedagogies framework?
   b) If so, what were these challenges?
   c) How did you deal with these difficulties?

8. a) Did you encounter any difficulties or challenges when **teaching** your lesson using the productive pedagogies framework?

b) If so, what were these challenges?

c) How did you deal with these difficulties?

9. a) Did you find any difficulties (i.e. emotional, social, cognitive, language, etc.) with regards to the learners in the foundation phase or early childhood development classroom?

   b) What difficulties (i.e. emotional, social, cognitive, language, etc.) did you encounter with regards to the learners in the foundation phase or early childhood development classroom?

10. a) In your opinion, do you think that the productive pedagogies framework assisted you in dealing with the above mentioned learner difficulties?

    b) In what ways do you think the productive pedagogies framework assisted you in dealing with the issue of learner diversity apparent in foundation phase and early childhood classrooms?

11. a) Would you use the framework of productive pedagogies again in your teaching experience?

    b) Why/why not?

Written Response of Student Teacher One (Without Coding).

Line	Question/Answer	Code
1	1. What do you understand by the productive pedagogies framework?	
2 3 4	*It is a way of focusing children or providing the best and most suitable ways to build knowledge by providing children with support, reliability and conceptual knowledge.*	
5 6	2. In your opinion, do you think that the productive pedagogies framework is a simple approach to understand? Why/why not?	
7 8	*Yes, it is divided into 3 main forms which have subcategories which relate to the form.*	
9 10 11	3. What, in your opinion, is the relevance of the productive pedagogies framework in a foundation phase or early childhood development classroom?	
12 13 14 15 16	*It is very relevant, as younger children need more concrete ways of learning. In relating content to background knowledge and the world, children can grasp knowledge better. Also, when the classroom environment is supportive, children have more confidence to learn in the classroom.*	
17 18 19	4. Do you think that the productive pedagogies framework will benefit you with regards to your **lesson planning** as well as in your **teaching** of the lesson? Why/why not?	
20 21	*Yes, it provides us with a structure and allows us to remember 'the whole child' in our teaching.*	
22 23 24	5. Do you foresee any difficulties or challenges in using the productive pedagogies framework when **planning** your lesson? If so, what are these challenges?	
25 26	*There is always difficulty in involving support and knowledge as well as relevance as it is often difficult to have a balance between the three.*	
27 28	6. Which of the twenty elements do you anticipate using in your lesson? Why did you choose these aspects?	

29 30 31 32 33 34 35	*Substantive conversation – dialogue in ECD is fundamental for inquiry.* *Background knowledge – more relatable to kids.* *Social support – emotional support assists in providing kids with confidence to learn.* *Self-regulation – in the FP it is fundamental to teach children accountability and consequence.* *Inclusivity – promote confidence and helps children to learn.*	
36 37 38	7. What difficulties (i.e. emotional, social, cognitive, language, etc.) do you think teachers are faced with in a foundation phase or early childhood development classroom?	
39	*Emotional, social, language*	
40 41 42 43	8. In your opinion, do you think that the productive pedagogies framework could be an effective supporting mechanism or tool for a teacher to use in order to deal with the issues mentioned in question 7? Why/why not?	
44 45	*No, I think the framework assists in guiding however it does not give examples of how this can be done, It is ultimately up to the teacher.*	
46 47 48	9. Do you think that the productive pedagogies framework will equip you, a third year student teacher, in dealing with the diverse needs of young learners? Please elaborate.	
49 50 51	*Yes, together with what we learn in FP, it will assist in creating a good classroom environment which will encourage difference and will help children learn more. It will also encourage children to enquire more.*	

Written Response of Student Teacher Two (Without Coding).

Line	Question/Answer	Code
1	1. What do you understand by the productive pedagogies framework?	
2 3 4 5	*It has 4 dimensions that focus on intellectual quality, recognition of difference, connectedness and supportive classroom environment as a means to develop and give learners access to epistemological access within the classroom.*	
6 7	2. In your opinion, do you think that the productive pedagogies framework is a simple approach to understand? Why/why not?	
8 9	*Yes, it has specific elements to each dimension that can be focused on and used quite easily in a classroom environment.*	
10 11 12	3.What, in your opinion, is the relevance of the productive pedagogies framework in a foundation phase or early childhood development classroom?	
13 14 15 16 17	*It provides an environment where children are able to be included and not excluded and forms the basis of their learning which can be built upon in the future. It assists and develops their thinking and helps them to understand easier by making content relevant and linking it to their personal lives.*	
18 19 20	4.Do you think that the productive pedagogies framework will benefit you with regards to your **lesson planning** as well as in your **teaching** of the lesson? Why/why not?	
21 22	*Yes. Different aspects can be focused on depending on what I'd like to focus on within the lesson, given an overall understanding.*	
23 24 25	5.Do you foresee any difficulties or challenges in using the productive pedagogies framework when **planning** your lesson? If so, what are these challenges?	
26	*No.*	
27 28	6. Which of the twenty elements do you anticipate using in your lesson? Why did you choose these aspects?	
29 30	*Inclusivity – so that all children feel the need to participate and be involved in risk taking. This links to recognition of difference – where*	

31 32 33 34 35 36 37	*each child is regarded as an individual not just a whole group and what they bring from home.* *Explicit criteria – learner know what to expect and requirements to be successful in task.* *Relevance to (unable to read) world to enable deep knowledge and deep understanding to allow for substantive conversation.* *Higher order thinking to develop deep knowledge and understanding.*	
38 39 40	7.What difficulties (i.e. emotional, social, cognitive, language, etc.) do you think teachers are faced with in a foundation phase or early childhood development classroom?	
41 42 43 44 45 46	*They might not know the background (social, emotional) that children come from and this constrains their ability to help the learner.* *Lang child might not be used to the language and communication to the child (unable to read) – no work's done.* *Child struggles to grasp concept and teachers often don't know how to deal with it.*	
47 48 49 50	8. In your opinion, do you think that the productive pedagogies framework could be an effective supporting mechanism or tool for a teacher to use in order to deal with the issues mentioned in question 7? Why/why not?	
51 52 53	*Yes, because in order for a child to be receptive and engaged in the knowledge, these factors need to be considered and taken into consideration for overall understanding.*	
54 55 56	9. Do you think that the productive pedagogies framework will equip you, a third year student teacher, in dealing with the diverse needs of young learners? Please elaborate.	
57 58 59	*Yes, all aspects need to be covered to promote overall understanding.* *All needs will be adhered to to allow for inclusivity and engagement with content.*	

Written Response of Student Teacher Three (Without Coding).

Line	Question/Answer	Code
1	1. What do you understand by the productive pedagogies framework?	
2	*It is techniques used in order to better understand the learner.*	
3 4	2. In your opinion, do you think that the productive pedagogies framework is a simple approach to understand? Why/why not?	
5 6	*Yes because it helps the teacher to focus on specific points and required for teaching a subject.*	
7 8 9	3. What, in your opinion, is the relevance of the productive pedagogies framework in a foundation phase or early childhood development classroom?	
10 11	*It helps the teacher to link the everyday knowledge to the topic being learnt.*	
12 13 14	4. Do you think that the productive pedagogies framework will benefit you with regards to your **lesson planning** as well as in your **teaching** of the lesson? Why/why not?	
15 16	*Yes because it will allow the teacher to think about being inclusive of all the learners in the classroom.*	
17 18 19	5. Do you foresee any difficulties or challenges in using the productive pedagogies framework when **planning** your lesson? If so, what are these challenges?	
20 21 22	*Yes, mainly trying to recognize the individual differences in the children and also being able to include all the interest of the learners in the classroom.*	
23 24	6. Which of the twenty elements do you anticipate using in your lesson? Why did you choose these aspects?	
25 26 27 28	*Engagement due to allowing all the children to have an opportunity to experience learning.* *Deep understanding because it can allow the child to understand what the concepts being done in the classroom are about.*	
29 30 31	7. What difficulties (i.e. emotional, social, cognitive, language, etc.) do you think teachers are faced with in a foundation phase or early childhood development classroom?	

32 33 34	*Every child is different so the language barrier is one of the difficulties seen in the ECD classroom. Also all children come from different backgrounds so being able to include all their interests is difficult.*	
35 36 37 38	8. In your opinion, do you think that the productive pedagogies framework could be an effective supporting mechanism or tool for a teacher to use in order to deal with the issues mentioned in question 7? Why/why not?	
39 40	*Yes, because it allows the teacher to recognize the different skills and abilities each child possesses.*	
41 42 43	9. Do you think that the productive pedagogies framework will equip you, a third year student teacher, in dealing with the diverse needs of young learners? Please elaborate.	
44 45	*Yes because it will allow me to have a greater understanding on what is required in order to fully develop the holistic aspect of the child.*	

Written Response of Student Teacher One (With Coding).

Code:

General Productive Pedagogy
Productive Pedagogy Dimensions
Productive Pedagogy Elements
Teacher Assistance
Learner Diversity

Line	Question/Answer	Code
1	1. What do you understand by the productive pedagogies framework?	
2 3 4	*It is a way of focusing children or providing the best and most suitable ways to build knowledge by providing children with support, reliability and conceptual knowledge.*	Productive Pedagogy Intellectual Quality Higher Order Thinking Deep Knowledge Deep Understanding Knowledge as Problematic Substantive Conversation Supportive Enviro Social Support Academic Engagement Assistance Learner Diversity
5 6	2. In your opinion, do you think that the productive pedagogies framework is a simple approach to understand? Why/why not?	
7 8	*Yes, it is divided into 3 main forms which have subcategories which relate to the form.*	Productive Pedagogy
9 10 11	3. What, in your opinion, is the relevance of the productive pedagogies framework in a foundation phase or early childhood development classroom?	
12 13 14 15 16	*It is very relevant, as younger children need more concrete ways of learning. In relating content to background knowledge and the world, children can grasp knowledge better. Also, when the classroom environment is supportive, children have more confidence to learn in the classroom.*	Productive Pedagogy Intellectual Quality Deep Knowledge Deep Understanding Connectedness Background Knowledge

		Connect to World Supportive Enviro Assistance Learner Diversity
17 18 19	4. Do you think that the productive pedagogies framework will benefit you with regards to your **lesson planning** as well as in your **teaching** of the lesson? Why/why not?	
20 21	*Yes, it provides us with a structure and allows us to remember 'the whole child' in our teaching.*	Productive Pedagogy Intellectual Quality Recog of Difference Inclusivity Group Identity Active Citizenship Assistance Learner Diversity
22 23 24	5. Do you foresee any difficulties or challenges in using the productive pedagogies framework when **planning** your lesson? If so, what are these challenges?	
25 26	*There is always difficulty in involving support and knowledge as well as relevance as it is often difficult to have a balance between the three.*	Productive Pedagogy Intellectual Quality Supportive Enviro Connectedness Learner Diversity
27 28	6. Which of the twenty elements do you anticipate using in your lesson? Why did you choose these aspects?	
29 30 31 32 33 34 35	*Substantive conversation – dialogue in ECD is fundamental for inquiry.* *Background knowledge – more relatable to kids.* *Social support – emotional support assists in providing kids with confidence to learn.* *Self-regulation – in the FP it is fundamental to teach children accountability and consequence.* *Inclusivity – promote confidence and helps children to learn.*	Productive Pedagogy Intellectual Quality Substantive Conversation Higher Order Thinking Supportive Enviro Social Support Self-Regulation Connectedness Background Knowledge Recog of Difference Inclusivity Assistance Learner Diversity

36 37 38	7. What difficulties (i.e. emotional, social, cognitive, language, etc.) do you think teachers are faced with in a foundation phase or early childhood development classroom?	
39	*Emotional, social, language*	Learner Diversity
40 41 42 43	8. In your opinion, do you think that the productive pedagogies framework could be an effective supporting mechanism or tool for a teacher to use in order to deal with the issues mentioned in question 7? Why/why not?	
44 45	*No, I think the framework assists in guiding however it does not give examples of how this can be done, It is ultimately up to the teacher.*	Productive Pedagogy Assistance Learner Diversity
46 47 48	9. Do you think that the productive pedagogies framework will equip you, a third year student teacher, in dealing with the diverse needs of young learners? Please elaborate.	
49 50 51	*Yes, together with what we learn in FP, it will assist in creating a good classroom environment which will encourage difference and will help children learn more. It will also encourage children to enquire more.*	Productive Pedagogy Supportive Enviro Recog of Difference Inclusivity Group Identity Active Citizenship Intellectual Quality Substantive Conversation Deep Knowledge Deep Understanding Knowledge Problematic Higher Order Thinking Assistance Learner Diversity

Written Response of Student Teacher Two (With Coding).

Code:

General Productive Pedagogy
Productive Pedagogy Dimensions
Productive Pedagogy Elements
Teacher Assistance
Learner Diversity

Line	Question/Answer	Code
1	1. What do you understand by the productive pedagogies framework?	
2 3 4 5	*It has 4 dimensions that focus on intellectual quality, recognition of difference, connectedness and supportive classroom environment as a means to develop and give learners access to epistemological access within the classroom.*	Productive Pedagogy Intellectual Quality Higher Order Thinking Deep Knowledge Deep Understanding Substantive Conversation Connectedness Supportive Enviro Recog of Difference Assistance Learner Diversity
6 7	2. In your opinion, do you think that the productive pedagogies framework is a simple approach to understand? Why/why not?	
8 9	*Yes, it has specific elements to each dimension that can be focused on and used quite easily in a classroom environment.*	Productive Pedagogy Intellectual Quality Connectedness Supportive Enviro Recog of Difference Assistance
10 11 12	3.What, in your opinion, is the relevance of the productive pedagogies framework in a foundation phase or early childhood development classroom?	
13 14 15 16	*It provides an environment where children are able to be included and not excluded and forms the basis of their learning which can be built upon in the future. It assists and develops their thinking and helps them to understand easier by making content relevant*	Productive Pedagogy Supportive Enviro Social Support Academic Engagement

17	*and linking it to their personal lives.*	Recog of Difference Inclusivity Group Identity Active Citizenship Intellectual Quality Higher Order Thinking Deep Knowledge Deep Understanding Connectedness Background Knowledge Assistance Learner Diversity
18 19 20	4.Do you think that the productive pedagogies framework will benefit you with regards to your **lesson planning** as well as in your **teaching** of the lesson? Why/why not?	
21 22	*Yes. Different aspects can be focused on depending on what I'd like to focus on within the lesson, given an overall understanding.*	Productive Pedagogy Supportive Enviro Recog of Difference Intellectual Quality Connectedness Assistance
23 24 25	5.Do you foresee any difficulties or challenges in using the productive pedagogies framework when **planning** your lesson? If so, what are these challenges?	
26	*No.*	
27 28	6. Which of the twenty elements do you anticipate using in your lesson? Why did you choose these aspects?	
29 30 31 32 33 34 35 36 37	*Inclusivity – so that all children feel the need to participate and be involved in risk taking. This links to recognition of difference – where each child is regarded as an individual not just a whole group and what they bring from home.* *Explicit criteria – learner know what to expect and requirements to be successful in task.* *Relevance to (unable to read) world to enable deep knowledge and deep understanding to allow for substantive conversation.* *Higher order thinking to develop deep knowledge and understanding.*	Productive Pedagogy Recog of Difference Inclusivity Active Citizenship Group Identity Supportive Enviro Explicit Criteria Academic Engagement Connectedness Background Knowledge Connect to the World Intellectual Quality

		Higher Order Thinking Deep Knowledge Deep Understanding Substantive Conversation Assistance Learner Diversity
38 39 40	7.What difficulties (i.e. emotional, social, cognitive, language, etc.) do you think teachers are faced with in a foundation phase or early childhood development classroom?	
41 42 43 44 45 46	*They might not know the background (social, emotional) that children come from and this constrains their ability to help the learner.* *Lang child might not be used to the language and communication to the child (unable to read) – no work's done.* *Child struggles to grasp concept and teachers often don't know how to deal with it.*	Productive Pedagogy Connectedness Background Knowledge Intellectual Quality Assistance Learner Diversity
47 48 49 50	8. In your opinion, do you think that the productive pedagogies framework could be an effective supporting mechanism or tool for a teacher to use in order to deal with the issues mentioned in question 7? Why/why not?	
51 52 53	*Yes, because in order for a child to be receptive and engaged in the knowledge, these factors need to be considered and taken into consideration for overall understanding.*	Productive Pedagogy Intellectual Quality Deep Knowledge Deep Understanding Substantive Conversation Higher Order Thinking Knowledge Problematic Supportive Enviro Social Support Academic Engagement Assistance Learner Diversity
54 55 56	9. Do you think that the productive pedagogies framework will equip you, a third year student teacher, in dealing with the diverse needs of young learners? Please elaborate.	

57 58 59	*Yes, all aspects need to be covered to promote overall understanding. All needs will be adhered to to allow for inclusivity and engagement with content.*	Productive Pedagogy Intellectual Quality Deep Knowledge Deep Understanding Substantive Conversation Higher Order Thinking Knowledge Problematic Supportive Enviro Social Support Academic Engagement Recog of Difference Inclusivity Group Identity Active Citizenship Assistance Learner Diversity

Written Response of Student Teacher Three (With Coding).

Code:

General Productive Pedagogy
Productive Pedagogy Dimensions
Productive Pedagogy Elements
Teacher Assistance
Learner Diversity

Line	Question/Answer	Code
1	1. What do you understand by the productive pedagogies framework?	
2	*It is techniques used in order to better understand the learner.*	Productive Pedagogy Connectedness Supportive Enviro Recog of Difference Assistance Learner Diversity
3 4	2. In your opinion, do you think that the productive pedagogies framework is a simple approach to understand? Why/why not?	
5 6	*Yes because it helps the teacher to focus on specific points and required for teaching a subject.*	Productive Pedagogy Intellectual Quality Supportive Enviro Recog of Difference Connectedness Assistance
7 8 9	3. What, in your opinion, is the relevance of the productive pedagogies framework in a foundation phase or early childhood development classroom?	
10 11	*It helps the teacher to link the everyday knowledge to the topic being learnt.*	Productive Pedagogy Connectedness Background Knowledge Connectedness to world Intellectual Quality Assistance
12 13 14	4. Do you think that the productive pedagogies framework will benefit you with regards to your **lesson planning** as well as in your **teaching** of the lesson? Why/why not?	

15 16	*Yes because it will allow the teacher to think about being inclusive of all the learners in the classroom.*	Productive Pedagogy Recog of Difference Inclusivity Group Identity Active Citizenship Supportive Enviro Social Support Academic Engagement Assistance Learner Diversity
17 18 19	5. Do you foresee any difficulties or challenges in using the productive pedagogies framework when **planning** your lesson? If so, what are these challenges?	
20 21 22	*Yes, mainly trying to recognize the individual differences in the children and also being able to include all the interest of the learners in the classroom.*	Productive Pedagogy Recog of Difference Inclusivity Group Identity Active Citizenship Supportive Enviro Social Support Academic Engagement Connectedness Background Knowledge Learner Diversity
23 24	6. Which of the twenty elements do you anticipate using in your lesson? Why did you choose these aspects?	
25 26 27 28	*Engagement due to allowing all the children to have an opportunity to experience learning.* *Deep understanding because it can allow the child to understand what the concepts being done in the classroom are about.*	Productive Pedagogy Supportive Enviro Academic Engagement Intellectual Quality Deep Understanding Recog of Difference Inclusivity Active Citizenship Assistance Learner Diversity
29 30 31	7. What difficulties (i.e. emotional, social, cognitive, language, etc.) do you think teachers are faced with in a foundation phase or early childhood development classroom?	

32 33 34	*Every child is different so the language barrier is one of the difficulties seen in the ECD classroom. Also all children come from different backgrounds so being able to include all their interests is difficult.*	Productive Pedagogy Intellectual Quality Recog of Difference Inclusivity Active Citizenship Connectedness Background Knowledge Supportive Enviro Social Support Academic Engagement Learner Diversity
35 36 37 38	8. In your opinion, do you think that the productive pedagogies framework could be an effective supporting mechanism or tool for a teacher to use in order to deal with the issues mentioned in question 7? Why/why not?	
39 40	*Yes, because it allows the teacher to recognize the different skills and abilities each child possesses.*	Productive Pedagogy Intellectual Quality Recog of Difference Supportive Enviro Assistance Learner Diversity
41 42 43	9. Do you think that the productive pedagogies framework will equip you, a third year student teacher, in dealing with the diverse needs of young learners? Please elaborate.	
44 45	*Yes because it will allow me to have a greater understanding on what is required in order to fully develop the holistic aspect of the child.*	Productive Pedagogy Intellectual Quality Recog of Difference Connectedness Supportive Enviro Assistance Learner Diversity

Across Analysis of Written Responses.

Across Analysis of Written Response Question 1.

Line	Question/Answer	Code
1	1. What do you understand by the productive pedagogies framework?	
2 3 4	**Student Teacher 1** *It is a way of focusing children or providing the best and most suitable ways to build knowledge by providing children with support, reliability and conceptual knowledge.*	Productive Pedagogy Intellectual Quality Higher Order Thinking Deep Knowledge Deep Understanding Knowledge as Problematic Substantive Conversation Supportive Enviro Social Support Academic Engagement Assistance Learner Diversity
5 6 7 8	**Student Teacher 2** *It has 4 dimensions that focus on intellectual quality, recognition of difference, connectedness and supportive classroom environment as a means to develop and give learners access to epistemological access within the classroom.*	Productive Pedagogy Intellectual Quality Higher Order Thinking Deep Knowledge Deep Understanding Substantive Conversation Connectedness Supportive Enviro Recog of Difference Assistance Learner Diversity
9	**Student Teacher 3** *It is techniques used in order to better understand the learner.*	Productive Pedagogy Connectedness Supportive Enviro Recog of Difference Assistance Learner Diversity

Across Analysis of Written Response Question 2.

Line	Question/Answer	Code
1 2	2. In your opinion, do you think that the productive pedagogies framework is a simple approach to understand? Why/why not?	
 3 4	**Student Teacher 1** *Yes, it is divided into 3 main forms which have subcategories which relate to the form.*	Productive Pedagogy
 5 6	**Student Teacher 2** *Yes, it has specific elements to each dimension that can be focused on and used quite easily in a classroom environment.*	Productive Pedagogy Intellectual Quality Connectedness Supportive Enviro Recog of Difference Assistance
 7 8	**Student Teacher 3** *Yes because it helps the teacher to focus on specific points and required for teaching a subject.*	Productive Pedagogy Intellectual Quality Supportive Enviro Recog of Difference Connectedness Assistance

Across Analysis of Written Response Question 3.

Line	Question/Answer	Code
1 2 3	3. What, in your opinion, is the relevance of the productive pedagogies framework in a foundation phase or early childhood development classroom?	
 4 5 6 7 8	**Student Teacher 1** *It is very relevant, as younger children need more concrete ways of learning. In relating content to background knowledge and the world, children can grasp knowledge better. Also, when the classroom environment is supportive, children have more confidence to learn in the classroom.*	Productive Pedagogy Intellectual Quality Deep Knowledge Deep Understanding Connectedness Background Knowledge Connect to World Supportive Enviro Assistance Learner Diversity

	Student Teacher 2	Productive Pedagogy
9	*It provides an environment where children are able to be included*	Supportive Enviro
10	*and not excluded and forms the basis of their learning which can be*	Social Support
11	*built upon in the future. It assists and develops their thinking and*	Academic Engagement
12	*helps them to understand easier by making content relevant and*	Recog of Difference
13	*linking it to their personal lives.*	Inclusivity
		Group Identity
		Active Citizenship
		Intellectual Quality
		Higher Order Thinking
		Deep Knowledge
		Deep Understanding
		Connectedness
		Background Knowledge
		Assistance
		Learner Diversity
	Student Teacher 3	Productive Pedagogy
14	*It helps the teacher to link the everyday knowledge to the topic being*	Connectedness
15	*learnt.*	Background Knowledge
		Connectedness to world
		Intellectual Quality
		Assistance

Across Analysis of Written Response Question 4.

Line	Question/Answer	Code
1	4. Do you think that the productive pedagogies framework will	
2	benefit you with regards to your **lesson planning** as well as in your	
3	**teaching** of the lesson? Why/why not?	
	Student Teacher 1	Productive Pedagogy
4	*Yes, it provides us with a structure and allows us to remember 'the*	Intellectual Quality
5	*whole child' in our teaching.*	Recog of Difference
		Inclusivity
		Group Identity
		Active Citizenship
		Assistance
		Learner Diversity

6 7	**Student Teacher 2** *Yes. Different aspects can be focused on depending on what I'd like to focus on within the lesson, given an overall understanding.*	Productive Pedagogy Supportive Enviro Recog of Difference Intellectual Quality Connectedness Assistance
8 9	**Student Teacher 3** *Yes because it will allow the teacher to think about being inclusive of all the learners in the classroom.*	Productive Pedagogy Recog of Difference Inclusivity Group Identity Active Citizenship Supportive Enviro Social Support Academic Engagement Assistance Learner Diversity

Across Analysis of Written Response Question 5.

Line	Question/Answer	Code
1 2 3	5. Do you foresee any difficulties or challenges in using the productive pedagogies framework when **planning** your lesson? If so, what are these challenges?	
4 5	**Student Teacher 1** *There is always difficulty in involving support and knowledge as well as relevance as it is often difficult to have a balance between the three.*	Productive Pedagogy Intellectual Quality Supportive Enviro Connectedness Learner Diversity
6	**Student Teacher 2** *No.*	
7 8 9	**Student Teacher 3** *Yes, mainly trying to recognize the individual differences in the children and also being able to include all the interest of the learners in the classroom.*	Productive Pedagogy Recog of Difference Inclusivity Group Identity Active Citizenship Supportive Enviro Social Support Academic Engagement

		Connectedness Background Knowledge Learner Diversity

Across Analysis of Written Response Question 6.

Line	Question/Answer	Code
1 2	6. Which of the twenty elements do you anticipate using in your lesson? Why did you choose these aspects?	
 3 4 5 6 7 8 9	**Student Teacher 1** *Substantive conversation – dialogue in ECD is fundamental for inquiry.* *Background knowledge – more relatable to kids.* *Social support – emotional support assists in providing kids with confidence to learn.* *Self-regulation – in the FP it is fundamental to teach children accountability and consequence.* *Inclusivity – promote confidence and helps children to learn.*	Productive Pedagogy Intellectual Quality Substantive Conversation Higher Order Thinking Supportive Enviro Social Support Self-Regulation Connectedness Background Knowledge Recog of Difference Inclusivity Assistance Learner Diversity
 10 11 12 13 14 15 16 17 18	**Student Teacher 2** *Inclusivity – so that all children feel the need to participate and be involved in risk taking. This links to recognition of difference – where each child is regarded as an individual not just a whole group and what they bring from home.* *Explicit criteria – learner know what to expect and requirements to be successful in task.* *Relevance to (unable to read) world to enable deep knowledge and deep understanding to allow for substantive conversation.* *Higher order thinking to develop deep knowledge and understanding.*	Productive Pedagogy Recog of Difference Inclusivity Active Citizenship Group Identity Supportive Enviro Explicit Criteria Academic Engagement Connectedness Background Knowledge Connect to the World Intellectual Quality Higher Order Thinking Deep Knowledge

		Deep Understanding Substantive Conversation Assistance Learner Diversity
19 20 21 22	**Student Teacher 3** *Engagement due to allowing all the children to have an opportunity to experience learning.* *Deep understanding because it can allow the child to understand what the concepts being done in the classroom are about.*	Productive Pedagogy Supportive Enviro Academic Engagement Intellectual Quality Deep Understanding Recog of Difference Inclusivity Active Citizenship Assistance Learner Diversity

Across Analysis of Written Response Question 7.

Line	Question/Answer	Code
1 2 3	7. What difficulties (i.e. emotional, social, cognitive, language, etc.) do you think teachers are faced with in a foundation phase or early childhood development classroom?	
4	**Student Teacher 1** *Emotional, social, language*	Learner Diversity
5 6 7 8 9 10	**Student Teacher 2** *They might not know the background (social, emotional) that children come from and this constrains their ability to help the learner.* *Lang child might not be used to the language and communication to the child (unable to read) – no work's done.* *Child struggles to grasp concept and teachers often don't know how to deal with it.*	

	Student Teacher 3	Productive Pedagogy
11	*Every child is different so the language barrier is one of the*	Intellectual Quality
12	*difficulties seen in the ECD classroom. Also all children come from*	Recog of Difference
13	*different backgrounds so being able to include all their interests is*	Inclusivity
	difficult.	Active Citizenship
		Connectedness
		Background Knowledge
		Supportive Enviro
		Social Support
		Academic Engagement
		Learner Diversity

Across Analysis of Written Response Question 8.

Line	Question/Answer	Code
1	8. In your opinion, do you think that the productive pedagogies	
2	framework could be an effective supporting mechanism or tool for a	
3	teacher to use in order to deal with the issues mentioned in question	
4	7? Why/why not?	
	Student Teacher 1	Productive Pedagogy
5	*No, I think the framework assists in guiding however it does not give*	Assistance
6	*examples of how this can be done, It is ultimately up to the teacher.*	Learner Diversity
	Student Teacher 2	Productive Pedagogy
7	*Yes, because in order for a child to be receptive and engaged in the*	Intellectual Quality
8	*knowledge, these factors need to be considered and taken into*	Deep Knowledge
9	*consideration for overall understanding.*	Deep Understanding
		Substantive
		Conversation
		Higher Order Thinking
		Knowledge Problematic
		Supportive Enviro
		Social Support
		Academic Engagement
		Assistance
		Learner Diversity

10 11	**Student Teacher 3** *Yes, because it allows the teacher to recognize the different skills and abilities each child possesses.*	Productive Pedagogy Intellectual Quality Recog of Difference Supportive Enviro Assistance Learner Diversity

Across Analysis of Written Response Question 9.

Line	Question/Answer	Code
1 2 3	9. Do you think that the productive pedagogies framework will equip you, a third year student teacher, in dealing with the diverse needs of young learners? Please elaborate.	
4 5 6	**Student Teacher 1** *Yes, together with what we learn in FP, it will assist in creating a good classroom environment which will encourage difference and will help children learn more. It will also encourage children to enquire more.*	Productive Pedagogy Supportive Enviro Recog of Difference Inclusivity Group Identity Active Citizenship Intellectual Quality Substantive Conversation Deep Knowledge Deep Understanding Knowledge Problematic Higher Order Thinking Assistance Learner Diversity
7 8 9	**Student Teacher 2** *Yes, all aspects need to be covered to promote overall understanding. All needs will be adhered to to allow for inclusivity and engagement with content.*	Productive Pedagogy Intellectual Quality Deep Knowledge Deep Understanding Substantive Conversation Higher Order Thinking Knowledge Problematic Supportive Enviro Social Support

		Academic Engagement Recog of Difference Inclusivity Group Identity Active Citizenship Assistance Learner Diversity
10 11	**Student Teacher 3** *Yes because it will allow me to have a greater understanding on what is required in order to fully develop the holistic aspect of the child.*	Productive Pedagogy Intellectual Quality Recog of Difference Connectedness Supportive Enviro Assistance Learner Diversity

Lesson Plan of Student Teacher One (Without Coding).

Title	A very curious bear	**Student's name**	Student Teacher 1
Author	Tony Mitton	**Date**	12 May 2014
Illustrator	Paul Howard	**Group**	Older Group
Publisher	Orchard Books	**Theme**	South Africa
ISBN/Cat no.	9781846162466		

OUTCOMES:

Knowledge

- Children will develop their knowledge of how books work, from left to right and turning pages.
- Children will strengthen their knowledge of aspects of books such as covers and authors.

Children will develop conceptual knowledge of questions of the world and how it works.

Skills

- Children will strength their ability to think creatively in attempting to answer some of the questions and build curiosity.

Children will enhance their ability to question and inquire.

Attitudes and Values

- Children will develop their appreciation for the way things work in the world by relating to the curious bear.
- Children will develop their confidence to ask questions when they don't understand something.

Children will enhance their appreciation for their mothers and fathers and respect the relationships they have.

Important characters, objects and scenes:

Baby bear, Mother bear.

Starting the big day out.

Illustrations:

A teddy bear

Setting song/rhyme:

I wiggle my fingers, I wiggle my toes, I wiggle my ears and I wiggle my nose.
Now there's no more wiggles in me, so I can sit as quiet as can be.

Introduction to ring:

The title of this story is: A very curious bear. What do you think this story is about? And what do you think might happen to the bear? Let's see what happens.

Summary:

Baby bear starts a new day with many questions in mind as he gets out of the bed. He asks his mum questions about the light coming up and going down, the air blowing, the bending paths, the sounds of the stream, the flowers coming up from the grass, the rain, the lightening and thunder, the sun going down and coming up and the moon. Then he questions where he actually goes when he sleeps and then after getting all the answers from his mum, he sleeps softly and quietly in bed.

Conclusion to ring:

So where do you think you go when you sleep?
And what do you think you are meant for or why do you think you are here?
That's interesting, what did you like about the story?
What was not so nice about this story?

Lesson Plan of Student Teacher Two (Without Coding).

1. **Routine Information:**

- Grade: Three
- Number of children: 40
- Date: 13 May 2014
- Duration of lesson: +- 30 minutes
- Subject: Numeracy
- Language: English
- Topic: Estimation
- CAPS ref: Week 4 (Term 2)
- Language skill: Reading, writing, listening and speaking.

2. Purpose: Activity Outcomes • The child will demonstrate the ability to: - estimate objects by providing a "guess" as to what the measurement might be using their own perception/based on a demonstration. - measure the actual length by using specific apparatus relative to the activity at hand.
3. Summary of content knowledge: Focus of the lesson • Providing learners with a variety of opportunities to "guess" so that they are able to, within enough reason, provide a guess that is relatively close to the actual measurement. • Allowing learners to practice measuring objects using a variety of apparatus so that they not only get practice measuring objects, but also how to use and engage with the different apparatus and know when to use the respective unit of measurement.
4. Vocabulary/Terminology the child will need: • Estimate/Guess • Measure/How long/how many • Units of measurement (kg, mm, cm, kg, etc.)
5. How is the focus linked to previous knowledge of children: Building on prior knowledge of estimation that has been done already (introduction of concept leading to a deeper understanding of estimation and thus expanding children's current knowledge (more for reinforcement of the concept). Using real

objects so that children are able to use and develop the vocabulary that they have been taught by the teacher to estimate values as well as determine the real value after estimation (this they have done in their Government blue books). Developing the correct terminology through practise and self-discovery and allowing the children to apply it to tasks both inside and outside the classroom as well as to develop their knowledge and understanding of place value with regards to bigger numbers. Children have done estimation and written an introductory assessment and thus this activity will aid and assist their understanding. They have also done units of measurement and have an idea when to use the appropriate unit of measurement.

6. <u>What aspects of learner diversity needs consideration:</u>

- Concentration span is different for each individual child in this classroom so it is important that the task is both captivating and short but also that the consolidation task spans a certain amount of time depending on the individual ability groups so as to promote understanding.
- Learners work at different paces and a solution to this is the formation of ability groups where children are able to work at a pace that they are comfortable at but also don't feel overwhelmed and work at a level where there understanding is developed and expanded upon.
- Time constrains need to be put in place and stuck to so a learner doesn't take more time than the extra time allocated. A solution would be to ensure that the task is set out accordingly to accommodate for all learners and to appeal to the standards and pace of the different ability groups.
- Children might struggle with the fact that the number, such as 25, needs to be built in the form of 20 + 5 and not placing the numbers 2 and 5 next to each other. A solution to this would be the use of spray cards to show the value of numerals and how a number can be built up.
- Weaker group of children get way too quickly and a solution to this would be to make a lesson more practical/hands-on and where there is active involvement of the learners at all times (this task it is the particular group the teacher is working with).
- A few learners that struggle to verbalise their thoughts and comments could hamper their understanding and a solution to this would be to allow children to self-discover certain concepts and words by focusing a little more on allowing these children to answer the questions if they can't, allow a friend to explain it or as a teacher, model the correct language and constantly reinforce it on a daily basis.
- When given worksheets, a few children complete it, some get half way and others just don't get anywhere. A solution to this problem would be dividing your class into ability

groups (weak, average and strong) and pitch activities according to their particular cognitive level so as to ensure that their personal interests are met.

- Same learners that are answering all the time. A solution to this problem would be to distribute the questions evenly and focus on the ones that are always quiet giving them a chance to try as well assisting the teacher in terms of showing the child's level of understanding.
- Spatial orientation and sharing might be potential problem as children are still very egocentric, are working in pairs and aren't aware of the people around them. A solution to this problem would be to make children aware that there aren't enough and that the only way they can learn is if they help each other and work together. If possible, taking the learners outside so that they can spread out and have enough space might also be the solution.
- All learner have different ways of learning, some are more visually orientated, others orally, some auditory etc. A solution to this problem could be an integration of all these learning ways so that all learners are given an equal opportunity and chance to gain exposure to the concept at hand.

7. <u>Resources needed:</u>

- Children: abacus, recording sheet, whiteboard and markers, worksheet, workbook, pencil, eraser, sharpener, ruler.
- Teacher: plastic container, unifix cubes, labels, worksheet.

8. Lesson Steps:

Aim of the lesson step:	**Teacher's input, strategies and questions:**	**Children's anticipated response and active involvement:**	**Teacher/Child resources:**
Preparation: - Materials	- Get all materials ready that are required for the lesson: plastic container, unifix cubes, abacus, recording sheet, labels, whiteboard and markers, worksheet.		- Plastic container - Unifix cubes
Introduction of concept: - Establish foundation for learners knowledge	- Take a container and establish a frame of reference. Place 10 unifix cubes in the container and ask "There are 10 in this container. Let's count them." (take them out the container and count them with the learners). - "Now you said that there were 10 in this container. How many do you think are in container number 1?" Let learners record how many they think there are in the "I think" column. Once they have all recorded and answer, take the unifix cubes out the container and count them with the learner. Let the learner record this number under	- Learners will count the unifix cubes with the teacher: "1,2,3…10)" - "I think there are 17 in container 1." Learners will record their answer in the "I think" column and then proceed to count the cubes with the teacher. Once this is done, they will record the correct number of cubes in the "I count" column and then complete the "How close was I column." - "I think there are about 23 in container 2." They will then record their answer in the "I think" column and then proceed to count the cubes with the teacher. Once this is done, they will record the correct	

	the “I count“ column. Give them some time to complete the “How close was I” column. They may use the abacus if they need to. - Now you said that there were 10 in this container and 14 in container 1/how many did we say was in container 1? How many do think are in container number 2?” Let learners record how many they think there are in the “I think: column. Once they have all recorded and answer, take the unifix cubes out the container and count them with the learner. Let the learner record this number the “I count” column. Give them some time to complete the “How close was I” column. They may use the abacus if they need to. - Repeat this process until container number 4. (Container 2: **21**, Container 3: **30**, Container 4: **45**).	number of cubes in the “I count” column and then complete the “How close was I column.” - This process will be repeated until all containers have been finished.	
<u>While teaching estimation:</u> - Pose a problem. Use guess and check strategy.	- “When we say how many we think are in the container or we try and come up with a number, we have a special name for this… do you know what is called? It is called ‘estimation’” Provide this if learners	- “It’s called estimation.” Possibility that learners might know this answer. - Learners will give their ideas for the teacher to work out the solution on the board until they arrive at the	

	don't give an answer immediately. - "Let's try another example: If I sold 7 tickets and I got R100 in total, how many adults and children were at the show? Adults: R10. Children: R7. (10 Children and 3 adults – do multiplication in the board with the learners. They will give guess answers, do the multiplication and show the answer so they keep trying. "I want you to try this one by yourself on your whiteboards: There are 17 animals altogether. There are 3 more dolphins than sharks. How many sharks and dolphins were there?" (10 dolphins and 7 sharks).	answer. - Learner will do the problem on their white boards and try different strategies until they arrive at the answer. If not, the teacher will help them to the correct answer.	
Consolidation: - Demonstrate learner understanding.	- Learners will complete a consolidation worksheet based on estimation.	- Learners will do the consolidation worksheet.	- Workbooks - Pencil - Eraser - Ruler - Sharpener - Worksheet

Lesson Plan of Student Teacher Two (Without Coding).

MUSIC OR MOVEMENT RING PLAN

Student name:	**Theme:**	**Group:**
Student Teacher 3	South Africa	3-4 years old(middle)
Date:	**Ring –movement/music**	**Type:**
14 May 2014	Movement	-

ACTIVITY	**APPARATUS**	**OUTCOMES (Knowledge, skills, attitude)**
Gather and focus attention: Calm out a rhythm to settle the children down. **Introduction:** Sing the “Hokey Pokey” song	-The children’s own body - coloured hair-bands	Skills-Gross motor
Body: “ Today we will be playing a game called ‘Mbube’. It is an African game which is played by children. The word ‘Mbube’ means ‘lion’ in IsiZulu.” The teacher will explain to the children how the game will be played. -One person will be the ‘Lion’ while another child will be an ‘impala’ “What is an Impala?”	Picture of an Impala	**Knowledge-** extension of the vocabulary by the means of giving children a variety of words in an African language while also providing the English meaning. Explaining to the teacher what the difference between an Impala and a lion is- based on looking at the picture or having prior knowledge.

"Who can tell me what does a Lion look like?" **<u>Step 2:</u>** Two children will be nominated to play the roles of the "lion" and the 'Impala' The child who is chosen to play the 'Lion' will either be asked to close their eyes or be blindfolded by the teacher. The other child, who is the 'impala', will be told to run away from the 'Lion'. Whereas the other children will be placed by the boundaries of the circle. They will need to chant the word 'Lion' loudly or softly in order to tell the lion whether s/he is close to or further away from the 'impala'. Continue this until all the children have had a turn to be either the 'Lion' or the 'impala' **Conclusion:** The children will go inside the classroom and will sing a song: **TWO LITTLE FEET** (A Movement Rhyme) Two little feet go tap, tap, and tap. Two little hands go clap, clap, and clap. One little body twirls around. One quiet body sits back down. http://www.preschoolexpress.com/music_station02/music_station_2_nov02.shtml The children will then lie down on the carpet and remain quiet while listening to all the noises that are occurring in the surroundings.	Picture of a Lion • A cloth- in order to blindfold the 'lion' • Ropes- to indicate the boundary in which the game can be played within	**Skills-** directionality -crossing the mid-line -(LION)using your sense of hearing to be able to guide you as to where the 'impala' is **Attitude-** -taking turns to play the game -

The children will then proceed to going to the toilet for wee and wash.		

Integration with other subjects:

Literacy- developing vocabulary from other South African languages-leeu; Mbube

Numeracy-counting the number of children in the class;
-Using sequencing to recognise to see which child have already played the game and which chid was the lion/ impala first; second; third and so forth.

Music- to recognise the tone and pitch of a person's voice to show as to whether danger is close or further away

Biology- to understand the process whereby a lion is able to catch his/her own prey

Children's response:
" Lions eat meat"
"They also eat monkeys"
"An impala is a deer"
"It eats grass and leaves"

Lesson Plan of Student Teacher One (With Coding).

Code:

General Productive Pedagogy
Productive Pedagogy Dimensions
Productive Pedagogy Elements
Teacher Assistance
Learner Diversity

Title	A very curious bear	**Student's name**	Student Teacher 1
Author	Tony Mitton	**Date**	12 May 2014
Illustrator	Paul Howard	**Group**	Older Group
Publisher	Orchard Books	**Theme**	South Africa
ISBN/Cat no.	9781846162466		

OUTCOMES:

<u>Knowledge</u> • Children will develop their knowledge of how books work, from left to right and turning pages. • Children will strengthen their knowledge of aspects of books such as covers and authors. Children will develop conceptual knowledge of questions of the world and how it works.	Productive Pedagogy Intellectual Quality Higher-order thinking Connectedness Connectedness to the world
<u>Skills</u> • Children will strength their ability to think creatively in attempting to answer some of the questions and build curiosity. Children will enhance their ability to question and inquire.	Productive Pedagogy Intellectual Quality Substantive conversation
<u>Attitudes and Values</u> • Children will develop their appreciation for the way things work in the world by relating to the curious bear. • Children will develop their confidence to ask questions when they don't understand something. Children will enhance their appreciation for their mothers and fathers and respect the relationships they have.	Productive Pedagogy Intellectual Quality Substantive conversation Connectedness Connectedness to the world Background knowledge Supportive classroom

	enviro Social support

	Code
Important characters, objects and scenes: Baby bear, Mother bear. Starting the big day out.	
Illustrations: A teddy bear	
Setting song/rhyme: I wiggle my fingers, I wiggle my toes, I wiggle my ears and I wiggle my nose. Now there's no more wiggles in me, so I can sit as quiet as can be.	
Introduction to ring: The title of this story is: A very curious bear. What do you think this story is about? And what do you think might happen to the bear? Let's see what happens.	Productive Pedagogy Intellectual Quality Higher-order thinking Substantive conversation Supportive classroom enviro Academic engagement

Summary: Baby bear starts a new day with many questions in mind as he gets out of the bed. He asks his mum questions about the light coming up and going down, the air blowing, the bending paths, the sounds of the stream, the flowers coming up from the grass, the rain, the lightening and thunder, the sun going down and coming up and the moon. Then he questions where he actually goes when he sleeps and then after getting all the answers from his mum, he sleeps softly and quietly in bed.	Productive Pedagogy Connectedness Connectedness to the world Background knowledge Intellectual Quality Higher-order thinking
Conclusion to ring: So where do you think you go when you sleep? And what do you think you are meant for or why do you think you are here? That's interesting, what did you like about the story? What was not so nice about this story?	Productive Pedagogy Intellectual Quality Higher-order thinking Substantive conversation Supportive classroom enviro Academic engagement

Lesson Plan of Student Teacher Two (With Coding).

Code:

General Productive Pedagogy
Productive Pedagogy Dimensions
Productive Pedagogy Elements
Teacher Assistance
Learner Diversity

1. **Routine Information:**

- Grade: Three
- Number of children: 40
- Date: 13 May 2014
- Duration of lesson: +- 30 minutes
- Subject: Numeracy
- Language: English
- Topic: Estimation
- CAPS ref: Week 4 (Term 2)
- Language skill: Reading, writing, listening and speaking.

	Code
2. Purpose: Activity Outcomes • The child will demonstrate the ability to: - estimate objects by providing a "guess" as to what the measurement might be using their own perception/based on a demonstration. - measure the actual length by using specific apparatus relative to the activity at hand.	Productive Pedagogy Supportive classroom enviro Social support
3. Summary of content knowledge: Focus of the lesson • Providing learners with a variety of opportunities to "guess" so that they are able to, within enough reason, provide a guess that is relatively close to the actual measurement. • Allowing learners to practice measuring objects using a variety of apparatus so that they not only get practice measuring objects, but also how to use and engage with the different apparatus and know when to use the respective unit of	Productive Pedagogy Intellectual Quality

measurement.	
4. <u>Vocabulary/Terminology the child will need:</u> • Estimate/Guess • Measure/How long/how many • Units of measurement (kg, mm, cm, kg, etc.)	
5. <u>How is the focus linked to previous knowledge of children:</u> Building on prior knowledge of estimation that has been done already (introduction of concept leading to a deeper understanding of estimation and thus expanding children's current knowledge (more for reinforcement of the concept). Using real objects so that children are able to use and develop the vocabulary that they have been taught by the teacher to estimate values as well as determine the real value after estimation (this they have done in their Government blue books). Developing the correct terminology through practise and self-discovery and allowing the children to apply it to tasks both inside and outside the classroom as well as to develop their knowledge and understanding of place value with regards to bigger numbers. Children have done estimation and written an introductory assessment and thus this activity will aid and assist their understanding. They have also done units of measurement and have an idea when to use the appropriate unit of measurement.	Productive Pedagogy Connectedness Background knowledge Connectedness Connectedness to the world Intellectual Quality Deep understanding
6. <u>What aspects of learner diversity needs consideration:</u> • Concentration span is different for each individual child in this classroom so it is important that the task is both captivating and short but also that the consolidation task spans a certain amount of time depending on the individual ability groups so as to promote understanding. • Learners work at different paces and a solution to this is the formation of ability groups where children are able to work at a pace that they are comfortable at but also don't feel overwhelmed and work at a level where there understanding is developed and expanded upon.	Productive Pedagogy Recognition of difference Inclusivity Supportive classroom enviro Academic engagement Intellectual Quality Deep understanding Learner diversity Learner diversity

• Time constrains need to be put in place and stuck to so a learner doesn't take more time than the extra time allocated. A solution would be to ensure that the task is set out accordingly to accommodate for all learners and to appeal to the standards and pace of the different ability groups. • Children might struggle with the fact that the number, such as 25, needs to be built in the form of 20 + 5 and not placing the numbers 2 and 5 next to each other. A solution to this would be the use of spray cards to show the value of numerals and how a number can be built up. • Weaker group of children get way too quickly and a solution to this would be to make a lesson more practical/hands-on and where there is active involvement of the learners at all times (this task it is the particular group the teacher is working with). • A few learners that struggle to verbalise their thoughts and comments could hamper their understanding and a solution to this would be to allow children to self-discover certain concepts and words by focusing a little more on allowing these children to answer the questions if they can't, allow a friend to explain it or as a teacher, model the correct language and constantly reinforce it on a daily basis. • When given worksheets, a few children complete it, some get half way and others just don't get anywhere. A solution to this problem would be dividing your class into ability groups (weak, average and strong) and pitch activities according to their particular cognitive level so as to ensure that their personal interests are met. • Same learners that are answering all the time. A solution to this problem would be to distribute the questions evenly and focus on the ones that are always quiet giving them a chance to try as well assisting the teacher in terms of showing the child's level of understanding. • Spatial orientation and sharing might be potential problem as children are still very egocentric, are working in pairs and aren't aware of the people around them. A solution to this problem would be to make children aware that there aren't enough and	Learner diversity Supportive classroom enviro Academic engagement Intellectual Quality Substantive conversation Recognition of difference Inclusivity Recognition of difference Inclusivity Supportive classroom enviro Academic engagement Learner diversity Recognition of difference Inclusivity

that the only way they can learn is if they help each other and work together. If possible, taking the learners outside so that they can spread out and have enough space might also be the solution. • All learner have different ways of learning, some are more visually orientated, others orally, some auditory etc. A solution to this problem could be an integration of all these learning ways so that all learners are given an equal opportunity and chance to gain exposure to the concept at hand.	Learner diversity
7. <u>Resources needed:</u> • Children: abacus, recording sheet, whiteboard and markers, worksheet, workbook, pencil, eraser, sharpener, ruler. • Teacher: plastic container, unifix cubes, labels, worksheet.	

8. **Lesson Steps:**

				Code
Aim of the lesson step:	**Teacher's input, strategies and questions:**	**Children's anticipated response and active involvement:**	**Teacher/Child resources:**	
Preparation: - Materials	- Get all materials ready that are required for the lesson: plastic container, unifix cubes, abacus, recording sheet, labels, whiteboard and markers, worksheet.		- Plastic container - Unifix cubes	
Introduction of concept: - Establish foundation for learners knowledge	- Take a container and establish a frame of reference. Place 10 unifix cubes in the container and ask "There are 10 in this container. Let's count them." (take them out the container and count them with the learners). - "Now you said that there were 10 in this container. How many do you think are in container number	- Learners will count the unifix cubes with the teacher: "1,2,3…10)" - "I think there are 17 in container 1." Learners will record their answer in the "I think" column and then proceed to count the cubes with the teacher. Once this is done, they will record the correct number of cubes in the "I count" column and then complete		Productive Pedagogy Intellectual Quality Substantive conversation Higher-order thinking Supportive classroom enviro Academic engagement

	1?" Let learners record how many they think there are in the "I think" column. Once they have all recorded and answer, take the unifix cubes out the container and count them with the learner. Let the learner record this number under the "I count" column. Give them some time to complete the "How close was I" column. They may use the abacus if they need to. - Now you said that there were 10 in this container and 14 in container 1/how many did we say was in container 1? How many do think are in container number 2?" Let learners record how many they think there are in the "I think: column. Once they have all recorded and answer, take the unifix cubes out the container and count them with the learner. Let the learner	the "How close was I column." - "I think there are about 23 in container 2." They will then record their answer in the "I think" column and then proceed to count the cubes with the teacher. Once this is done, they will record the correct number of cubes in the "I count" column and then complete the "How close was I column." - This process will be repeated until all containers have been finished.		

	record this number the "I count" column. Give them some time to complete the "How close was I" column. They may use the abacus if they need to. - Repeat this process until container number 4. (Container 2: **21**, Container 3: **30**, Container 4: **45**).			
While teaching estimation: - Pose a problem. Use guess and check strategy.	- "When we say how many we think are in the container or we try and come up with a number, we have a special name for this… do you know what is called? It is called 'estimation'" Provide this if learners don't give an answer immediately. - "Let's try another example: If I sold 7 tickets and I got R100 in total, how many adults and children were at the show? Adults: R10. Children: R7. (10 Children and 3 adults –	- "It's called estimation." Possibility that learners might know this answer. - Learners will give their ideas for the teacher to work out the solution on the board until they arrive at the answer. - Learner will do the problem on their white boards and try different strategies until they arrive at the answer. If not, the teacher will help them to the correct answer.		Productive Pedagogy Intellectual Quality Substantive conversation Higher-order thinking

	do multiplication in the board with the learners. They will give guess answers, do the multiplication and show the answer so they keep trying. "I want you to try this one by yourself on your whiteboards: There are 17 animals altogether. There are 3 more dolphins than sharks. How many sharks and dolphins were there?" (10 dolphins and 7 sharks).			Connectedness Background knowledge
Consolidation: - Demonstrate learner understanding.	- Learners will complete a consolidation worksheet based on estimation.	- Learners will do the consolidation worksheet.	- Workbooks - Pencil - Eraser - Ruler - Sharpener - Worksheet	Intellectual Quality Deep understanding

Lesson Plan of Student Teacher Three (With Coding).

Code:

General Productive Pedagogy
Productive Pedagogy Dimensions
Productive Pedagogy Elements
Teacher Assistance
Learner Diversity

MUSIC OR MOVEMENT RING PLAN

Student name: Student Teacher 3	**Theme:** South Africa	**Group:** 3-4 years old(middle)
Date: 14 May 2014	**Ring –movement/music** Movement	**Type:** -

			Code
ACTIVITY	**APPARATUS**	**OUTCOMES (Knowledge, skills, attitude)**	
Gather and focus attention: Calm out a rhythm to settle the children down. **Introduction:** Sing the "Hokey Pokey" song	-The children's own body - coloured hair-bands	Skills-Gross motor	

Body: “ Today we will be playing a game called ‘Mbube’. It is an African game which is played by children. The word ‘Mbube’ means ‘lion’ in IsiZulu.” The teacher will explain to the children how the game will be played. -One person will be the ‘Lion’ while another child will be an ‘impala’ “What is an Impala?” “Who can tell me what does a Lion look like?” **<u>Step 2:</u>** Two children will be nominated to play the roles of the “lion” and the ‘Impala’ The child who is chosen to play the ‘Lion’ will either be asked to close their eyes or be blindfolded by the teacher. The other child, who is the ‘impala’, will be told to run away from the ‘Lion’. Whereas the other children will be placed by the boundaries of the circle. They will need to chant the	Picture of an Impala Picture of a Lion • A cloth- in order to blindfold the ‘lion’ • Ropes- to indicate the boundary in which the game can be played within	**Knowledge-** extension of the vocabulary by the means of giving children a variety of words in an African language while also providing the English meaning. Explaining to the teacher what the difference between an Impala and a lion is- based on looking at the picture or having prior knowledge. **Skills-** directionality -crossing the mid-line -(LION)using your sense of hearing to be able to guide you as to where the ‘impala’ is **Attitude-** -taking turns to play the game -	Productive Pedagogy Recognition of difference Inclusivity Cultural knowledge Connectedness Connectedness to world Supportive classroom enviro Social support Intellectual Quality Substantive conversation Higher-order thinking Connectedness Background knowledge Recognition of difference Active Citizenship – ALL learners take part in the game

word 'Lion' loudly or softly in order to tell the lion whether s/he is close to or further away from the 'impala'. Continue this until all the children have had a turn to be either the 'Lion' or the 'impala' **Conclusion:** The children will go inside the classroom and will sing a song: **TWO LITTLE FEET** (A Movement Rhyme) Two little feet go tap, tap, and tap. Two little hands go clap, clap, and clap. One little body twirls around. One quiet body sits back down. http://www.preschoolexpress.com/music_station02/music_station_2_nov02.shtml The children will then lie down on the carpet and remain quiet while listening to all the noises that are occurring in the surroundings. The children will then proceed to going to the toilet for wee and wash.			

	Code
Integration with other subjects:	Productive Pedagogy Connectedness

Literacy- developing vocabulary from other South African languages-leeu; Mbube **Numeracy-**counting the number of children in the class; -Using sequencing to recognise to see which child have already played the game and which chid was the lion/ impala first; second; third and so forth. **Music-** to recognise the tone and pitch of a person's voice to show as to whether danger is close or further away **Biology-** to understand the process whereby a lion is able to catch his/her own prey	Knowledge integration Connectedness to world

	Code
Children's response: " Lions eat meat" "They also eat monkeys" **"**An impala is a deer" "It eats grass and leaves"	Productive Pedagogy Intellectual Quality Higher-order thinking Connectedness Background knowledge

Reflective Journal of Student Teacher One.

1st day of the theme South Africa. What a great theme to do exciting activities. Today I did a flag collage with papers, glue, and a flag which the children had to place on their flag and create. I decided on bubble painting using SA coloured straws to reinforce the flag colours. This worked very well with just a few drops of dishwashing liquid. **The story today was well received and evoked children's interest. The teddy bear used created lots of hype and excited the kids very much. The discussion I had was slightly short and I needed to research the topic more extensively. I realized that there is a need to teach children big words and their meanings.**

Reflective Journal of Student Teacher Two.

Reflective Journal

Reflective journal using the productive pedagogies framework.

While planning your lesson as well as after you've taught the lesson, please fill in your experiences, feelings, opinions, why you chose the specific dimension, difficulties/challenges you faced, etc. under the various productive pedagogies aspects that you chose. Remember there are no right or wrong answers and not all aspects need to be utilised!

Name: Student Teacher 2

Grade (lesson): 3

Intellectual Quality	
Higher Order Thinking	Introduction of lesson established a ‘frame of reference.’ Children used this to then reason what/how much the next container had (use reasoning and judgment).
Deep Knowledge	Introduction had learner participation in developing a deep understanding of topic using concrete apparatus. Also there was a consolidation task to reinforce learner understanding and ensure knowledge was covered in great depth  lots of practical work.
Deep Understanding	
Substantive Conversation	Learners were asked why they decided on a specific number on their ‘guess’ and their answers were “we used how many were in the previous container to help us.” They knew overall concept of guessing an answer is called an estimation and were able to use the vocabulary effectively.
Knowledge Problematic	
Metalanguage	
Additional Notes:	

Relevance	
Knowledge Integration	Link estimation to counting and subtraction. If subtracted number was bigger – they knew answer would be negative but they also knew you subtract smaller number from bigger number.
Background Knowledge	Can be used outside the classroom: think of how hard to kick the ball for it to go a certain distance/ how big a jump if needs to be so as to not fall into the drain.
Connectedness to the World	
Problem Based Curriculum	
Additional Notes:	

Supportive Classroom Environment	
Student Control	
Social Support	Were okay with making mistakes as last section of recording sheet “How close was I” left room for mistakes. Tried harder next round to get it closer.
Engagement	Recording sheet – active involvement (all learning and participating).
Explicit Criteria	Clear instructions were given – first example on consolidation task done with them so they knew what to do.

	Questions were straightforward already practised with recording sheets.
Self-regulation	
Additional Notes:	

Recognition of Difference	
Cultural Knowledge	
Inclusivity	All children had a recording sheet and thus all were able to participate and be included in the lesson. Weaker ones asked for more answering of questions to avoid top/average children from answering all the time.
Narrative	
Group Identity	Children realize that it is not okay to laugh at each other's mistakes but to help each other along the way.
Citizenship	
Additional Notes:	

Any additional notes regarding your overall experience (opinions, feelings, challenges faced, improvements, etc.)

Productive pedagogy helped me better to structure my lesson and helped me to work on different dimensions within the lesson. Paying attention to these aspects improved my pedagogy so that teaching and learning can be maximized and outcomes can also be achieved. It is very useful and helped me increase learning in the same amount of time used. Thank you!

Reflective Journal of Student Teacher Three.

I am extremely glad that this movement ring went well, since I tried to incorporate some of the productive pedagogies learnt in Education. Although some of the children were little restless, when we went outside to the garden to play the game, in all the ring was a success. Next time, i will try and allow the children to think more deeply about their answers. This can be done by asking them to “why do you think that the Lion only eat meat and the Impala eat leaves?”

Interview Transcript of Student Teacher One (Without Coding).

Line		Question/Answer	Code
1 2	I	Did you enjoy teaching the lesson that used the productive pedagogies framework?	
3	ST1	Yes, I did.	
4	I	Are there any reasons as to why you enjoyed teaching it?	
5 6 7	ST1	I liked it because with ECD it's all about the emotional side, it's about all the different sides of the children so it's interesting to have a lesson which focuses on all the different parts.	
8 9	I	In your lesson planning, did you find the productive pedagogies user-friendly? Was it easy to use?	
10 11 12	ST1	Yeah, pretty much. As a teacher you think about it anyway. You do think about using all those different, you know the different pedagogies, so it's pretty simple to apply.	
13 14	I	When you taught the lesson, did you find that the productive pedagogy user-friendly when you taught the lesson?	
15	ST1	Yeah, pretty much.	
16	I	You sound quite hesitant.	
17 18	ST1	No, it was pretty easy to apply in class, umm, just like the lesson plan it was pretty easy.	
19 20	I	When you did your lesson planning, did you find that the productive pedagogies framework helped you when planning the lesson?	
21 22 23 24 25	ST1	Yes, because if you look at all the different sections. In terms of your outcomes, it helps a lot. So like if I show you the outcomes of the lesson, you are actually using the productive pedagogy to direct you or to guide what or where your lesson is going. So I think that was, if you use it, it works.	
26 27	I	And then in your lesson, did you find that the productive pedagogies was helpful?	
28 29 30	ST1	Ya, it was pretty, umm, I mean, kids are always responsive towards things that if you, umm, you know engaging with them, so because the productive pedagogies is all about engaging and connecting	

31 32		their knowledge and that type of thing, they are actually very responsive towards you, so that was good.	
33 34	I	Do you remember which of the twenty elements you used in your lesson?	
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49	ST1	Ok, higher-order thinking that was in the questioning so if you look at the end of the lesson plan, there are a lot of questioning. So it was a story plan that I had planned, so, umm, a lot of the questioning had to do with high-order thinking, so that, but I think they all connect (looking at the different elements of the productive pedagogies) cause deep knowledge is as a result of the higher-order thinking and deep-understanding is also, so it's pretty much they connect, umm. And then also supportive classroom environment, that's also the engagement, umm, and the social support. Ya, that's also encouraging responses, encouraging them, you know to respond, and not be scared, and that type of thing. Umm, and then, inclusivity, so you know, asking questions which are relevant to all the children. And the story that I chose is very much one that's relevant to all kids, it's not specific to any culture, or anyone. So it's inclusivity and umm,	
50	I	Probably connectedness as well?	
51	ST1	Ya, connected to the world and the learners' backgrounds.	
52 53	I	So you pretty much used most of the elements of the productive pedagogies framework?	
54 55 56 57	ST1	Yeah, but I think without realizing. I think if you really apply umm, all of these things. If you really apply like inclusivity, I think is in every lesson you should have it, so if you apply these things it actually does provide for a whole holistic approach to teaching.	
58 59	I	When you prepared your lesson, did you find any difficulties in using the productive pedagogies framework?	
60 61 62 63	ST1	Umm, not that I can think of. Not really. Umm, maybe in preparing questions, because you want to think about the best way to ask a question. Not just ask a question just for the sake of it. So, maybe that in terms of trying to get what you really want to out of their	

64 65 66		thinking. Like you want them to think a certain way, you know, to think deeply about things, so you try to choose the best question for that. I think that was the most difficulty that I had.	
67 68	I	And then in teaching your lesson, did you find any difficulties when using the productive pedagogies framework?	
69 70 71 72 73 74	ST1	Umm, well, with young kids, everything you, you cant really plan exactly what they are going to say, cause they, you know, they're kids, they just go with it. So, you have to adapt it as you're teaching. You have to adapt the questions so that you get the kind of responses that you're looking for or to guide them almost, so that was the only thing.	
75 76	I	Did you find that the productive pedagogies framework was flexible enough to do that?	
77 78	ST1	Yeah, I think so. As long as you have the purpose in mind. I think then it is fine, it's easy to adapt cause the purpose is the main thing.	
79 80 81 82	I	And then just back to the lesson planning… Did you find the planning of the lesson using the productive pedagogies framework tedious? Did it take you any longer to plan the lesson, than any of your other lessons?	
83 84 85 86 87	ST1	Not really, cause this is pretty much what we do in Foundation phase, so we are used to actually doing lessons based on these things. So, I found it easy. But I do think that it would be more difficult if it was an intersen or any other level, because I don't know if they do that, integrate that into their lesson planning.	
88 89	I	That's interesting. And then, with regards to the learners, did you find any difficulties with the learners (emotional, social, intellectual)?	
90	ST1	Umm, are you talking specifically about this lesson? Or throughout?	
91	I	I suppose, in general.	
92 93 94	ST1	Ya, there were a few you know, I mean there were learners who had some learning difficulties, but, oh and a lot of emotional in the class I had. I had a lot of emotionally challenged kids.	

95	I	Can you elaborate a bit?	
96 97 98 99 100 101 102	ST1	Ya, I think a lot of the kids came from households which were broken up households, so you could see in there like, you know we have like fantasy play, so in their fantasy play you could actually see them playing out their situations where they like fight with each other and that type of thing, which I thought was very interesting. So that's when you can kind of see the emotional turmoil that they sort of have.	
103 104	I	With regards to the productive pedagogies framework, could you see this assisting these difficulties?	
105 106 107 108 109 110 111	ST1	I think if you use it correctly, yes. If you actually focus your lesson on like the supportive classroom environment or on recognition of difference, then you it all depends on your focus. So if you focus it on that, then you can deal with the emotional part as well. But if you're only focusing on intellectual quality or on (points to relevance) that sort of thing, then you aren't going to get to that core emotional problem.	
112 113	I	Do you think the productive pedagogies framework assisted in dealing with the emotional difficulties of the learners?	
114 115 116 117	ST1	Umm, I think it helped with typically the questions. The questions are my major thing that helped me, umm, that the productive pedagogies helped me with. Umm, because if you direct your questions towards that then it works out. I mean it, so I suppose.	
118	I	So towards the productive pedagogies framework?	
119	ST1	Yes, but specific parts (elements) help more than others.	
120 121	I	Would you use the productive pedagogies framework again in your teaching experience or in your own teaching one day?	
122 123 124 125	ST1	Like I said, in Foundation phase we pretty much do this all the time so I would use it because in all my lessons it's helped, because we kind of use this already. I don't know if this makes sense. So, I've been using it all the time.	

Interview Transcript of Student Teacher Two (Without Coding).

Line		Question/Answer	Code
1 2	I	Did you enjoy teaching the lesson that used the productive pedagogies framework?	
3 4 5 6	ST2	Yes, I did. Quite a lot. It was very interactive, umm, there was lots of learning. The kids were very responsive, so it was a different approach that had quite a lot more learning than just a normal teaching approach.	
7 8	I	In your lesson plan, did you find it user-friendly to make your lesson plan using the productive pedagogy framework?	
9 10 11 12	ST2	Ya, definitely. It gave me a lot more insight. Umm, the questions I could have were more detailed, umm, the different aspects I could look at to incorporate a lot, a bit of everything. So that it was a more holistic approach to things.	
13	I	In your teaching of your lesson, was that user-friendly?	
14 15 16	ST2	Ya, it was fun! It was easy, it was fun. And like I said before, they were a lot more responsive. They were very interactive, and not only did they learn, they enjoyed what they were being taught as well.	
17 18	I	Did you find using the productive pedagogy framework beneficial in your lesson planning? Did it help you in your lesson planning?	
19 20 21 22	ST2	Ya, it gave me more insight as well as to the kinds of questions I can ask, the kinds of activities I could use. Umm, not just pertaining to the lesson itself, like what I was teaching, but umm, the classroom environment, umm, the learners individually as well, and as a class.	
23	I	Ok cool, so you took all the aspects into consideration.	
24	ST2	Ya	
25 26	I	And with teaching your lesson… Did you find the productive pedagogy framework beneficial when you taught the lesson?	
27 28 29 30	ST2	Ya, I could actually expand on what was in the lesson plan as well. So like thinking on the spot, umm, branching off from what was in the lesson plan. It was easier for me to just add on to what I already had there. Just to like, you know, to expand and stuff.	

31 32 33	I	I don't know if you can remember, but which of the twenty elements did you choose? Lets look at your reflective journal. It was the higher order thinking. Ok, why did you choose higher order thinking?	
34 35 36	ST2	Just so that it's not simple recall, that they actually inquiring, they're thinking, they're exploring, and they're actually learning. It's not just me giving them the information and then rote learning.	
37	I	And deep knowledge and substantive conversation?	
38 39 40 41 42 43	ST2	They needed to talk about what they were learning so that I could also see if they understood, umm, what I was teaching. To see their level of understanding, and then for them to interact with one another. To see, you know, if maybe, like the person sitting next to Jane, or something, didn't understand then like Larry could explain it to her, or something.	
44 45 46	I	Then with relevance you used knowledge integration, background knowledge, and connectedness to the world, why did you choose those specific ones?	
47 48 49	ST2	You need to pull on their previous knowledge and what they obviously bringing from home in order to make it more relevant for them, make it more real, and they can relate and better understand	
50 51	I	And supportive classroom environment… there was social support, engagement and specific criteria. Why did you choose those ones?	
52 53 54 55 56 57 58	ST2	They're obviously not going to learn if they are fearful or if you're not encouraging them or motivating them and I mean, for me as well, if the teacher is just going to be like, well done, or she, they needed to know what was expected of them so that they could engage in what they were learning and learn obviously, and then just having that support that they are not learning in fear, or that they are able to ask questions and take a risk and participate.	
59 60	I	Sure, and then lastly, the recognition of difference, you used inclusivity and group identity. Why did you choose those?	
61 62 63	ST2	Umm, inclusivity was that no one felt excluded and they didn't feel that I was just concentrating on a few learners, so I'd like, distributed the questions around so that everyone got a chance and those that	

64 65 67 68 69		didn't answer questions I'd ask them a question, umm… group identity, if I remember correctly that's like the whole family environment, so they didn't laugh at each other when they made a mistake, they helped each other, they picked up on what they were saying. Those kind of things.	
70 71	I	Did you encounter any difficulties when preparing your lesson using the productive pedagogy framework?	
72 73	ST2	No, other than taking a lot of my time, other than that, no. It was a lot more fun.	
74 75	I	Did you find that it took more of your time than preparing for other lessons?	
76 77 78 79	ST2	Umm, generally lesson plans take a lot of time, umm, this one because I knew exactly like what I wanted in there and I used the framework and stuff, so it went a lot quicker. It did take a lot of time though, but it went a lot quicker than most lesson plans.	
80 81	I	When you were teaching your lesson, did you find any difficulties or challenges with using the productive pedagogy framework?	
82 83 84 85 86 87	ST2	No, but sometimes they needed to be prompted a little bit, with questions. Like you needed to, in order for them to get that deep knowledge and in order for them to engage in, umm, conversation and stuff, you needed to prompt them and sort of mould whatever you want them, you know, the answer that you wanted to get, but other than that, they were pretty responsive.	
88 89	I	With regards to the learners, did you find any difficulties, like emotional, social, intellectual, with the learners in the classroom?	
90 91 92 93 94 95 96 97	ST2	Some of them are withdrawn, umm, that's why you use a lot of pair work as well, so they get to talk to their partner and they are verbalizing, umm, even if it's not to me, and then I can go around and listen, umm, do they understand, what's their level of understanding, umm… in terms of intellectual, like, it's very easy to spot, you know, who the weaker ones are and stuff, and that's why it's important that you don't, like just take your higher order questions and throw it at them. You sort of mould them so that	

98		they’re able to get to that point where they can answer that question.	
99 100	I	Did you find that the Productive pedagogy framework assisted you in dealing with those difficulties?	
101 102 103	ST2	Yes, definitely. You were able to pinpoint where your problems are and you use the productive pedagogies framework as a guideline as to how to improve those little errors, if you can call them that.	
104 105 106	I	Would you use the productive pedagogy framework in other teaching experiences, or when you eventually have your own classroom?	
107 108 109 110	ST2	Yeah, definitely. You can use it across, like most subjects, not just, like, umm, I used it for Maths. You could use it for English and Life Skills and whatever else cause it pinpoints like the areas and you can use them as guidelines.	
111	I	Thank you so much for your time.	

Interview Transcript of Student Teacher Three (Without Coding).

Line		Question/Answer	Code
1 2	I	Did you enjoy teaching the lesson that used the productive pedagogies framework?	
3	ST3	Yes.	
4	I	Did you find it easy?	
5 6 7 8	ST3	I think so, at first it was a bit difficult because you actually have to put inclusiveness and try and connect all the themes together and stuff, but I think so. Afterwards, after you finish planned everything, then it actually became a lot easier.	
9 10	I	In your lesson planning, did you find the productive pedagogies framework easy to use?	
11 12	ST3	Umm, I think so. There was a little bit of thought that had to go inside, but then it was a lot more useful.	
13 14	I	So when you used the different dimensions, did they help you or guide you with your lesson planning?	
15	ST3	Yes.	
16 17 18	I	In your teaching of the lesson using the productive pedagogies framework, did you find that using the lesson plan and using the productive pedagogies useful and easy to use? Was it user-friendly?	
19 20	ST3	Yes. It was a lot easier to use. It gave you a guideline to see, like how you can take your lesson and which outcome you want to take.	
21 22	I	Did you find the productive pedagogies framework beneficial or helpful with regards to planning your lesson?	
23	ST3	Yes	
24	I	Why did you find it helpful?	
25 26 27 28 29	ST3	I found it helpful because under each dimension you've got smaller sub-dimensions, like for example, higher order thinking and stuff. So it actually helped you and made it easier to see how you can actually maybe phrase questions or do something differently that you haven't done before.	
30	I	Did you find the productive pedagogies helpful when you taught your	

31		lesson?	
32 33 34 35	ST3	Umm, I think so. At first, I think I maybe kind of battled with it, but then afterwards like, then when I got used to the, actually using the productive pedagogies framework then I, it actually was a lot easier and a lot more helpful.	
36 37	I	Do you remember which of the productive pedagogies elements you used?	
38	ST3	Connectedness.	
39	I	How did you use connectedness?	
40 41 42 43 44	ST3	I tried to tie in all, cause I had like one theme about South Africa and I had to include like a lot of information about South Africa, and I couldn't put all the information in so, with connectedness it actually helped to bring like the information from other themes to actually use it to connect it with what the children know about South Africa.	
45	I	So you integrated?	
46 47	ST3	Ya, for example, the springbok, the springboks flag, the South African flag and all that.	
48	I	Do you remember any of the other elements?	
49 50 51	ST3	At times I used, quite some time, higher-order thinking, I mean, ya, higher-order thinking cause I like, umm, like why was a certain symbol used and stuff.	
52	I	What Grade did you teach?	
53	ST3	I was doing the preschool, so I did the 3 to 4 year olds.	
54 55 56 57 58	I	So it must've been quite difficult to incorporate certain aspects, especially higher-order thinking… Do you think that you could've used or that it was easy to use higher-order thinking with the little ones? Or do you think it would've been better to use it only for the older, primary school learners?	
59 60 61 62 63	ST3	Maybe a few questions you can use higher-order thinking but not all the time. Cause otherwise, if you give them one higher-order question you just get a blank answer from them. Umm, I think so also, umm, I think like student control maybe creating an environment in that small classroom where you can get	

64 65		information from all the children, based on the theme of South Africa.	
66 67 68	I	When you prepared your lesson plan, did you encounter any difficulties or challenges using the productive pedagogies framework?	
69 70 71	ST3	Maybe just sometimes including everything. Not everything, but focusing on like maybe one or two aspects of the productive pedagogies framework.	
72	I	Ok, so you found that challenging to just only use a few?	
73	ST3	Ya.	
74	I	How did you deal with those difficulties?	
75 76 77	ST3	I had to actually sit down and think properly and actually break it down and that's how I was able to prepare the productive pedagogies framework in my lesson.	
78 79 80 81	I	And then, did you find that preparing your lesson using the productive pedagogies framework take longer to prepare than any of the other lessons?	
82 83	ST3	I think so, it maybe took a lot more time but then I think it was more or less the same.	???
84 85 86	I	When you were teaching your lesson using the productive pedagogies framework, did you find any challenges or difficulties when teaching?	
87 88 89 90	ST3	It was mainly just the responses from the children, cause like, what you planned accordance with the framework, the productive pedagogies framework, maybe sometimes the answers were a bit different from what you had actually planned.	
91	I	How did you deal with those challenges?	
92 93	ST3	In a few instances I had to like maybe divert my lesson then and maybe ya, take it to another outcomes.	
94 95	I	Do you think the productive pedagogies is too set in stone, or do you think you are capable of diverting a little bit and be more flexible?	
96	ST3	Ya, there are sometimes that you can be flexible, but I think that most	

97		of the time you have to be a lot more rigid with it.	
98 99	I	With regards to the learners, did you find any difficulties (emotional, social, intellectual)?	
100 101	ST3	Umm, I think so, mainly like at times there were like social difficulties, not like intellectual.	
102	I	When you talk about social difficulties, what do you mean?	
103	ST3	Mainly like they kept to themselves.	
104	I	Ok, like withdrawn from the group?	
105	ST3	Ya.	
106 107	I	Did you have to spur them on or encourage them to answer questions?	
108 109 110	ST3	Ya. You could see in the class that there were a few of the children who were talking, but then others you had to like kind of encourage them to answer.	
111 112	I	In your opinion, do you think the productive pedagogies framework assisted you in dealing with the social difficulties?	
113	ST3	Yes, it did.	
114	I	How did you find that it assisted you?	
115 116 117	ST3	It assisted me to actually encourage them, to actually to talk, helped me, give me more ideas to answer more questions, and to be a lot more sociable with the other children in the class.	
118 119	I	Would you use the productive pedagogies framework again in your teaching experience or in your own teaching one day?	
120 121 122	ST3	Yes, I'd like to maybe use the productive pedagogies framework in Primary school now, since I've used it in the preprimary, so I'd like to see the similarities and differences.	

Interview Transcript of Student Teacher One (With Inductive Coding).

Line		Question/Answer	Code
1 2	I	Did you enjoy teaching the lesson that used the productive pedagogies framework?	
3	ST1	Yes, I did.	
4	I	Are there any reasons as to why you enjoyed teaching it?	
5 6 7	ST1	I liked it because with ECD it's all about the emotional side, it's about all the different sides of the children so it's interesting to have a lesson which focuses on all the different parts.	Holistic Development/Approach Socio-emotional demands
8 9	I	In your lesson planning, did you find the productive pedagogies user-friendly? Was it easy to use?	
10 11 12	ST1	Yeah, pretty much. As a teacher you think about it anyway. You do think about using all those different, you know the different pedagogies, so it's pretty simple to apply.	Productive pedagogy elements/dimensions Easily applicable
13 14	I	When you taught the lesson, did you find that the productive pedagogy user-friendly when you taught the lesson?	
15	ST1	Yeah, pretty much.	
16	I	You sound quite hesitant.	
17 18	ST1	No, it was pretty easy to apply in class, umm, just like the lesson plan it was pretty easy.	Easily applicable
19 20	I	When you did your lesson planning, did you find that the productive pedagogies framework helped you when planning the lesson?	
21 22 23 24 25	ST1	Yes, because if you look at all the different sections. In terms of your outcomes, it helps a lot. So like if I show you the outcomes of the lesson, you are actually using the productive pedagogy to direct you or to guide what or where your lesson is going. So I think that was, if you use it, it works.	Productive pedagogy elements/dimensions Teacher Assistance Lesson outcomes
26 27	I	And then in your lesson, did you find that the productive pedagogies was helpful?	
28 29 30 31 32	ST1	Ya, it was pretty, umm, I mean, kids are always responsive towards things that if you, umm, you know engaging with them, so because the productive pedagogies is all about engaging and connecting their knowledge and that type of thing, they are actually very responsive towards you, so that was good.	Active Learning Everyday vs School knowledge

33 34	I	Do you remember which of the twenty elements you used in your lesson?	
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49	ST1	Ok, higher-order thinking that was in the questioning so if you look at the end of the lesson plan, there are a lot of questioning. So it was a story plan that I had planned, so, umm, a lot of the questioning had to do with high-order thinking, so that, but I think they all connect (looking at the different elements of the productive pedagogies) cause deep knowledge is as a result of the higher-order thinking and deep-understanding is also, so it's pretty much they connect, umm. And then also supportive classroom environment, that's also the engagement, umm, and the social support. Ya, that's also encouraging responses, encouraging them, you know to respond, and not be scared, and that type of thing. Umm, and then, inclusivity, so you know, asking questions which are relevant to all the children. And the story that I chose is very much one that's relevant to all kids, it's not specific to any culture, or anyone. So it's inclusivity and umm,	Productive pedagogy elements/dimensions Questioning Link between productive pedagogy elements and dimensions Active Learning Positive Reinforcement Learner Support
50	I	Probably connectedness as well?	
51	ST1	Ya, connected to the world and the learners' backgrounds.	Productive pedagogy elements/dimensions
52 53	I	So you pretty much used most of the elements of the productive pedagogies framework?	
54 55 56 57	ST1	Yeah, but I think without realizing. I think if you really apply umm, all of these things. If you really apply like inclusivity, I think is in every lesson you should have it, so if you apply these things it actually does provide for a whole holistic approach to teaching.	Unconsciously use productive pedagogy Holistic Development/Approach
58 59	I	When you prepared your lesson, did you find any difficulties in using the productive pedagogies framework?	
60 61 62 63 64 65 66	ST1	Umm, not that I can think of. Not really. Umm, maybe in preparing questions, because you want to think about the best way to ask a question. Not just ask a question just for the sake of it. So, maybe that in terms of trying to get what you really want to out of their thinking. Like you want them to think a certain way, you know, to think deeply about things, so you try to choose the best question for that. I think that was the most difficulty that I had.	Productive pedagogy elements/dimensions Questioning

67 68	I	And then in teaching your lesson, did you find any difficulties when using the productive pedagogies framework?	
69 70 71 72 73 74	ST1	Umm, well, with young kids, everything you, you cant really plan exactly what they are going to say, cause they, you know, they're kids, they just go with it. So, you have to adapt it as you're teaching. You have to adapt the questions so that you get the kind of responses that you're looking for or to guide them almost, so that was the only thing.	Teacher Flexibility Questioning
75 76	I	Did you find that the productive pedagogies framework was flexible enough to do that?	
77 78	ST1	Yeah, I think so. As long as you have the purpose in mind. I think then it is fine, it's easy to adapt cause the purpose is the main thing.	Flexible Framework
79 80 81 82	I	And then just back to the lesson planning… Did you find the planning of the lesson using the productive pedagogies framework tedious? Did it take you any longer to plan the lesson, than any of your other lessons?	
83 84 85 86 87	ST1	Not really, cause this is pretty much what we do in Foundation phase, so we are used to actually doing lessons based on these things. So, I found it easy. But I do think that it would be more difficult if it was an intersen or any other level, because I don't know if they do that, integrate that into their lesson planning.	Unconsciously use productive pedagogy Easily applicable
88 89	I	That's interesting. And then, with regards to the learners, did you find any difficulties with the learners (emotional, social, intellectual)?	
90	ST1	Umm, are you talking specifically about this lesson? Or throughout?	
91	I	I suppose, in general.	
92 93 94	ST1	Ya, there were a few you know, I mean there were learners who had some learning difficulties, but, oh and a lot of emotional in the class I had. I had a lot of emotionally challenged kids.	Socio-emotional demands Learning Barriers
95	I	Can you elaborate a bit?	
96 97 98 99 100 101 102	ST1	Ya, I think a lot of the kids came from households which were broken up households, so you could see in there like, you know we have like fantasy play, so in their fantasy play you could actually see them playing out their situations where they like fight with each other and that type of thing, which I thought was very interesting. So that's when you can kind of see the emotional turmoil that they sort of have.	Different backgrounds Socio-emotional demands

103 104	I	With regards to the productive pedagogies framework, could you see this assisting these difficulties?	
105 106 107 108 109 110 111	ST1	I think if you use it correctly, yes. If you actually focus your lesson on like the supportive classroom environment or on recognition of difference, then you it all depends on your focus. So if you focus it on that, then you can deal with the emotional part as well. But if you're only focusing on intellectual quality or on (points to relevance) that sort of thing, then you aren't going to get to that core emotional problem.	
112 113	I	Do you think the productive pedagogies framework assisted in dealing with the emotional difficulties of the learners?	
114 115 116 117	ST1	Umm, I think it helped with typically the questions. The questions are my major thing that helped me, umm, that the productive pedagogies helped me with. Umm, because if you direct your questions towards that then it works out. I mean it, so I suppose.	Questioning Teacher Assistance
118	I	So towards the productive pedagogies framework?	
119	ST1	Yes, but specific parts (elements) help more than others.	
120 121	I	Would you use the productive pedagogies framework again in your teaching experience or in your own teaching one day?	
122 123 124 125	ST1	Like I said, in Foundation phase we pretty much do this all the time so I would use it because in all my lessons it's helped, because we kind of use this already. I don't know if this makes sense. So, I've been using it all the time.	Unconsciously use productive pedagogy

Interview Transcript of Student Teacher Two (With Inductive Coding).

Line		Question/Answer	Code
1 2	I	Did you enjoy teaching the lesson that used the productive pedagogies framework?	
3 4 5 6	ST2	Yes, I did. Quite a lot. It was very interactive, umm, there was lots of learning. The kids were very responsive, so it was a different approach that had quite a lot more learning than just a normal teaching approach.	Active Learning
7 8	I	In your lesson plan, did you find it user-friendly to make your lesson plan using the productive pedagogy framework?	
9 10 11 12	ST2	Ya, definitely. It gave me a lot more insight. Umm, the questions I could have were more detailed, umm, the different aspects I could look at to incorporate a lot, a bit of everything. So that it was a more holistic approach to things.	Teacher knowledge Productive pedagogy elements/dimensions Holistic learner Development/Approach Questioning
13	I	In your teaching of your lesson, was that user-friendly?	
14 15 16	ST2	Ya, it was fun! It was easy, it was fun. And like I said before, they were a lot more responsive. They were very interactive, and not only did they learn, they enjoyed what they were being taught as well.	Easily Applicable Active Learning
17 18	I	Did you find using the productive pedagogy framework beneficial in your lesson planning? Did it help you in your lesson planning?	
19 20 21 22	ST2	Ya, it gave me more insight as well as to the kinds of questions I can ask, the kinds of activities I could use. Umm, not just pertaining to the lesson itself, like what I was teaching, but umm, the classroom environment, umm, the learners individually as well, and as a class.	Questioning Teacher Knowledge Productive pedagogy elements/dimensions
23	I	Ok cool, so you took all the aspects into consideration.	
24	ST2	Ya	
25 26	I	And with teaching your lesson… Did you find the productive pedagogy framework beneficial when you taught the lesson?	
27 28 29 30	ST2	Ya, I could actually expand on what was in the lesson plan as well. So like thinking on the spot, umm, branching off from what was in the lesson plan. It was easier for me to just add on to what I already had there. Just to like, you know, to expand and stuff.	Teacher Assistance
31	I	I don't know if you can remember, but which of the twenty elements	Productive pedagogy

32 33		did you choose? Lets look at your reflective journal. It was the higher order thinking. Ok, why did you choose higher order thinking?	elements/dimensions
34 35 36	ST2	Just so that it's not simple recall, that they actually inquiring, they're thinking, they're exploring, and they're actually learning. It's not just me giving them the information and then rote learning.	Active Learning
37	I	And deep knowledge and substantive conversation?	Productive pedagogy elements/dimensions
38 39 40 41 42 43	ST2	They needed to talk about what they were learning so that I could also see if they understood, umm, what I was teaching. To see their level of understanding, and then for them to interact with one another. To see, you know, if maybe, like the person sitting next to Jane, or something, didn't understand then like Larry could explain it to her, or something.	Active Learning Collaborative Learning
44 45 46	I	Then with relevance you used knowledge integration, background knowledge, and connectedness to the world, why did you choose those specific ones?	
47 48 49	ST2	You need to pull on their previous knowledge and what they obviously bringing from home in order to make it more relevant for them, make it more real, and they can relate and better understand	Everyday vs School knowledge
50 51	I	And supportive classroom environment… there was social support, engagement and specific criteria. Why did you choose those ones?	
52 53 54 55 56 57 58	ST2	They're obviously not going to learn if they are fearful or if you're not encouraging them or motivating them and I mean, for me as well, if the teacher is just going to be like, well done, or she, they needed to know what was expected of them so that they could engage in what they were learning and learn obviously, and then just having that support that they are not learning in fear, or that they are able to ask questions and take a risk and participate.	Positive Reinforcement Active Learning Questioning Learner Support
59 60	I	Sure, and then lastly, the recognition of difference, you used inclusivity and group identity. Why did you choose those?	
61 62 63 64 65	ST2	Umm, inclusivity was that no one felt excluded and they didn't feel that I was just concentrating on a few learners, so I'd like, distributed the questions around so that everyone got a chance and those that didn't answer questions I'd ask them a question, umm… group identity, if I remember correctly that's like the whole family	Learner Support Questioning Collaborative Learning

67 68 69		environment, so they didn't laugh at each other when they made a mistake, they helped each other, they picked up on what they were saying. Those kind of things.	Productive pedagogy elements/dimensions
70 71	I	Did you encounter any difficulties when preparing your lesson using the productive pedagogy framework?	
72 73	ST2	No, other than taking a lot of my time, other than that, no. It was a lot more fun.	Tedious to prepare lessons
74 75	I	Did you find that it took more of your time than preparing for other lessons?	
76 77 78 79	ST2	Umm, generally lesson plans take a lot of time, umm, this one because I knew exactly like what I wanted in there and I used the framework and stuff, so it went a lot quicker. It did take a lot of time though, but it went a lot quicker than most lesson plans.	
80 81	I	When you were teaching your lesson, did you find any difficulties or challenges with using the productive pedagogy framework?	
82 83 84 85 86 87	ST2	No, but sometimes they needed to be prompted a little bit, with questions. Like you needed to, in order for them to get that deep knowledge and in order for them to engage in, umm, conversation and stuff, you needed to prompt them and sort of mould whatever you want them, you know, the answer that you wanted to get, but other than that, they were pretty responsive.	Questioning Productive pedagogy elements/dimensions Active Learning
88 89	I	With regards to the learners, did you find any difficulties, like emotional, social, intellectual, with the learners in the classroom?	
90 91 92 93 94 95 96 97 98	ST2	Some of them are withdrawn, umm, that's why you use a lot of pair work as well, so they get to talk to their partner and they are verbalizing, umm, even if it's not to me, and then I can go around and listen, umm, do they understand, what's their level of understanding, umm… in terms of intellectual, like, it's very easy to spot, you know, who the weaker ones are and stuff, and that's why it's important that you don't, like just take your higher order questions and throw it at them. You sort of mould them so that they're able to get to that point where they can answer that question.	Socio-emotional demands Collaborative Learning Cognitive Demands Productive pedagogy elements/dimensions Learner development
99 100	I	Did you find that the Productive pedagogy framework assisted you in dealing with those difficulties?	
101	ST2	Yes, definitely. You were able to pinpoint where your problems are	Teacher Assistance

102 103		and you use the productive pedagogies framework as a guideline as to how to improve those little errors, if you can call them that.	
104 105 106	I	Would you use the productive pedagogy framework in other teaching experiences, or when you eventually have your own classroom?	
107 108 109 110	ST2	Yeah, definitely. You can use it across, like most subjects, not just, like, umm, I used it for Maths. You could use it for English and Life Skills and whatever else cause it pinpoints like the areas and you can use them as guidelines.	Teacher Assistance
111	I	Thank you so much for your time.	

Interview Transcript of Student Teacher Three (With Inductive Coding).

Line		Question/Answer	Code
1 2	I	Did you enjoy teaching the lesson that used the productive pedagogies framework?	
3	ST3	Yes.	
4	I	Did you find it easy?	
5 6 7 8	ST3	I think so, at first it was a bit difficult because you actually have to put inclusiveness and try and connect all the themes together and stuff, but I think so. Afterwards, after you finish planned everything, then it actually became a lot easier.	Link between productive pedagogy elements and dimensions Difficulties using productive pedagogy Easily Applicable
9 10	I	In your lesson planning, did you find the productive pedagogies framework easy to use?	
11 12	ST3	Umm, I think so. There was a little bit of thought that had to go inside, but then it was a lot more useful.	Easily Applicable
13 14	I	So when you used the different dimensions, did they help you or guide you with your lesson planning?	
15	ST3	Yes.	
16 17 18	I	In your teaching of the lesson using the productive pedagogies framework, did you find that using the lesson plan and using the productive pedagogies useful and easy to use? Was it user-friendly?	
19 20	ST3	Yes. It was a lot easier to use. It gave you a guideline to see, like how you can take your lesson and which outcome you want to take.	Easily Applicable Teacher Assistance Lesson outcomes
21 22	I	Did you find the productive pedagogies framework beneficial or helpful with regards to planning your lesson?	
23	ST3	Yes	
24	I	Why did you find it helpful?	
25 26 27 28	ST3	I found it helpful because under each dimension you've got smaller sub-dimensions, like for example, higher order thinking and stuff. So it actually helped you and made it easier to see how you can actually maybe phrase questions or do something differently that you haven't	Productive pedagogy elements/dimensions Teacher Assistance

29		done before.	Questioning
30 31	I	Did you find the productive pedagogies helpful when you taught your lesson?	
32 33 34 35	ST3	Umm, I think so. At first, I think I maybe kind of battled with it, but then afterwards like, then when I got used to the, actually using the productive pedagogies framework then I, it actually was a lot easier and a lot more helpful.	Easily Applicable Difficulties using productive pedagogy
36 37	I	Do you remember which of the productive pedagogies elements you used?	
38	ST3	Connectedness	
39	I	How did you use connectedness?	
40 41 42 43 44	ST3	I tried to tie in all, cause I had like one theme about South Africa and I had to include like a lot of information about South Africa, and I couldn't put all the information in so, with connectedness it actually helped to bring like the information from other themes to actually use it to connect it with what the children know about South Africa.	Everyday vs School knowledge Productive pedagogy elements/dimensions
45	I	So you integrated?	
46 47	ST3	Ya, for example, the springbok, the springboks flag, the South African flag and all that.	
48	I	Do you remember any of the other elements?	
49 50 51	ST3	At times I used, quite some time, higher-order thinking, I mean, ya, higher-order thinking cause I like, umm, like why was a certain symbol used and stuff.	Productive pedagogy elements/dimensions
52	I	What Grade did you teach?	
53	ST3	I was doing the preschool, so I did the 3 to 4 year olds.	
54 55 56 57 58	I	So it must've been quite difficult to incorporate certain aspects, especially higher-order thinking… Do you think that you could've used or that it was easy to use higher-order thinking with the little ones? Or do you think it would've been better to use it only for the older, primary school learners?	
59 60 61 62	ST3	Maybe a few questions you can use higher-order thinking but not all the time. Cause otherwise, if you give them one higher-order question you just get a blank answer from them. Umm, I think so also, umm, I think like student control maybe creating	Questioning Difficulties using productive pedagogy

63 64 65		an environment in that small classroom where you can get information from all the children, based on the theme of South Africa.	Active Learning Productive pedagogy elements/dimensions
66 67 68	I	When you prepared your lesson plan, did you encounter any difficulties or challenges using the productive pedagogies framework?	
69 70 71	ST3	Maybe just sometimes including everything. Not everything, but focusing on like maybe one or two aspects of the productive pedagogies framework.	Difficulties using productive pedagogy Link between productive pedagogy elements and dimensions Productive pedagogy elements/dimensions
72	I	Ok, so you found that challenging to just only use a few?	
73	ST3	Ya.	
74	I	How did you deal with those difficulties?	
75 76 77	ST3	I had to actually sit down and think properly and actually break it down and that's how I was able to prepare the productive pedagogies framework in my lesson.	Productive pedagogy elements/dimensions
78 79 80 81	I	And then, did you find that preparing your lesson using the productive pedagogies framework take longer to prepare than any of the other lessons?	
82 83	ST3	I think so, it maybe took a lot more time but then I think it was more or less the same.	???
84 85 86	I	When you were teaching your lesson using the productive pedagogies framework, did you find any challenges or difficulties when teaching?	
87 88	ST3	It was mainly just the responses from the children, cause like, what you planned accordance with the framework, the productive pedagogies	Active Learning

89 90		framework, maybe sometimes the answers were a bit different from what you had actually planned.	Planning different to reality
91	I	How did you deal with those challenges?	
92 93	ST3	In a few instances I had to like maybe divert my lesson then and maybe ya, take it to another outcomes.	Teacher Flexibility Lesson outcomes
94 95	I	Do you think the productive pedagogies is too set in stone, or do you think you are capable of diverting a little bit and be more flexible?	
96 97	ST3	Ya, there are sometimes that you can be flexible, but I think that most of the time you have to be a lot more rigid with it.	Flexible Framework
98 99	I	With regards to the learners, did you find any difficulties (emotional, social, intellectual)?	
100 101	ST3	Umm, I think so, mainly like at times there were like social difficulties, not like intellectual.	Socio-emotional demands Cognitive demands (no)
102	I	When you talk about social difficulties, what do you mean?	
103	ST3	Mainly like they kept to themselves.	
104	I	Ok, like withdrawn from the group?	
105	ST3	Ya.	
106 107	I	Did you have to spur them on or encourage them to answer questions?	
108 109 110	ST3	Ya. You could see in the class that there were a few of the children who were talking, but then others you had to like kind of encourage them to answer.	Positive reinforcement Active Learning
111 112	I	In your opinion, do you think the productive pedagogies framework assisted you in dealing with the social difficulties?	
113	ST3	Yes, it did.	Teacher Assistance
114	I	How did you find that it assisted you?	
115 116 117	ST3	It assisted me to actually encourage them, to actually to talk, helped me, give me more ideas to answer more questions, and to be a lot more sociable with the other children in the class.	Teacher Assistance
118 119	I	Would you use the productive pedagogies framework again in your teaching experience or in your own teaching one day?	
120 121	ST3	Yes, I'd like to maybe use the productive pedagogies framework in Primary school now, since I've used it in the preprimary, so I'd like to	

122		see the similarities and differences.	