The copyright of this thesis rests with the University of Cape Town. No quotation from it or information derived from it is to be published without full acknowledgement of the source. The thesis is to be used for private study or non-commercial research purposes only.

University of Cape Town

SOCIAL CLASS, PEDAGOGY AND THE SPECIALIZATION OF VOICE IN FOUR SOUTH AFRICAN PRIMARY SCHOOLS

by

URSULA KATE HOADLEY

University of Cape Town

Thesis presented for the degree of

DOCTOR OF PHILOSOPHY

in the School of Education
Graduate School of Humanities

University of Cape Town

Supervisors: Professor Paula Ensor & Professor Johan Muller

FEBRUARY 2005

BUT 370 HOAD
778722

Declaration

I declare that *Social class, pedagogy and the specialization of voice in four South African primary schools* is my own work, except where indicated, and that it has not been submitted before for any degree or examination at any university.

Signed:

____

Ursula Kate Hoadley

February 2005

University of Cape Town

Acknowledgements

Professor Paula Ensor and Professor Johan Muller of the University of Cape Town supervised this thesis. I am deeply grateful to both of them for the energy and commitment they gave to this project. In particular, Paula showed me an uncompromisingly principled approach to research, and I can only hope to emulate her clear vision. She tutored me in precision – in reading data, in ideas and their expression. Joe helped me to understand the field, to be excited by ideas, and to learn to harness them to disciplined academic endeavour. I consider it a great privilege to have had academic guidance from Paula and Joe, and acknowledge their significant intellectual contribution to this thesis.

I am very grateful to the teachers in the study who allowed me into their classrooms and gave so generously of their time, ideas and opinions. Without the openness of these teachers, the principals who gave me access to the schools, and the students who participated in the tasks, the research would not have been possible.

I also thank Xolisa Guzula, who assisted with the fieldwork and translation in the Xhosa-speaking schools. Her sensitivity to the research contexts, her subtle and measured honesty in all interactions, and her unrelenting rigour in the research endeavour made her indispensable to the completion of this research.

I am very grateful also to Heather Jacklin and Wayne Hugo for their constant encouragement and support, and for their comments on early drafts of the analysis. Jaamiah Galant and Zain Davis, too, generously engaged in conversations, shared insights and helped me to keep in mind what it was I was doing, and why.

I also thank Lance MacLeod who patiently helped me with the technical side of the data collection, and Luke Powers who produced the photographs for the student tasks. Marie Hoadley proof-read the thesis with a sharp eye and a sense of humour, which at the end was indispensable.

All my friends, who over the years, gave endless support, listened patiently, and lent strength, I thank from the bottom of my heart. They never allowed me to take myself too seriously, and challenged me with honesty and kindness.

Finally, I thank my parents, whose love and enduring support made this work possible, and to whom I dedicate this thesis.

This research was supported by the National Research Foundation under Grant Number 2053481, for the project *Pedagogy, Identity and Social Justice*. The research also benefited from funding from the Spencer Foundation. Any opinion, findings, conclusions and recommendations expressed here are those of the author, and are not necessarily attributable to either of these organizations.

University of Cape Town

Abstract

Social class, pedagogy and the specialization of voice in four South African primary schools

This thesis is concerned with the question of how social class differences are reproduced through pedagogy, and the role of the teacher in this process. The study is located in four primary schools in Cape Town, South Africa, school sites that, in terms of social class composition, were selected to show the reproduction of difference in very stark ways. Four teachers in two schools in an upper middle-class school context, and four teachers in two schools in a lower working-class school context constitute the sample. The first part of the study question is concerned with *how* pedagogy in the different social class schooling contexts differs. The analysis examines how pedagogy in different classrooms is structured differently, and what strategies teachers deploy in the distribution of knowledge in classrooms. Through this analysis two *pedagogic modalities* are defined – a vertical modality in the middle class schooling context, and a horizontal modality in the working class schooling context.

In the consideration of the reproduction of social class differences, *orientation to meaning* is taken to be the crucial background variable associated with social class which makes a difference to children's schooling experience. Orientation to meaning refers to the transmission and acquisition of more context-independent meanings (elaborated codes) and more context-dependent meanings (restricted codes). The pedagogic modalities identified in the analysis of the transmission practices in the various classrooms have implications for the way in which students' voice is specialized, or the extent to which students' educational identity and specific skills are clearly marked and bounded. The theoretical resources for the analysis of pedagogic modalities are drawn from Bernstein (1975; 1990; 1996), especially the concepts of classification and framing, specialization of voice and orientations to meaning; and from Dowling (1998), and his conceptualizing of domains of knowledge and strategies for the distribution of different messages in relation to these domains.

University of Cape Town

In order to assess whether social class differences are in fact being reproduced through the observed modalities, tasks were conducted with students. These tasks considered the pedagogy as either an interrupter or amplifier of the community code that all learners enter the classroom with, or as an amplifier of an elaborated code, which middle class children are more likely to bring with them to the school from the home. In the working class schooling context, in particular, the study shows how the pedagogy fails to act as an 'interrupter' of the community code that students bring into the classroom from the home. That is, student's voice in the working class context is found to be weakly specialized with respect to the school code, or an elaborated orientation to meaning. In the first part of the study, then, a relationship between social class, pedagogic modalities and the specialization of voice is established.

The second part of the study is exploratory. It addresses the question of *why* social class differences are reproduced through pedagogy by focusing on the central role of teacher in the reproduction of social class differences through pedagogy. In this part of the analysis a particular explanation as to why different pedagogic forms are found in the different social class schooling contexts is explored. A *tentative* relation between the teachers own social class backgrounds (which varies between the different social class schooling contexts), their strategic dispositions and forms of solidarity in the schools is suggested, which may offer some insight into how the different pedagogic modalities come to predominate in certain schools and have particular outcomes for the specialization of student voice in those schools.

The contribution of the thesis is two-fold. It offers a methodology for examining how it is that social class differences are reproduced through classroom processes, and it presents an analysis of pedagogic forms that could be said to represent a breakdown in pedagogy. Secondly, the thesis points forward to further research that places the teacher as a sub-relay in the reproductive processes of schooling at the centre of the analysis, and takes seriously the social class positioning of teachers, students and their schools.

University of Cape Town

Table of contents

	Title page	**i**
	Declaration	**ii**
	Acknowledgements	**iii**
	Abstract	**iv**
	Table of contents	**vi**
	List of tables	**xi**
	List of figures	**xiii**
	List of appendices	**xiv**
	Chapter 1: Introduction	**1**
1.1	**Introduction**	**1**
1.2	**Locating the study**	**3**
1.2.1	Curriculum reform	3
1.2.2	Social class and schooling: changes in the structure of South African schooling	6
1.3	**Research in South Africa on classroom practice**	**10**
1.4	**General statement of the research problem**	**12**
1.5	**Sub-questions of the study**	**12**
1.6	**Theoretical approach**	**13**
1.7	**Overview of the thesis**	**14**
	Chapter 2: Framing the research problem: empirical antecedents to the study	**16**
2.1	**Introduction**	**16**
2.2	**Social reproduction and schooling**	**17**
2.3	**Bernstein and reproduction theory**	**21**
2.4	**School effectiveness studies: schooling as a relay for power relations external to the school**	**22**
2.5	**What about teachers specifically? 'Teacher effects' research**	**25**
2.6	**The interpretivist tradition of research into teaching**	**27**
2.7	**Studies of social class and pedagogy: how is difference reproduced?**	**30**
2.8	**Bernsteinian research into codes: how the macro-relay functions**	**33**
2.8.1	Elaborated and restricted codes: research	35
2.8.2	Development of the code theory: sociological studies of the classroom	38
2.8.3	Recent studies of pedagogy and social class	41
2.9	**Social class positioning of teachers**	**44**
2.10	**Conclusion**	**47**

University of Cape Town

Chapter 3: Theoretical framework for the study of social class and pedagogy **49**

3.1	**Introduction**	**49**
3.2	**Theoretical antecedents**	**49**
3.2.1	Bernstein and code theory	49
3.2.2	Bernstein and pedagogy	53
3.2.3	Specialization of voice	59
3.2.4	Dowling's domains and strategies	61
3.2.5	School knowledge and everyday knowledge	64
3.3	**Summary: theoretical assumptions informing the study**	**65**
3.3.1	Pedagogy involves transmitters and acquirers in an hierarchical social relation where criteria are transmitted	65
3.3.2	School learning involves the induction of acquirers into an elaborated code	66
3.3.3	The teacher is a potential interrupter or reproducer in the process of social reproduction	67
3.4	**Conclusion**	**69**

Chapter 4: Research methodology **70**

4.1	**Introduction**	**70**
4.2	**The study sample**	**71**
4.2.1	The exploratory case study as research strategy	71
4.2.2	Introduction to the cases: the schools and teachers	72
4.2.2.1	The working-class context	72
4.2.2.2	The middle-class context	74
4.2.3	Student social class at the four schools	77
4.3	**The production of the data**	**80**
4.3.1	Direct observation	82
4.3.2	Teacher structured interviews	83
4.3.3	Student tasks	83
4.3.4	Contextual information	84
4.3.5	Evolution of the study: piloting	85
4.4	**Analysis of the data**	**86**
4.4.1	The development of an external language of description	87
4.4.2	Classroom observation.	88
4.4.2.1	Classification and framing of pedagogic discourse	90
4.4.2.2	Instructional form	99
4.4.2.3	Instructional strategies and knowledge domains	100
4.4.3	Student tasks	103
4.4.4	Teacher interviews	105
4.4.5	Further analytic activities	107
4.5	**Internal validity**	**107**
4.6	**External validity**	**110**
4.7	**Conclusion**	**110**

University of Cape Town

Chapter 5: Pedagogic modalities I: the classification and framing and instructional form of the pedagogic practice 112

5.1	**Introduction**	**112**
5.2	**The internal classification and framing of pedagogic discourse**	**113**
5.2.1	Discursive rules	115
5.2.2	Hierarchical rules	124
5.2.3	Classification of discourses, spaces and agents	128
5.2.4	Discussion: classification and framing	134
5.3	**Instructional form: content and agents**	**138**
5.3.1	Analysis of instructional form	139
5.3.2	Instructional form: agents	141
5.3.3	Instructional form: content differentiation	143
5.3.4	Discussion: individualizing and communalizing pedagogies	144
5.4	**Conclusion**	**144**

Chapter 6: Pedagogic modalities II: instructional strategies and knowledge domains 146

6.1	**Introduction**	**146**
6.2	**Instructional strategies for individual tasks – localizing and specializing**	**147**
6.2.1	Instructional strategies: literacy	147
6.2.1.1	Localizing strategies	148
6.2.1.2	Specializing strategies	153
6.2.2	Instructional strategies: numeracy	158
6.2.2.1	Specializing strategies	158
6.2.2.2	Localising strategies	161
6.2.3	Discussion: instructional strategies, localizing and specializing	167
6.3	**Instructional strategies for pedagogic assemblies: generalizing and fragmenting**	**167**
6.3.1	Literacy	168
6.3.2	Numeracy	172
6.3.3	Discussion: the rules for combination in literacy and numeracy pedagogic assemblies	175
6.4	**Instructional strategies for selection – everyday knowledge and school knowledge**	**176**
6.4.1	The relation between everyday knowledge and school knowledge in mathematics	177
6.4.2.	The relation between everyday knowledge and school knowledge in literacy	182
6.4.2.1	Working-class context	183
6.4.2.2	Middle-class context	185
6.4.3	Discussion: rules for selection in mathematics and literacy	187
6.5	**Conclusion: the vertical and horizontal pedagogic modality**	**187**

Chapter 7: The specialization of student voice with respect to the school code 191

7.1	**Introduction**	**191**
7.2	**General coding task**	**192**

University of Cape Town

7.2.1 Results 193
7.2.2 Discussion: general coding task 200
7.3 Specific instructional task: mathematics task 201
7.3.1 The task 202
7.3.2 Learner productions: overview of solutions 203
7.3.3 Learner productions: strategies and recognition and realization rules 204
7.3.3.1 The working-class context 205
7.3.3.2 The middle-class context 211
7.4 Discussion: the specialization of students' voice 214
7.5 Conclusion 215

Chapter 8: The teachers' positioning: social class and professional dispositions 217

8.1 Introduction 217
8.2 Teachers' social class position 218
8.2.1 Teachers' social class background 218
8.2.2 Teachers' educational levels 220
8.2.3 The material and social conditions of the teachers' lives 223
8.2.3.1 Family structure, dependents and the disbursement of salaries 223
8.2.3.2 Geographical location 225
8.2.3.3 Social and cultural capital 226
8.3 Teachers' professional dispositions 229
8.3.1 Instructional dimension: classification of learning 230
8.3.2 Instructional discourse: the classification of subject knowledge 232
8.3.3 Regulative discourse: framing, the moral imperative and the classification of agents 235
8.4 The social bases of the schools: specialization of time, division of labour and forms of solidarity 239
8.4.1 The specialization of time in the schools 239
8.4.2 The division of labour in the schools 241
8.4.3 External framing: teachers planning 245
8.4.4 Discussion: the division of labour in the schools 247
8.5 Conclusion 248

Chapter 9: Summary and findings: a social class analysis of pedagogy 251

9.1 Introduction 251
9.2 Overview of the analysis 251
9.2.1 Pedagogic modalities 252
9.2.2 Specialization of student voice with respect to the school code 253
9.2.3 Teacher positioning: social class and professional dispositions 254
9.3 Findings 258
9.3.1 The reproduction of social class differences through pedagogy 258
9.3.2 The specialization of students voice with respect to the school code 261
9.3.3 Teachers as a sub-relay in the reproduction of social class differences through pedagogy 263
9.3.4 The relation between teachers' social class and pedagogy 264

University of Cape Town

Chapter 10: Conclusion 267

10.1	**Introduction**	**267**
10.2	**Overview of the thesis**	**267**
10.3	**Implications of the research**	**270**
10.3.1	Implications for understanding classroom practice	270
10.3.2	Implications for understanding the teacher's role in reproducing difference	270
10.3.3	Theoretical implications	271
10.3.4	Methodological implications	271
10.3.5	Implications for social class considerations	272
10.3.5	Implications in terms of deficit and difference	272
10.4	**Limitations of the study**	**273**
10.5	**Conclusion**	**274**
	References	**276**
	Appendices	**299**

University of Cape Town

List of tables

Table 1.1:	The paradigmatic shift from transmission models of teaching and learning to outcomes-based education and training (National Department of Education, 1997:6-7)	4
Table 2.1:	The main factors associated with effective teachers examined by each phase of research into teacher effectiveness	25
Table 4.1:	Characteristics of the four schools	76
Table 4.2	The sample of eight teachers	76
Table 4.3:	Class location of student caregivers	78
Table 4.4:	Education levels of student caregivers	79
Table 4.5:	Data collection strategies	81
Table 4.6:	Summary of the analytic approach	111
Table 5.1:	Total number of literacy and numeracy lessons coded	113
Table 5.2:	Examples of three forms of control: the teachers silencing the class	126
Table 5.3:	Final coding values for classification and framing of pedagogic practice of the eight teachers	135
Table 5.4:	Total number of tasks analyzed for the eight teachers	139
Table 5.5:	The classroom organization for the tasks – by teacher & social class context	141
Table 5.6:	Content differentiation in the instructional form of the tasks	143
Table 5.7:	Summary of the structuring of pedagogic discourse in the two social class contexts	145
Table 6.1:	Number and percentage of specializing and localizing strategies for literacy for the eight teachers	157
Table 6.2:	Number and percentage of specializing and localizing strategies for literacy for the two social class contexts	157
Table 6.3:	Total number of tasks coded for numeracy	165
Table 6.4:	Number of specializing and localizing strategies for numeracy for the eight teachers	165
Table 6.5:	Number and percentage of specializing and localizing strategies for numeracy for the two social class contexts	165
Table 6.6	Percentage of tasks incorporating different instructional strategies in the two social class contexts for literacy and numeracy	167
Table 6.7	Pedagogic modalities	167
Table 7.1:	Sorting by one working-class and one middle-class child, and the code assigned	195
Table 7.2:	First sorting task: students spontaneous grouping - use	196
Table 7.3:	First sorting task: students spontaneous grouping - focus	197
Table 7.4:	Second sorting task: students spontaneous grouping - use	197
Table 7.5:	Second sorting task: students spontaneous grouping - focus	198
Table 7.6:	Third sorting task: students response to researcher's grouping	199
Table 7.7:	A sample of working-class students' responses to researchers' groupings (third sorting task)	199
Table 7.8:	Percentages of learners deploying context-independent and context-dependent categorizations in the three sorting tasks	200
Table 7.9:	Curriculum concepts covered in the mathematical task	203
Table 7.10:	Results from the mathematics task	203
Table 7.11:	Results WCED Grade 3 standardised test, 2003	204
Table 7.12:	Range of solutions given for Question 6 in the four working-class classrooms	206
Table 7.13:	Error analysis: working-class context	209
Table 7.14:	Error analysis: middle-class context	213
Table 7.15:	The specialization of student voice and pedagogic modalities in the two social class contexts	215

University of Cape Town

Table 8.1:	Teachers' parental occupation and education levels: working-class schools	219
Table 8.2:	Teachers' parental occupation and education levels: middle-class schools	219
Table 8.3:	Teachers' tertiary qualifications: institution, qualification and level	222
Table 8.4:	Teachers place of residence	226
Table 8.5:	Teachers' leisure activities	227
Table 8.6:	Distribution of time in eight teachers' classes	240
Table 8.7:	The teachers' positioning: social class, pedagogic disposition and school context	249
Table 9.1:	Analysis summary: pedagogic modalities	253
Table 9.2:	Analysis summary: specialization of student voice	254
Table 9.3:	Analysis summary: teacher positioning	255
Table 9.4:	Analysis summary: teachers' professional dispositions	256
Table 9.5:	Analysis summary: social bases of the school	257
Table 9.6:	Analysis summary	258
Table 9.7:	Teachers' dispositions and the specialization of learners' voice	264

University of Cape Town

List of figures

Figure 3.1:	Classification and framing and related concepts	59
Figure 4.1:	Example of an initial summary of the classroom observation data	89
Figure 4.2:	Example of a secondary summary of the classroom observation data, in ordinary language categories	89
Figure 4.3:	Conceptual categories for characterising pedagogy	90
Figure 4.4:	Extract from the coding instrument for analysing the classroom observation data in terms of the classification and framing of pedagogic discourse	91
Figure 4.5:	Extract from the coding sheet for the analysis of the classification and framing values assigned to the classroom observation data	92
Figure 4.6:	Extracts form the coding sheets for the coding of two lessons in Fiona's class	93
Figure 4.7:	Scheme for the analysis of instructional form	99
Figure 4.8:	Extract from a summary of tasks in Babalwa's literacy lessons	100
Figure 4.9:	Network for the analysis of literacy tasks	101
Figure 4.10:	Network for the analysis of mathematics tasks	101
Figure 4.11:	Extract from the data collection instrument (pre-coded) for the student interview	103
Figure 4.12:	Extract from data summary table of the student mathematics task from Babalwa's class detailing students' methods for solving problems	104
Figure 4.13:	Extract from data summary table of students mathematics task from Babalwa's class detailing students' solutions and error analysis	104
Figure 5.1:	Scheme for the analysis of instructional form	140
Figure 6.1:	Network for the analysis of literacy tasks	156
Figure 6.2:	Network for the analysis of mathematics tasks	164
Figure 6.3:	Literacy pedagogic assembly: Kate	169
Figure 6.4:	Literacy pedagogic assembly: Palesa	170
Figure 6.5:	Numeracy pedagogic assembly: Palesa	173
Figure 6.6:	Numeracy pedagogic assembly: Fiona	174
Figure 7.1:	The mathematical task	202
Figure 7.2:	Student's drawing of counters for Question 6: 214+12	205
Figure 7.3:	Student's drawing of counters for Question 6: 214+12	206
Figure 7.4:	Four student productions Question 8: Jeanne	211

University of Cape Town

List of appendices

Appendix A:	Transcription conventions for interviews and observations.	299
Appendix B:	Teacher structured interview	300
Appendix C:	School questionnaire	306
Appendix D:	Coding scheme for the classification and framing of pedagogic practice	310
Appendix E:	Coding sheet for the classification and framing of pedagogic practice	317
Appendix F:	Student task – mathematics (English and Xhosa)	319
Appendix G:	Pedagogic assemblies: Literacy	328
Appendix H:	Pedagogic assemblies: Numeracy	337

University of Cape Town

Chapter 1: Introduction

1.1 Introduction

In 1999, as part of a broader research project[1], I undertook research into pedagogy in working-class primary schools (Hoadley, 1999). From the research in classrooms in these schools, pedagogic forms emerged that seemed to represent a 'breakdown' in pedagogy. It appeared that what was happening in the schools in this working-class context was very different from what one might expect to find in middle-class suburban settings, less that twenty kilometres away. I became interested in comparing different pedagogic forms and understandings of teaching and learning practices in primary schools. I was also interested in the particular role of teachers, and why certain pedagogic forms arose in specific contexts. Over time, the research interest focused specifically on social class and its relation to pedagogy.

This thesis, the outcome of these research interests, is concerned with two related issues. The first is the question of *how* social class differences are reproduced through pedagogy; *what* is different about the pedagogy in different social class schooling contexts? The second issue focuses on *why* these differences exist, and on the central role of the teacher in the process of the reproduction of difference. The study is located in four primary schools in Cape Town, South Africa, school sites that, in terms of social class composition, were selected to show the reproduction of difference in very stark ways.

Four teachers in two schools in an upper middle-class school context and four teachers in two schools in a lower working-class school context constitute the sample. The first part of the study, concerned with *how* pedagogy in the different social class schooling contexts differs, examines how pedagogy in different classrooms is structured differently, and what strategies

[1] This research project, the Learner Progress and Achievement Study, was based at the University of Cape Town from 1997 until 2000. The study was located in primary and secondary schools in Khayelitsha, a working-class, Black township outside Cape Town. The study sought to investigate schooling processes at these schools that impacted on the students' educational success, and also examined home-school-community dynamics affecting students' schooling experience.

University of Cape Town

teachers deploy in the distribution of knowledge in classrooms. Through this analysis two *pedagogic modalities* are defined – a vertical modality in the middle-class schooling context and a horizontal modality in the working-class schooling context.

In the consideration of the reproduction of social class differences, *orientation to meaning* (Bernstein, 1975) is taken to be the crucial background variable associated with social class that makes a difference to children's schooling experience. Orientation to meaning refers to the transmission and acquisition of more context-independent meanings (elaborated codes) and more context-dependent meanings (restricted codes). These meaning orientations, which are identified in the analysis of the transmission practices in the various classrooms, have implications for the way in which the student's voice is specialized, or the extent to which the student's educational identity and specific skills are clearly marked and bounded.

In order to assess whether social class differences were in fact being reproduced through pedagogy, tasks were conducted with students. Through an analysis of students' performances in these tasks, and drawing on the sociological theory of Basil Bernstein, it was possible to consider the pedagogy as either an 'interrupter' (Bernstein, 1975) or amplifier of the community code that all learners enter the classroom with, or as an amplifier of an elaborated code, which middle-class children are more likely to bring with them to the school from the home. In the working-class schooling context, in particular, the study shows how the pedagogy fails to act as an 'interrupter' of the community code that students bring into the classroom from the home. That is, student's voice in the working-class context is found to be weakly specialized with respect to the school code or an elaborated orientation to meaning. In the first part of the study, then, a relationship between social class, pedagogic modalities and the specialization of voice is established.

The second part of the study is exploratory. In this part of the analysis a particular explanation as to why different pedagogic forms are found in the different social class schooling contexts is explored . It addresses the question of *why* social class differences are reproduced through pedagogy by focusing on the central role of teacher in the reproduction of social class differences through pedagogy. A *tentative* relation is suggested between the teachers' own social class backgrounds (which vary between the different social class schooling contexts), their strategic dispositions and forms of solidarity in the schools. This relation may offer some insight into how different pedagogic modalities come to predominate

University of Cape Town

in certain schools, and have particular outcomes for the specialization of student voice in those schools.

The contribution of the thesis is two-fold. It offers a methodology for examining how social class differences are reproduced through classroom processes, and it presents an analysis of pedagogic forms that represent a breakdown in pedagogy. Secondly, the thesis points forward to further research that places the teacher at the centre of the analysis as a sub-relay in the reproductive processes of schooling, and takes seriously the social class positioning of teachers, students and their schools.

This introductory chapter locates the study in broader schooling processes and societal changes in South Africa. It presents the general research problem, the research sub-questions and the general theoretical approach adopted. Finally, the chapter provides an overview of the thesis.

University of Cape Town

1.2 Locating the study

The empirical work for the study was conducted in 2003 in the suburban and outlying 'township' areas of Cape Town, in the Western Cape Province in South Africa. The fieldwork was conducted at a time of on-going transformation of the educational system following the end of apartheid and the transition to democracy in 1994. The nature of this change has been extensively reviewed (see Sayed, 2001; Jansen, 2001), and in the section that follows I present a brief sketch of only two central features of the transforming system: curriculum change, and change in the composition of schools.

1.2.1 Curriculum reform

At the time during which this research was conducted, schools and teachers were being subjected to a period of intense curriculum reform. With the transition to democracy in 1994 (and in planning, prior to this date), the new government initiated an ambitious transformation of the national curriculum to reflect the concerns of the country – political, social and economic. A decision was taken to introduce an integrated education and training system and a national core curriculum which would 'prepare individuals for the world of work and social and political participation in the context of a rapidly changing and dynamic

global economy and society' (African National Congress, 1994:69). Notably, it was to be based on an outcomes-based framework, which meant

> ...clearly focusing and organizing everything in an educational system around what is essential for all students to be able to do successfully at the end of their learning experiences. This means starting with a clear picture of what is important for students to be able to do, then organizing curriculum, instruction, and assessment to make sure this learning ultimately happens (Spady, 1994, cited in ANC, 1994).

Curriculum 2005, the peculiarly South African form of outcomes-based education, contained a number of other tenets which encapsulated a move towards a more 'progressive' curriculum. These are summarized in the table below, described as a move from an 'old transmission model of learning' to a 'new, outcomes-based model of learning':

Table 1.1: The paradigmatic shift from transmission models of teaching and learning to outcomes-based education and training (National Department of Education, 1997: 6-7)

	OLD TRANSMISSION MODEL OF LEARNING	NEW OUTCOMES-BASED MODEL OF LEARNING
THE LEARNER:	Passive learners	Active learners
ASSESSMENT:	Graded, exam-driven Exclusionary	Continuous assessment; learners are assessed on an on-going basis
ROLE OF TEACHER:	Teacher-centred, textbook bound	Learner-centred; teacher as facilitator; teacher constantly using group work and team work
CURRICULUM FRAMEWORK:	Syllabus seen as rigid and non-negotiable	Learning programmes seen as guides that allow teachers to be innovative and creative in designing programmes
	Emphasis on what teacher hopes to achieve	Emphasis on outcomes – what the learner becomes and understands
TIME FRAMES AND LEARNER PACING:	Content placed into rigid time frames	Flexible time frames allow learners to work at their own pace

In public discourse, the shift was generally described as one from teacher-centred to learner-centred pedagogy. During the introductory phase it became clear that there were extensive problems with the new curriculum and its implementation. These problems related mainly to the fact that the curriculum was underspecified, and that teachers were not sufficiently prepared and trained to implement it. Teachers at former DET schools (see 1.2.2 below) were at a distinct disadvantage because their schools remained severely under-resourced, a large percentage of teachers were under-qualified and teacher-pupil ratios were still above the

University of Cape Town

norm. Teachers in this sector of the schooling system had little or no prior training and experience of the constructivist or progressivist teaching methodologies which infused the curriculum (Galant, 2002). It was argued that the teachers' uptake of these methodologies was often unprincipled and procedural, or tacked onto existing practices (Hoadley, 1999; Jansen & Christie, 1999).

Teachers were also not in a position to design their own learning programmes and activities without the use of textbooks. The foregrounding of integration across learning areas led to haphazard teaching of concepts, and little attention was paid to a coherent programme of conceptual development within school subjects (Galant, 2002). Further, the under-specification of the curriculum and teachers' own lack of content knowledge meant that they struggled to select and sequence contents appropriately to ensure such conceptual development within school subjects.

Curriculum 2005 and its philosophy of outcomes-based education came under severe attack (Jansen, 1997; Jansen and Christie, 1999), and a Ministerial review was appointed to consider a revision of the national curriculum. Following this review, a report was issued (Review Committee, 2000) which argued for a simpler, more streamlined curriculum, with clear specification of contents. The logic behind the revision of the curriculum, in particular in relation to maths, science and languages, is summed up in Taylor *et al* (2003). The authors argue that some knowledge areas, such as maths, science and language, have extended vertical demarcation: they have 'long interconnected conceptual chains of increasing abstraction' (p.133). In contexts where teachers lacked 'a well-internalised roadmap' of the specific cognitive content of these subjects, contents needed to be clearly specified, and the pace, depth and sequence in which the material was to be handled to cover the curriculum needed to be made explicit (ibid). The review process resulted in the Revised National Curriculum Statement (RNCS), which, with varying degrees of success, addressed the issues raised in the Review (see Muller (2004), Ensor (2004) and Young (2004) for analyses of the RNCS).

The implementation of the RNCS was due the year following the collection of data for this study. Teachers were therefore, in a sense, 'between curricula', and the 'external roadmap' that was available to them in the form of Curriculum 2005 had incontrovertibly been declared inadequate. This study does not aim to link pedagogic practice and curriculum. Rather, it

University of Cape Town

focuses on a particular curriculum moment where differences are likely to be emphasized rather than ameliorated or made uniform by curriculum specifications. In this study, with respect to the national curriculum, the external framing of teachers' work was weak, and vastly different practices existed in different social class contexts. I elaborate below how these social class contexts are configured in relation to the structure of schooling.

1.2.2 Social class and schooling: changes in the structure of South African schooling

Under apartheid, education was administered by different ministries for White[2], Coloured Black and Indian learners. Residential areas were strictly demarcated along racial lines, in terms of the Group Areas Act. Thus White schools were located in White residential areas, Coloured schools were located in Coloured residential areas, and so on. Urban African children lived and were schooled in peri-urban areas known as 'townships' or 'locations'. Under apartheid legislation White schools were administered by the House of Assemblies (HoA) and education for Africans was controlled by the Department of Education and Training (DET).

From the early 1990s White government schools were able to admit African, Coloured and Indian pupils, if the parent bodies agreed. These schools became known as 'Model C' schools. The category is now defunct, but the term 'ex-Model C' school remains in common use, as does the term 'ex-DET'. The terms have come to denote particular types of schools, stratified largely along class lines, as I will show below. The sample for this study consists of two ex-DET schools and two ex-Model C schools.

One of the most formidable tasks of the new government in 1994, as it dismantled the apartheid bureaucracy, was to unify the highly fragmented, racially defined education system under a single administration and national curriculum. Under the apartheid regime there had been 17 separate departments, offering very different kinds of education to different racial groups. Following the dissolution of these seventeen racially-defined education departments, a new system of schooling began to emerge within the new educational dispensation in South Africa.

[2] Current academic convention recognizes the use of racial classifications for analytic purposes, acknowledging that such racial classifications were constructed under apartheid law as part of oppressive social practices.

University of Cape Town

Currently, the underlying principles of public education in South Africa are those of a semi-private system. Public schools are on a continuum in terms of the capacity of the parent community to pay fees and make other contributions. The school's position on the continuum is therefore largely relative to the economic level of the community they serve. In broad terms, at opposite ends of the continuum are a privileged schooling sector serving a minority, and an under-resourced, largely poor quality, public schooling sector, serving the majority. The four schools in this study's sample represent the two ends of this continuum.

The privileged schooling sector comprises independent schools and privileged ex-Model C schools. These ex-Model C schools are privileged by virtue of the fact that they are able to set higher fees. The fees are determined largely by the fee-paying potential of the school community, and the school is able to determine the composition of the school community by defining the school's feeder area, fees and admission policies. Due to the legacy of Group Areas legislation, schooling continues to be largely spatially defined, and these privileged state schools are located in middle-class, predominantly White suburbs. Under-resourced public schools, which constitute the vast majority of schools, are largely located in working-class areas, and serve a predominantly black student population.

University of Cape Town

Schooling provision is thus delineated largely in terms of social class. The dramatic changes in the composition of some schools since the opening up of the school system can broadly be described as follows: middle-class Black and White students have moved to independent and privileged state schools, freeing up spaces in 'boundary schools' (ex-Model C schools on the borders of historical group areas), which have been taken up largely by middle and lower middle-class Black, Coloured and Indian students. With respect to teachers, there has been very little movement of Black teachers into formerly White schools, or White and Coloured teachers into Black schools. Even desegregated ex-Model C schools with overwhelmingly Black student populations have predominantly White teachers.

The under-resourced public school sector is overwhelmingly composed of students from lower working-class backgrounds. The fact that many of the children of politicians and the middle and professional classes are not in the under-resourced sector of the public system should also not be overlooked in terms of the bleeding of social capital out of this largely

impoverished sector. What has emerged in the current schooling sector is a system that is highly stratified on the basis of social class.

This class stratification has implications for the way in which the research study has been designed. The salience of social class as an explanatory social category is increasingly accepted as democracy in South Africa becomes more entrenched. Soudien (2004), in a discussion of exclusion and the social categories of race, class and gender, argues that there are two models to deal with the multiple ways in which identities are constituted and difference is understood – a contingent model and a dominant factor model.

> The contingent model clearly carries more possibilities in terms of its aims of uncovering the complex and multiple forms of identification and identity that would have to be revealed and would need to be mediated in a common social space. The second [dominant factor model] is more limited insofar as its logic tends to insulate the major factor, even when its dominance is in doubt (p. 93).

I choose to work with the dominant factor model in this study. My decision to privilege social class as an explanatory factor is based on a number of considerations.

The first consideration is the argument that the basis of social stratification, even during apartheid, shifted from race to class (Seekings and Nattrass, forthcoming). Although poor and rich tend still to be dominated by particular race groups, there has been substantial mobility up (and down) the social class scale by people of different race groups. I show this movement above in relation to the schooling sector. Seekings (2003) argues that a focus on race obscures the social stratification within racial groups, and 'the extent to which race has ceased to be the key cause of inequality' (p. 2). Chisholm (2004), too, in her introduction to a recent collection of South African educational research entitled *Changing Class,* argues for the importance of social class in understanding inequality. An unequivocal conclusion emerges from the collection:

> Despite the best will and policies in the world, an educational system has unintentionally emerged that privileges a deracialised middle class. In this regard, it could be argued that social theory that privileges concepts of class, power, conflict and inequality has more to say about the unfolding character of South African education (Chisholm, 2004:11).

University of Cape Town

This is not to say that the racial basis of difference has disappeared, nor that race or racism do not persist (ibid:9), or are unimportant, but simply that race is, arguably, no longer the primary explanatory social category that it was prior to 1994.

Secondly, and in a sense conversely, the formation of the working class in South Africa took a very specific and racialized form under apartheid. The proletarianization of Black people was extremely repressive, and a variety of mechanisms constrained the emergence of a Black middle class. The emergence of a large working class clustered in the towns and rural areas, and a deliberately disempowered Black middle class had the effect, under apartheid, of 'compressing' social class differences in ways which meant that the day-to-day experiences of the two were largely similar. This changed dramatically after 1994, but the Black middle class remains small. Race in general, and especially at the end points of the social class continuum, persists in its convergence with social class categories. In their review of large-scale studies in education, Taylor *et al* (2003) show that race continues to operate as a proxy for class.

Thirdly, this study is motivated by a theoretical interest in Bernstein's code theory. For Bernstein, social class is the key explanatory category in theorizing the social. The theory opens up possibilities for analyzing the reproduction of difference, and how this happens in relation to the reproduction of forms of consciousness. Social class as a category allows for a description of the material base of forms of consciousness. Bernstein's definition of social class is one which attempts to capture the material as well as the symbolic implications of social class positions, appropriate to this study's questions:

> Class relations constitute inequalities in the distribution of power between social groups, which are realized in the creation, organization, distribution, legitimation and reproduction of material and symbolic values arising out of the social division of labour (Bernstein, 1977:viii).

More generally, Sikes points out that in the 1960s and 1970s there was a strong emphasis on social class in the sociology of education. This conception of social class was generally one of deficit, where working-class people were those who 'spoke in restricted codes, bought their children the wrong sort of toys, were not able to defer gratification, lacked cultural capital and didn't have dinner parties' (Sikes, 2003:244). The willingness to 'name social class or to attribute social class origins' fell out of fashion (ibid). However, class, as a

University of Cape Town

fundamental category in considerations of inequality, is once again gaining currency, in particular in relation to school choice and student schooling opportunities and achievement (for example, Mac an Ghaill, 1996, Reay & Ball, 1997, Ball, 2003, Woods & Levacic 2002, Lynch, 2002; and, in South Africa, Soudien, 2004, Taylor *et al*, 2003, and Chisholm, 2004).

This study considers how social class is reproduced through pedagogy. It examines how different pedagogic forms are played out in a system where teachers and learners are compressed into bands of disadvantage and privilege. What do we know about social class and pedagogy within the changing system described above? In the next section I briefly review some of the research into classroom processes in South Africa.

1.3 Research in South Africa on classroom practice

The tradition of empirical classroom-based research in education in South Africa has been limited. In the early 1990s, Chisholm (1992) argued that, at the school level, there was very little research that probed educational problems with any sophistication (p. 158). This was partly explained by the legacy of apartheid, which generated hostility towards educational researchers on the part of education departments and school management, and resistance on the part of teachers. This made access by researchers to schools difficult. Muller's (1996) review confirmed that there was a paucity of empirical, school-based sociological enquiry prior to 1996. Of the relatively insubstantial work in the sociology of education in South Africa up until this time, most had concentrated on policy studies.

In an attempt to address this lacuna, a project entitled the President's Educational Initiative (PEI) was undertaken in 1998, which aimed to interrogate issues of teacher practice, curriculum, and the use of teacher and learner materials. The results of this initiative, which consisted of 35 small-scale studies, were reported in Taylor & Vinjevold (1999). The authors claimed convergence in these studies around a number of issues, most importantly around teachers' extremely poor conceptual knowledge. They also found that teachers lacked the knowledge base to interpret Curriculum 2005, and were unable to 'ensure that the everyday approach prescribed by the new curriculum will result in learners developing sound conceptual frameworks' (Taylor & Vinjevold, 1999:230). Researchers found that, although teachers were implementing forms of 'learner-centred' practice and co-operative learning,

University of Cape Town

very little learning was taking place. This was confirmed by some of the PEI studies which assessed learner achievement.

These studies were problematic, conceptually and methodologically (Taylor *et al* 2003; Ensor 2002; Ensor & Hoadley, 2004). Nonetheless, they foregrounded a range of issues in classroom-based research as a field of study and provided valuable insights and training for researchers in subsequent investigations in this area. My own interest in this thesis, alluded to above, was formulated in the process of participating in one the PEI studies (Hoadley, 1999).

Subsequent to the PEI study, efforts to investigate teachers and teaching in small-scale studies continued. Notwithstanding the problem of their generalizability, these studies provide useful and illuminating insights into classroom practices. Several of the studies and their findings are reviewed in Jacklin (2004) and Taylor *et al* (2003). Significant work in the interrogation of theories of pedagogy which guide the exploration of classrooms is also being undertaken in education departments in various institutions, notably the University of Cape Town, University of the Witwatersrand and University of KwaZulu-Natal. This concerted effort by a number of researchers asserts the importance of classroom-based research, while recognizing the complexities of conducting that research. In a sense, this effort expresses Ensor's (2002) concern that

> ...irrespective of epistemological commitment, the challenges we face in making robust claims about pedagogy remain shared. At issue are the steps we take to produce and analyse classroom data in order to make trustworthy claims about pedagogy. Trustworthiness ultimately is a matter of rigour, and the establishment of clear criteria of worth (p. 10).

This study is part of the ongoing effort to understand teaching and learning in South African classrooms, and to develop a mode of interrogation for their study. A comparative study of this nature, which systematically investigates differences between the pedagogy in classrooms of different social class groups in South Africa, is unique. An attempt is made to construct the lineaments of practice at opposite ends of the social class continuum, social class being a salient feature of the structuring of schools, as described above. Further, the tentative questions raised in the thesis around teachers' social class background and pedagogy have, until this point, not been tabled. The empirical foci of the study are thus original.

University of Cape Town

1.4 General statement of the research problem

The research problem is formally expressed as follows: *How are social class differences reproduced through pedagogy, and what is the role of the teacher in this process?* Two opposite types of primary school, in terms of social class composition, were selected to show the reproduction of difference in very stark ways. Eight Grade 3 teachers in these schools, from different social class backgrounds, teaching students of the same social class backgrounds as themselves, were selected in order to explore the pedagogical implications of social class for both teachers and students.

In the thesis, the question of pedagogy (and its breakdown) is treated differently from the question of the role of the teacher. With respect to the analysis of the reproduction of social class differences through pedagogy, an analytical treatment of the data, deploying both qualitative and quantitative methodology, is undertaken. In relation to the question of the role of the teacher in this process the approach is exploratory. Here the study moves into uncharted territory, the enquiry is more tentative and the methodology is wholly qualitative.

University of Cape Town

1.5 Sub-questions of the study

Seven questions constitute the sub-questions relating to the research problem. In relation to the first problem, that of the reproduction of social class differences through pedagogy, I firstly address *how* pedagogy in the different social class contexts differs through the questions that follow.

- How is pedagogy in different classrooms structured?
- What strategies are deployed by the teacher in the distribution of knowledge in the classroom?

I examine these differences in pedagogy by defining two different pedagogic modalities in the two social class contexts. I proceed to examine how students' voice has been specialized with respect to the school code. This is discerned by considering learners' orientations to meaning, and mathematical learning, and the two questions direct the investigation.

- What are the dominant coding orientations (elaborated or restricted) displayed by students in the different classrooms?
- What strategies and competencies do students display in relation to Grade 3 mathematics learning?

In relation to the second problem, that of the potential role of the teacher in the process of the reproduction of social class differences, three specific questions guide the analysis.

- What is the social class positioning of the teachers in the different social class contexts?
- What differences are there in teachers' professional dispositions in the different social class contexts?
- What are the differences in the social bases of the school?

The first part of the thesis analyses the *macro-relay* in the process of the reproduction of social class differences, by looking at the relation between social class, pedagogic modalities and the specialization of student voice. The second part of the thesis considers a crucial *sub-relay* – the teacher – as a potential interrupter in the process of reproduction.

University of Cape Town

1.6 Theoretical approach

As well as the empirical interest stated in 1.1, the study was also motivated by a theoretical interest, primarily the code theory of Basil Bernstein (1975; 1990; 2000). *Code* refers to the principles regulating meaning systems, and allows for a discussion of the relation between social class, pedagogy and the reproduction of difference. The study is concerned with the transmission and acquisition of more context-independent meanings (elaborated codes) and context-dependent meanings (restricted codes), and how these relate to the social class configuration: school-teacher-student.

According to the theory, all students have a community (or restricted) code, and middle-class students also learn the basics of a school code (or elaborated code) in the home. The purpose of schooling is to induct *all* learners into the school code – to specialize their voices with respect to the particular way of organizing experience and making meaning in relation to

school knowledge. This school code crucially entails meanings that transcend local situations, that are more abstract and context independent.

In a consideration of the reproduction of social class differences, like Taylor *et al* (2003), I take orientation to meaning to be the crucial background variable associated with social class which makes a difference to children's schooling experience. I am interested in the ways in which the pedagogy in the schools selected 'interrupts' (Bernstein, 1975) or amplifies the codes that students bring to the classroom.

A crucial aspect of the code theory, Bernstein's concepts of classification and framing, which refer to power and control relations, are also used in the analysis of pedagogy and of teachers' professional dispositions. These two concepts entail a set of related explanatory concepts which will be detailed in Chapter 3. Further, I make use of Paul Dowling's notions of 'domains' and 'strategies' to talk about the distribution of knowledge and meanings in pedagogy. I also discuss the relation between school knowledge and everyday knowledge (Muller & Taylor, 2000) at length. In relation to these different dimensions of pedagogy I am interested, in each instance, in how they vary across social class contexts.

University of Cape Town

1.7 Overview of the thesis

Chapter 2 reviews the empirical antecedents to this study, in particular work relating to reproduction theories in education, the school effectiveness tradition and Bernsteinian studies of pedagogy.

Chapter 3 and Chapter 4 present the methodological framework for the study. Chapter 3 outlines the theoretical antecedents to the study and explains the theoretical assumptions underlying the study and some of the concepts that have informed the analysis of data collected for the study. Chapter 4 develops the analytical framework for the study and addresses issues of research design. Three main data sets were generated for the study through field work: classroom observation data for eight teachers based in four schools, structured interview data from these eight teachers, and student task data from 80 students in the eight teachers' classes.

Chapters 5 and 6 present the analysis of the classroom observation data, and through the analysis, two pedagogic modalities are constructed. Chapter 7 analyzes the student task data, one adapted from Holland (1981), and one in reference to students' Grade 3 mathematics learning. The chapter considers the specialization of students' voice with respect to the school code.

Chapter 8 draws mainly on interview data with the teachers, and presents a discussion on teachers' social class and professional dispositions. Chapter 9 draws together the results and findings from the four analysis chapters. The final chapter, Chapter 10, summarizes the thesis and presents the implications and limitations of the study.

University of Cape Town

Chapter 2: Framing the research problem: empirical antecedents to the study

2.1 Introduction

In this chapter I frame my research interest in relation to the relevant literature in the field of the sociology of teaching and the sociology of pedagogy. My research interest was defined in Chapter 1 as an investigation of the reproduction of social class differences through pedagogy, and a consideration of the role of the teacher in that process.

The chapter begins with a review of some of the literature on social and cultural reproduction through schooling. What James Coleman and others dramatically showed in the 1960s, and the reproduction theories confirmed, is that schools don't make a difference to the life chances of poor children, but in many cases set them up for dominated positions in society. Since Bernstein's work forms the central theoretical resource for the study, I locate his theory in terms of these reproduction arguments.

I briefly review the school effectiveness literature, which aims to show how schools can make a difference, even while it acknowledges that there are differences between the achievement of rich and poor students in schools, and that the home background of students is the strongest predictor of how students achieve at school. The school effectiveness literature is unclear about precisely what difference schools do make. Further, although it is clear that social class is reproduced through schooling, the school effectiveness research sheds little light on how this happens. The present study addresses directly the question of how social class differences are reproduced through an analysis of pedagogy.

I look briefly at the major response to reproduction theory and the school effectiveness tradition, which falls broadly into 'interpretivist studies'. This response does attempt to explain processes inside schools and classrooms. However, I argue that these studies, although providing detailed accounts and understandings of what goes on in classrooms, do not connect the insights to broader explanatory structures.

University of Cape Town

I consider some of the classroom studies which do take account of structures such as social class. There is convergence in these studies around how different kinds of knowledge are distributed to different students, and how different forms of control predominate in different social class groupings. I argue, however, that these studies lack the specificity of a language for describing pedagogy and provide a limited analysis of the teacher's role.

I show how Bernstein's code theory offers a useful conceptual means for describing precisely how the reproduction of differences is effected through pedagogy. The evolution of Bernstein's code theory, and the empirical studies within which my study is theoretically and methodologically located, are outlined. The focus on pedagogy and its links to social class is foregrounded, and the first research interest is established as *a description of the macro-relay links social class, pedagogy and the specialization of voice.*

I go on to suggest, however, that, in the research in the sociology of teaching and pedagogy, a sole focus on pedagogy often obscures the central role of the teacher, while a focus only on teachers dampens issues around pedagogy. A gap is indicated in the Bernsteinian research literature around the focus on the teacher as a social class actor. I argue for the re-insertion of the teacher as a 'sub-relay' in a discussion of the reproduction of social class differences through pedagogy. Looking at several studies that point to the possibilities for, and importance of, considering the teacher's social class positioning, I frame my second research interest: a consideration of the teachers' positioning in relation to the reproduction of social class differences through pedagogy with respect to the teacher's own social class background. In this study *a consideration of the sub-relay of the teacher tentatively links teachers' social class with professional dispositions and pedagogic practice.*

2.2 Social reproduction and schooling

Social reproduction theory in education is concerned with the structural similarities between the relations of production and the social relations of the school (economic reproduction) or how education embodies and reproduces forms of cultural capital and symbolic meaning which are deemed legitimate by dominant classes (cultural reproduction). In the seventies the

University of Cape Town

focus of the analysis within this field of study was schooling as a tool of capitalism, serving the ruling class interests.

Althusser (1971) represents the starting point for many of the arguments within this field. For Althusser, the reproduction of productive forces is essentially the reproduction of labour power, and the reproduction of labour power requires, not only a reproduction of its skills, but also a reproduction of its submission to the rules of the established order. The school teaches this 'know-how' and ensures subjection to the ruling ideology. It is in the forms of ideological subjection that provision is made for the reproduction of the skills of labour power.

For Althusser social reproduction happens via the reproduction of ideology through ideological state apparatuses, of which education is the most dominant, with the family-school couple reproducing social classes, occupational hierarchies, value orientations and ideology. Althusser was the catalyst for much that would follow in social reproduction studies (Demaine, 2003:128). Bourdieu's concept of *habitus* took off from Althusser's theorizing of ideology as practice (ibid), and, as we will see below, Bernstein's (1990) theorizing of pedagogic discourse as an instrumental order embedded in a regulative order was also drawn directly from Althusser.

Another view of reproduction came from the radical economists Bowles and Gintis (1976), who introduced 'correspondence theory'. This theory considered the similarities in the structuring of the economy and schooling – a 'correspondence' between the social relations of production and the social relations of schooling. Their argument was that education functioned to reproduce class-stratified economic and occupational positions in society by allocating manual skills and 'obedience' to authority to working-class students in schools, and by equipping middle-class students with mental skills and opportunities for developing internalized self-discipline.

Althusser and Bowles and Gintis, in considering the ways in which differences were reproduced through schooling, produced Marxist and neo-Marxist explanations, where the structuring of the economy took precedence over considerations of human action or agency. Both were criticized for the over-determinism of their arguments and the functionalism implied in their theories. Social reproduction, in their view, could be read as being the

University of Cape Town

necessary end of the processes of education and family socialization with its concomitant inequality (Demaine, 2003:120).

The classic criticism of these reproduction theories comes from Giroux (1983), who drew attention to the neglect of agency in reproduction theories, arguing that theorists like Bowles & Gintis (1977) and Althusser (1971)

> overemphasized the idea of domination in their analysis and [...] failed to provide any major insights into how teachers, students, and other human agents came together within specific historical and social contexts in order to both make and reproduce the conditions of their existence (Giroux, 1983:259).

He argued that schooling should 'be viewed in non-mechanistic terms as a superstructural agency that has both relative and dependent features which characterize its relationship to the mode of production' (p. 79). In other words, he argued that, although macro-structural arrangements constrained human actions, the dominant ideology was mediated differently in different social contexts. The concept of relative autonomy (of institutions from each other) became an important concept.

Significant work located both within the reproduction frame, and also presenting critiques and alternatives to it, was undertaken, particularly in the 1960s and 1970s. Some of the key studies included those by Willis (1977), a 'resistance' theorist[1], Bourdieu & Passeron (1977) and Coleman *et al* (1966).

University of Cape Town

Bourdieu is concerned with the way in which class relations, power and privilege, are reproduced through an 'apparently neutral' attitude of the school. Bourdieu is concerned with the 'laws that determine the tendency of structures to reproduce themselves by producing agents endowed with the system of predispositions which is capable of engendering practices adapted to the structures and thereby contributing to the reproduction of the structures' (Bourdieu, 1973:72). This system of dispositions is the *habitus*, which acts as a mediator between structures and practice (ibid). For Bourdieu, the function of the education system is

[1] 'Resistance theorists' looked at the ways in which certain segments of the working class explicitly rejected the norms and authority of the school (for example, Corrigan, 1979; Ogbu, 1974). Willis (1977) countered the arguments of Bowles and Gintis through an ethnography of high school boys in Britain. In *Learning to Labour*, he shows how, through the *resistance* of working-class boys to the ruling class culture, they subordinate themselves in the labour market, and this is how class differences are in fact reproduced.

to reproduce the culture of the dominant classes, thus helping to ensure their continued dominance. Success in the education system is largely dictated by the extent to which individuals absorb the dominant culture, or how much cultural capital they have on entering. He argues that those in power control the form of that culture and are thus able to sustain their position. Bourdieu & Passeron (1977) summarize the model of reproduction as

> … a model of the social mediations and processes which tend, behind the backs of the agents engaged in the school system – teachers, students, and their parents – and often against their will, to ensure the transmission of cultural capital across generations and to stamp pre-existing differences in inherited cultural capital with a meritocratic seal of academic consecration by virtue of the special symbolic potency of the *title* (credential). Functioning in the manner of a huge classificatory machine which inscribes changes within the purview of the structure, the school helps to make and to impose the legitimate exclusions and inclusions which form the basis of the social order [...] and, in societies which claim to recognize individuals only as equals in right, the educational system and its modern nobility only contribute to disguise, and thus legitimize, in a more subtle way the arbitrariness of the distribution of powers and privileges which perpetuates itself through socially uneven allocation of school titles and degrees (1977: x).

Schools operate upon pre-existing social inequalities and pre-existing unequal distribution of cultural capital, and they perpetuate these.

Gerwitz & Cribb (2003) and Morrow & Torres (1994) offer useful overviews of the shifts in the ways in which social reproduction has been theorized more recently. Morrow & Torres (1994) stress the continuing importance of theories of social and cultural reproduction, but argue for 'reconstructed parallelist models' entailing class, race and gender, which can contribute to political practice and educational policy. Gerwitz & Cribb (2003), on the other hand, show how new theorizations of the earlier radical left theories have taken a number of criticisms and issues seriously. These new theorizations consider the 'context specificity' of social reproduction, the complex interactions between various axes of social division, the fluid and hybrid nature of identity formation, those aspects of schooling which are unconnected to or 'interrupt reproduction', and non-deterministic modes of explanation (Gerwitz & Cribb, 2003:257-8). The present study, broadly, would fall into the latter category. I explain further below, in relation to reproduction in Bernstein's theory.

University of Cape Town

2.3 Bernstein and reproduction theory

Working within a reproduction frame, Bernstein takes up some of the criticisms referred to above, but also has a different interest in reproduction. Reproduction theories are essentially interested in schooling as a relay for external power relations: they consider *what* is relayed. Bernstein, concerned with production, reproduction and change in society, criticized these theories on a number of grounds (see Bernstein, 1990:166-180). One of his main criticisms was the mode of analysis employed:

> The discourses of education are analysed for their power to reproduce dominant/dominated relations external to the discourse but which penetrate the social relations, media of transmission, and evaluation of pedagogic discourse. It is often considered that the voice of the working class is the absent voice of pedagogic discourse, but we shall argue here that what is absent from pedagogic discourse is its own voice (1990: 165).

Bernstein contends that, although these theories present education as a relay for power relations external to it, '[t]hey are concerned only to understand how external power relations are *carried* by the system, they are not concerned with the description of the carrier, only with a diagnosis of its pathology' (1990:172). As Sadovnik (2001) points out:

> Whereas class reproduction theorists, such as Bowles and Gintis (1976), offered an overtly deterministic view of schools without describing or explaining what goes on in schools, Bernstein's work connected the societal, institutional, interactional and intrapsychic levels of sociological analysis (p. 688).

University of Cape Town

In other words, Bernstein argued that reproduction theories were incapable of generating descriptions of the agencies central to their concern (Bernstein, 1990:171). Bernstein was concerned with *how* the process of reproduction worked, through connecting power and class relationships to the educational processes of the school, rather than *what* was produced.

Bernstein's theorizing introduces the potential for agency, change and cleavages within a reproduction matrix. This is accomplished in a way similar to Bourdieu – through the introduction of a mediating concept. For Bourdieu it is centrally dispositions/habitus: for Bernstein it is code. It is essentially in the code that the potential for change resides. Whereas habitus refers to agents, code refers to pedagogy, and code provides a grammar, through classification and framing, for an analysis of the specificity of variation.

> Although classification translates power into the voice to be reproduced, we have seen that contradictions, cleavages and dilemmas which inhere in the principles of classification are never entirely suppressed, either at the social or individual level [...]. [O]ne of the problems of theories of cultural reproduction, amongst many, is that any theory of cultural reproduction should have strong rules which enable the theories to say this is the same, this is an elaboration, this is a change. What is remarkable about theories of cultural reproduction is that, mostly, they lack such rules (Bernstein, 1996:30).

Bernstein goes on to suggest that, if a value (of classification or framing) changes from strong to weak or vice versa, then a number of basic questions should be asked: 'Which group is responsible for initiating the change? Is the change initiated by a dominant group or a dominated group? And, if values are weakening, what values still remain strong?' (ibid).

This is essentially where Bernstein diverges from the reproductionists. In the social reproduction script, working-class children will never make it. Code theory opens up the possibility for talking about reproduction and its interruption. Where Bernstein differs from Bourdieu is his emphasis on symbolic structures rather than agents – on how systems of meaning are reproduced, rather than what forms of capital.

Although Bernstein's concerns were much broader than social and cultural reproduction, his code theory, with which this study is concerned, examines the relationships between social class, family, schooling processes and the reproduction of meaning systems. Code refers to the principles that regulate meaning systems; code theory is concerned with the transmission of meaning, in the family and school, and how this relates to social class reproduction. This thesis is concerned with pedagogy as a potential reproducer or 'interrupter' (Bernstein, 1975) in the process of social reproduction, and with the teacher as a sub-relay in this process, also potentially interrupting, reproducing or amplifying particular orientations to meaning.

2.4 School effectiveness[2] studies: schooling as a relay for power relations external to the school

In the 1960s, Coleman, with others, undertook an elaborate series of regression analyses of data based on a survey which covered 4000 elementary and high schools (approximately 645

[2] I am aware that to an extent I am conflating school effectiveness and school improvement research here. Muller (2000), however, argues convincingly that the two traditions have essentially converged. This convergence has happened around the centrality of achievement outcomes and the importance of the classroom.

University of Cape Town

000 students) in the United States (Coleman *et al*, 1966). In the context of efforts to desegregate schools, the purpose of the study was to identify the differences between the schools attended by students of different racial groups as an explanatory factor for differential achievement. What the study found was that rather than the anticipated school (especially resource) factors, home background predicted by far the greatest degree of variation in student achievement outcomes, thus confirming the reproduction arguments.

As far as schools *were* found to make a difference, the study argued that 'it is those children who come least prepared to school, and whose achievement in school is generally low, for whom the characteristics of a school make the most difference' (Coleman *et al*, 1966: 297). It also emphasized the importance of teachers as a school variable, far outweighing any other: 'variation in school averages of teachers' characteristics accounted for higher proportion of variation in student achievement than did all the other aspects of the school combined, excluding the student body characteristics' (ibid). Further 'teacher differences show more relation to difference in achievement of educationally disadvantaged minority groups than to achievement of the white majority' (Coleman *et al*, 1966:316).

Overall, the Coleman Report, as the study became known, claimed that about 70% of the variation in student test scores across schools could be explained by home background. The next most significant factor was teacher quality. Actual physical resources accounted for very little of the variation[3].

The Coleman Report gained prominence in a stormy political and educational debate around the pathologizing of children from poor homes. This debate resulted in part from the social reproduction and inequality arguments of the time. A counter-argument to this 'cultural deficit' view had begun to emerge, based on the concept of 'cultural difference'. Proponents of the latter view argued that poor children's underachievement at school could be explained in terms of schooling and curriculum practices without taking into account cultural differences from the middle-class norm, a measure which placed poor children at a cultural disadvantage (Pallas, 2001). In its explanation of the achievement gap between children from different classes, the Coleman Report was seen as undermining the cultural difference

[3] Controversy around these findings, however, endures. See Jencks & Phillips (1998) for recent commentary.

University of Cape Town

argument and entrenching the cultural deficit one. What happened at school didn't seem central anymore.

The response was a spate of research that attempted to show that schools *did* make a difference. Large-scale, 'production function' studies were undertaken in a variety of contexts, with different age groups, and in different countries. These studies confirmed the existence of significant differences between schools in student achievement. The approach was based on statistical studies, with empirical data being collected on intakes into schools, on outputs (both academic and social) from schools, and on classroom and social processes, such as class size, teacher education and experience, per pupil spending and length of school day and year. Hundreds of these studies were carried out from the 1960s on. Reviews include those by Hanushek (1986), and more recently, Creemers (1996).

Research in the school effectiveness tradition focused in particular on school factors that appeared to be associated with lower or higher gains than expected in student achievement than the production function models above suggested. Particular variables were accordingly selected and their effect on student performance investigated. These kinds of studies were carried out widely in developing countries as well (see, for example, Lockheed and Levin, 1993). In the first issue of a journal devoted to school effectiveness and school improvement the editors proclaimed a school effectiveness 'mission statement' that 'schools matter, that schools do have major effects upon children's development and that, to put it simply, schools do make a difference' (Reynolds & Creemers, 1990:1).

How much of a difference do schools make? Scheerens (2001b) in a summary of the research estimated that, after controlling for socio-economic conditions, school effects account for approximately 10-15% of differences in students' attainment in 'developed' countries, and about twice that in 'developing' countries. These kinds of estimates are beset with problems around both the methodological (see Rowan *et al*, 2002) and theoretical (see Thrupp, 1995) diversity of the field of research. There is also a marked lack of consensus around *what* it is that makes the most difference.

The production function models de-emphasized teachers and class size as important factors. More recently, in the US in particular, school organization factors and quality of teaching has been stressed, but research has generally been unsuccessful in determining what it is about

University of Cape Town

successful schools that increases student achievement (Kain, Hanushek & Rivkin, 2002; Bryk and Schneider, 2002). Some inventories and lists have narrowed down which sets of factors make the most difference, and some progress has been made particularly in *between-school* studies. However, the challenge of studying classroom level process factors remains, particularly in developing countries (Scheerens, 2001a:357). Although it is unclear as to what precisely does make a difference to student achievement outcomes after taking background into account, Coleman *et al*'s (1966:316) finding, which highlights teacher characteristics, has endured.

2.5 What about teachers specifically? 'Teacher effects' research

Teacher effects include an array of factors, summarized in Table 2.1 (from Kyriakides (2002), taking into account different 'phases' or types of research into teacher effectiveness.

Table 2.1 The main factors associated with effective teachers examined by each phase of research into teacher effectiveness (Source: Kyriakides, 2002:293)

Studies on teacher effectiveness	**Factors examined**
Presage-product studies	*Psychological characteristics* **A) Personality characteristics** **B) Attitude** **C) Experience** **D) Aptitude/achievement**
Process-product model	*Teacher behaviour* **A) Quantity of academic activity** • Quantity and pacing of instruction: effective teachers prioritize academic instruction and maximize amount of curriculum covered but at the same time move in such steps that each new objective is learnt readily and without frustration. • Classroom management: effective teachers organize and manage classroom environment as an efficient learning environment and thereby engagement rates are maximized. • Actual teaching process: students should spend most of their time being taught or supervised by their teachers rather than working on their own and most of teacher talk should be academic rather than managerial or procedural. • **B) Quality of teacher's organised lessons** • Giving information: the variables which were examined referred to structuring and clarity of presentation. • Asking questions: the variables which were examined referred to the cognitive level of question, the type of question (i.e., product vs. process questions), the clarity of question, and the length of pause following questions. • Providing feedback: the variables which were examined referred to the way teachers monitor students' responses and how they react to correct, partly correct, or incorrect answers. • Practice and application opportunities **C) Classroom Climate** Businesslike and supportive environment
Beyond classroom behaviour model	**A) Subject knowledge** **B) Knowledge of pedagogy** **C) Teacher's beliefs** **D) Teacher's self-efficacy**

University of Cape Town

Reviews of the studies into the factors cited above show that there are large teacher effects. However, this research has been unable to show *what* it is about teachers precisely (such as classroom interaction patterns, teachers' professional expertise, etc.) that affects student achievement (Rowan *et al*, 2002; Taylor *et al*, 2003). Rowan *et al* (2002), in particular, present an explanation for the wide variance in the results of such studies. They show that differences in the claims of different studies can largely be attributed to differences in the methods used to estimate effects, and differences in how the findings are interpreted (p. 1536). Further, as pointed out by Brophy and Good (1986), teacher effects persist in varying greatly across grade level, subject and types of pupils, and this variation is exacerbated by the fact that teacher effects are additive and cumulative, and generally not compensatory (Darling-Hammond, 2000).

In attempting to obtain a measure of teacher quality, teacher qualifications has been widely used, especially by economists. In South Africa, Crouch & Mabogoane (2001) found a strong correlation between teacher qualifications and matriculation results. Van der Berg & Berger (2002) and Simkins (forthcoming) also found a relationship between teacher qualifications and improved learning. However, it is a relatively weak positive correlation. More generally, in a review of international research, Evertson, Hawley, and Zlotnik (1985) concluded:

> The available research suggests that among students who become teachers, those enrolled in formal pre-service preparation programs are more likely to be effective than those who do not have such training. Moreover, almost all well-planned and executed efforts within teacher preparation programs to teach students specific knowledge or skills seem to succeed, at least in the short run (p.8).

Darling-Hammond (2000), in her review of fifty states in the USA, also stresses teacher quality, which includes qualifications, as having a positive effect. Teacher qualifications alone, however, do not give an idea of what it is that a qualification enables teachers to do, although they are implicitly related to teacher knowledge.

Subject knowledge (Scriven, 1994), teachers' general knowledge of pedagogy (Fennema & Loef-Franke, 1992), and pedagogical content knowledge (Shulman, 1987) are all widely perceived as factors affecting teacher effectiveness. Borich (1992) points out, however, that teachers' prior achievement, regardless of how it is measured, has rarely correlated strongly with classroom practice and student achievement. Darling-Hammond (2000) also shows that

University of Cape Town

the teachers' measured knowledge and the performance of their students have little or no relationship. In South Africa the importance of teacher knowledge has been stressed (Taylor & Vinjevold, 1999), given teachers' reportedly low levels of conceptual and content knowledge of their subjects. Although the importance of the issue cannot be overestimated, there is as yet have little conclusive research evidence as to what kind of effect teachers' knowledge has on learning.

The school effectiveness tradition generally remains committed to the social justice goal of providing 'equality of educational opportunity'[4] and optimizing opportunities for learners within the 'circumscribed possibilities for improvement schools had to begin with' (Muller, 2000). However, it can as yet tell us little about how social class differences are reproduced, and what it is about teachers and classroom processes that can potentially make a difference.

2.6 The interpretivist tradition of research into teaching

The interpretivist tradition of research into teaching does attempt to explain the processes inside the classroom, and what teachers do. But this research tradition does so largely at the expense of arguments that relate these processes to broader systems or structures. The interpretivists begin with the notion of agency. In response to reproduction theory, they object to the differentiation of students in terms of background and question the validity of this as a starting point for investigation. Rather, they focus on what goes on inside schools, on 'how and which perspectives of teachers and pupils generate particular patterns of classroom interaction' (Hammersley, 1980:48). For the interpretivists, success and failure in schools is a product of interaction situations and the meanings that are created, developed and negotiated in such settings, and not a question of what students or teachers enter the school with, in other words, cultural resources and home background.

[4] Not all would agree with this interpretation. The school effectiveness tradition has been criticized for having anti-democratic tendencies in areas such as school leadership, teacher professionalism, curriculum and pedagogy, especially within the context of an accountability regime in Britain (Wrigley, 2003). It is also argued that, although it provided an antidote to the pessimism and fatalism of the 1970s, school effectiveness research is deficient in that it places too much emphasis on the notion of progressive school management as the dynamic of change. It fails to take full account of the characteristics of the education system as a whole, shows little regard for issues of social class and it has little to say about issues of curriculum content and pedagogy (Chitty, 1997). See also, Slee *et al* (1998).

University of Cape Town

An extensive literature attempts to get closer to these processes, particularly through studies of the micro-processes of schools, classrooms and teachers' work. These studies are less interested in 'law seeking, abstraction from context and prescriptions for practice' (Labaree, 1997:152), but are rather concerned with explanations of the nature of what it is that teachers do. They seek to explain the process of teaching and teacher thinking in smaller scale ethnographies and case studies. This research deals with the socialization and training of teachers (notably Sarason, 1982; Sharp & Green, 1975; Lortie, 1975; Mardle & Walker, 1980; Hargreaves, 1980; Lacey, 1977) and teachers' lives (Wedekind, 2000; Nelson, 1993; Kompf, 1993; Klechtermans, 1994).

Teachers' values and beliefs (Bryk, Lee & Holland, 1993; Firestone *et al*, 2001), commitment (Rosenholtz, 1989), motivation (McLaughlin & Talbert, 1994, Ashton & Webb, 1986; Lortie, 1975; and McLaughlin & Marsh, 1978) attitudes, and sense of efficacy (Ashton & Webb, 1986; Bredeson, 1983; and McLaughlin & Marsh, 1978) are concepts frequently used in attempting to understand how teachers' practice is defined. Some authors assert the importance of these characteristics in gaining an understanding of how teachers define their work, and others develop ways of measuring one or the other, or a number of these characteristics.

University of Cape Town

McLaughlin and Talbert (1994) talk about the crucial importance of teacher 'dispositions', 'how teachers think and feel about what they do', their attitudes, beliefs, feelings and values regarding their work' (p. 4). One of the most enduring findings of this research links these factors to the importance of psychic or intrinsic rewards to teachers (Jackson, 1968; Nias, 1989). Lortie (1975) found that the main rewards in teaching for teachers were derived from the positive feelings associated with success in working with individual students. Extrinsic rewards, such as income, were less influential. Researchers continue to look towards these intrinsic factors as key in explaining teachers' differential sense of efficacy, commitment, values and beliefs.

Another branch of research looks at teacher cultures, focusing on the patterned set of activities and events which give rise to a commonality in school cultures and which informs teachers' practice through what is termed the 'hidden pedagogy'. Denscombe (1982), following Dale (1977), defines the hidden pedagogy as 'a set of aims and methods of teaching which is tacitly understood by teachers, which stems from practical imperatives

created by the organization of the classroom and which is basic to competence as a teacher' (Denscombe, 1982:259). The notion is picked up in Mardle & Walker's (1980) discussion of 'latent culture', Hammersley's (1980) 'common sense knowledge' – 'the complex set of interpretive procedures and knowledge created and sustained by the exigencies of the stream of teaching' (Hammersley, 1980:43), Hargreaves' (1981) 'hegemony', and Esland's (1977) 'recipe knowledge' – knowledge which enables actors to make sense of their situation and solve problems.

Most of the studies cited above fall into the interactionist or interpretive tradition, and are largely small-scale studies using qualitative data based on interviews and observations. The emphasis in this research tradition is on how teacher dispositions are collectively constituted. There is uniformity in teacher cultures. Teachers' repertoires are the result of forms of consciousness, knowledge, sentiments and values that are socially constituted within the school. At the same time a significant number of studies in the literature deal with the issue of the school as a constraining environment in regulating teachers' relation to their work. The issue is taken up either directly or as part of a broader discussion of teachers' work. The arguments focus on whether teachers are constrained by the school as an institution, how they are constrained, and to what extent they are constrained (Denscombe, 1980; Woods, 1980; Grant & Sleeter, 1985; Hatton, 1987).

A range of factors emerges from this discussion: socialization, training, institutional constraint and school and teacher cultures; teachers' beliefs, knowledge, values, attitudes and commitments – all of which focus on 'texture' and 'context' (Labaree, 1997:151) rather than on concerns with generalizability, as in the school effectiveness and teacher effects research cited above. These studies face inward. They are concerned in general with micro processes, and not with how these relate to broader structural arrangements. In other words, teachers in these accounts are not understood as part of the macro-relay. Although the research provides valuable insights into what the potential teacher effects may be, they ultimately neglect the processes whereby teachers are implicated in the reproduction or interruption of students' class trajectories. They tell us little about the systematic patterning of the relay, but rather offer culturalist explanations which are often historically contingent and agentic. Although the interactionists do, at times, grapple with the issue of the relation between structure and agency (see especially Pollard, 1982), ultimately, as Shalem (1990) argues, their arguments are limited:

University of Cape Town

created by the organization of the classroom and which is basic to competence as a teacher' (Denscombe, 1982:259). The notion is picked up in Mardle & Walker's (1980) discussion of 'latent culture', Hammersley's (1980) 'common sense knowledge' – 'the complex set of interpretive procedures and knowledge created and sustained by the exigencies of the stream of teaching' (Hammersley, 1980:43), Hargreaves' (1981) 'hegemony', and Esland's (1977) 'recipe knowledge' – knowledge which enables actors to make sense of their situation and solve problems.

Most of the studies cited above fall into the interactionist or interpretive tradition, and are largely small-scale studies using qualitative data based on interviews and observations. The emphasis in this research tradition is on how teacher dispositions are collectively constituted. There is uniformity in teacher cultures. Teachers' repertoires are the result of forms of consciousness, knowledge, sentiments and values that are socially constituted within the school. At the same time a significant number of studies in the literature deal with the issue of the school as a constraining environment in regulating teachers' relation to their work. The issue is taken up either directly or as part of a broader discussion of teachers' work. The arguments focus on whether teachers are constrained by the school as an institution, how they are constrained, and to what extent they are constrained (Denscombe, 1980; Woods, 1980; Grant & Sleeter, 1985; Hatton, 1987).

University of Cape Town

A range of factors emerges from this discussion: socialization, training, institutional constraint and school and teacher cultures; teachers' beliefs, knowledge, values, attitudes and commitments – all of which focus on 'texture' and 'context' (Labaree, 1997:151) rather than on concerns with generalizability, as in the school effectiveness and teacher effects research cited above. These studies face inward. They are concerned in general with micro processes, and not with how these relate to broader structural arrangements. In other words, teachers in these accounts are not understood as part of the macro-relay. Although the research provides valuable insights into what the potential teacher effects may be, they ultimately neglect the processes whereby teachers are implicated in the reproduction or interruption of students' class trajectories. They tell us little about the systematic patterning of the relay, but rather offer culturalist explanations which are often historically contingent and agentic. Although the interactionists do, at times, grapple with the issue of the relation between structure and agency (see especially Pollard, 1982), ultimately, as Shalem (1990) argues, their arguments are limited:

> The meaning that prevails for teachers is not a result of the intersubjectivity between free actors engaged in a system of symbolic meaning. The process of constructing meaning is to be understood in the light of various material processes like unequal distribution of power that posit the social agent in particular social relations of power and control. These social meanings in which the social agent – the teacher – is located restrict the possibility and the nature of the discursive meaning that has been constructed (Shalem, 1990:76).

The basic argument of the interactionists is that students' actions and attainments are not simply a function of their position in the social class structure, but are the outcome of a complex of interactions. In the present study it is the micro interactions in classrooms that form the core of the analysis, and the exchange of meanings in the classroom is analyzed through the nature of the social relations and the distribution of knowledge types. These are, however, related to the structural environment within which the students and the teachers find themselves, in particular the social class structure. The teacher as a sub-relay is taken to be central to the macro-relay of social class, pedagogy and the specializing of consciousness. In the next section I review a sample of studies that do similar work to my own, but which, in emphasizing pedagogy, neglect the role of the teacher.

2.7 Studies of social class and pedagogy: how is difference reproduced?

From the review of reproduction and school effectiveness research presented above, we can confidently assert that the school is a relay for power relations external to it. The school contributes to the reproduction of social class differences, or at the very least, disrupts these processes of reproduction in a limited measure. It is also possible to assume that, with regards to school factors, teachers are significant in the process of the social reproduction of difference, or its potential interruption (Bernstein, 1975). My question, in relation to the literature, however, is *how* this happens. How do teachers contribute to the reproduction of social class differences through pedagogy?

There are several studies that have attempted to address the question of the reproduction of social class differences through pedagogy, and here I cite a number of them briefly. Much of this research focuses on streaming (or tracking) and labelling, and the related differential distribution of knowledge to students of different social classes.

University of Cape Town

There is strong evidence, from both the school effectiveness and interactionist tradition, to suggest that teachers' classification and evaluation of students in large measure inform teachers' practice and students' academic outcomes. Keddie (1971) found that teachers modified their methods and the knowledge they transmitted according to which stream they taught. The relationship between students' perceived ability and social class was found to be strong. Labov (1972), Cicourel & Kitsuse (1963) and Becker (1963) make similar arguments: that teachers' definitions of success and failure, which inform what they do, are (problematically) often assessments of non-academic factors that can be related to social class, rather than to actual competencies of students. Heath (1985) made a strong argument relating to this in terms of students' language: that the teachers' and students' 'ways with words' and ways of interacting were different. Hence teacher assessments of students were limited by their inability to recognize the ways in which working-class and Black students made meaning. For Lareau (2000) and Delpit (1996), the conflict between the cultures of middle-class teachers and working-class students and their families resulted in discriminatory teacher practices.

For Oakes (1985), inequality is about tracking, and she examines how tracking structures inequality in schools, arguing that poor and minority students are found disproportionately in lower track groups. She focuses on the different kinds of learning made available to students in different tracks. Oakes' study, like the earlier exemplary study by Keddie (1971), sets out to specify the differences in the content made available to students in different tracks. Oakes (1985) shows how higher track classes engage with 'Greek philosophy' and 'Renaissance history', while lower track students learn 'how to act at an interview, filling out forms' (p. 24). Oakes argues that the kind of knowledge that students in lower tracks are exposed to is likely to 'lock' them into those tracks. There is no mobility built into the system of tracking.

Aside from the studies on tracking and streaming, there are a number of studies that look at schools serving different social class communities and which compare the distribution of knowledge and the nature of social relations in these schools.

Anyon (1980), concerned directly with the reproduction of social class differences, shows differences in student work in contrasting social class communities. Anyon looks at four different school social class types: working-class, middle-class, affluent professional-class

University of Cape Town

and executive elite-class. What Anyon shows is the difference in what 'potential relationships to the system of ownership of symbolic and physical capital, to authority and control, and to their own productive activity' (p. 70) are being developed in the children. She questions what 'economically relevant knowledge, skills, and predispositions are being transmitted in each classroom', and for what future relationship to the system of production they are appropriate (ibid). For each category of school, Anyon provides evidence of a strong and predictable link between the system of the school and the stratified system of work beyond the school, and how school experience differs qualitatively by social class. Anyon concludes:

> These differences may not only contribute to the development in each social class of certain types of economically significant relationships and not others, but would thereby help to *reproduce* the system of relations in society. In the contribution to the reproduction of unequal social relations lies a theoretical meaning, and social consequence, of classroom practice (p. 72, emphasis in the original)

Like Anyon, Da Silva (1988) also attempts to provide a description and understanding of the specific processes within schools that 'mediate between features of the larger social structure and the outcomes of schooling supposedly connected with processes of social reproduction' (p. 62). He looks at three schools serving different social class communities in Brazil, and examines the kind of work that students engage in, and the nature of the control relationship between teachers and pupils. He finds significant differences between the different schools relating to the social class make-up of the school. These differences relate to the organizational features of the school, the existence of a shared repertoire and understanding of practices between teachers, and parental expectations and pressures. He also points to the importance of differences in teachers' expectations of students.

Gwimbi and Monk (2003) are interested in social reproduction through pedagogy in science classroom teaching in poorer and richer schools in Zimbabwe. They found significant differences in the pedagogy in the different schools serving different social classes. In relation to these differences, they pose a question relevant to the present study: 'Why do the teachers teach as they do?' (p. 34). In answering this question, the authors refer to qualifications and to professional training as well as to teachers' attitudes towards the schools' resourcing levels. More interestingly, the authors look at the teachers' 'attitudes to the philosophy of science', and to science teaching. They find that the teachers in the richer schools are 'less process orientated, more deductivist and more decontextualist' (p. 32), and

the authors suggest that this points to stronger classification. The teachers in the poorer schools are less deductive in their approach to knowledge, and 'are more inclined to think that evidence comes from patient search rather than the use of logical reasoning, and that skills take priority over knowledge of content' (p. 36). Gwimbi & Monk's findings are very similar to those of Anyon (1980) and da Silva (1988), and they are concerned with the political importance of these types of studies in the African context:

> Education has always been seen as one of the routes to poverty alleviation. But how do we know where to intervene in education to alleviate poverty? By studying mechanisms of the reproduction of social difference in schooling we may be able to see possible strategies for action (p. 37).

The studies cited above are relevant to my own in that they all provide a systematic account of the reproduction of social class difference through pedagogic processes. However, their focus is explicitly on the relation between schooling and economic relations. For example, Anyon's (1980) study systematically attempts to describe the reproduction of difference through an analysis of congruence between categories of production in the world of work and the hidden curriculum of the school. The present study focuses on reproduction of difference through the specializing of consciousness.

University of Cape Town

Further, in the studies cited above, general reproduction theories are given empirical substance at the level of the classroom. The studies aim to specify the connections between the wider societal structure (or external relations of power) and the process of transmission of knowledge in schools. However, in these studies the teacher becomes invisible in the pedagogy, and is afforded no systematic position in the reproductive process. This absence forms part of a long aversion within research in teaching to 'teacher blame' explanations. What I seek is a re-insertion of the teacher into a systematic explanation, not in an agency sense, but as a consideration of the teacher as part of a system of 'sub-relays' within the schooling process. However, I first consider how the macro-relay, linking social class, pedagogy and the specialization of voice, may be described.

2.8 Bernsteinian research into codes: how the macro-relay functions

Taylor *et al* (2003) pose a question in relation to the reproduction and 'resource theories' of Coleman and Bourdieu: 'More social capital means more goods. But how do such goods

translate into cognitive advantage?' (p. 55). They suggest that the answer may lie in Bernstein's theory. Bernstein offers a theory as to how 'the outside becomes the inside' (Bernstein, 1987:563). He is interested in education as the specializing of consciousness. To put it another way, much theory and research support the notion that schooling is a relay for the patterns of power external to schooling. Bernstein's code theory offers a means for investigating the relations between relations of power with respect to social class, and forms of consciousness, or between 'discourses, social relations, division of labour, and transmission systems which create the relation between ideology and consciousness' (Bernstein, 1990:134).

Bernstein specifies the *rules* whereby differential transmission/acquisition is effected (Bernstein, 1990:183). He poses the question as to whether there are any 'general principles underlying the transformation of knowledge into pedagogic communication' (Bernstein, 2000:25). He goes on to state that, whereas most studies of the pedagogizing of knowledge, and what makes pedagogic communication possible, have focused on what is carried or *relayed,* he is interested in the *relay*. To clarify the distinction, Bernstein invokes the analogy of a hi-fi:

> When the tuner is activated what is heard is a function of the system carrying the signal. What of pedagogic communication? We know that it relays, but what is the relay? We know what it carries, but what is the structure that allows, enables it to be carried? (1990:169).

For Bernstein the relay of pedagogic communication is pedagogic discourse. Pedagogic discourse is not a 'thing' or a 'content' but a 'rule' or principle that embeds one discourse in another. An *instructional discourse*, referring to *what* is transmitted (i.e. skills and knowledge of various kinds) is embedded in a moral discourse, the *regulative discourse*, which translates the social order relations and identities and regulates the form of *how* knowledge is transmitted.

We recall that Althusser (1971) began this argument as to how the relay functions by drawing attention, not only to what is reproduced (i.e. skills and competences), but also to an attitude to the rules of the established order. This is taken up by Bernstein, in his theorizing of pedagogic discourses as the relay, consisting of an instructional discourse embedded in a

University of Cape Town

regulative discourse, and he extends this in relation to forms of knowledge and their transmission, with the concepts of classification and framing.

Classification and *framing*, then, provide the grammar for the instructional and regulative discourse. They tell us about the power and control relations in the transmission process, and how they translate into particular *codes*. Code refers to an orientation to organizing experience and making meaning. It is through these 'meaning matrices' (Diaz, 2001) that we select what is relevant in any given context, and organize experience. Codes tell us how consciousness is specialized.

The work of this thesis is located within the theoretical ambit of Bernstein's work, and the methodological approach of several Bernsteinian scholars. For Bernstein, pedagogy entails the specializing of consciousness. Thus reproduction of difference will occur through the differential specializing of different subjects' consciousness. Code theory provides the grammar for an analysis of how consciousness is differentially specialized. In what follows I outline the evolution of Bernstein's code theory, which developed alongside and through the empirical studies of various sociologists of education. I do this in order to locate the present study, and also to indicate a gap in this research tradition, which I attempt to address in the present study.

University of Cape Town

2.8.1 Elaborated and restricted codes: research

Code refers to an orientation to organizing experience and making meaning. The initial work on codes examined the relation between social class, maternal modes of control and communicative outcomes. Thus mother-child and mother-other adult communication was the basis for investigation (Henderson, 1970; Bernstein & Henderson, 1969; Bernstein & Brandis, 1970). Through this work Bernstein sought to investigate how different forms of socialization acted differently upon the speech forms of different social classes. These different kinds of language were hypothesized to have implications for the education of children of different social classes.

Based on this and other work, Bernstein developed his initial definitions of codes: *elaborated* and *restricted*. In their original form they were 'sociolinguistic codes', restricted codes being associated with particular grammatical and syntactical forms (generally simple, incomplete),

as well as more implicit meanings, and elaborated codes with the accurate grammatical and syntactical regulation of what is said, and explicit meanings (Lee, 1973). Further experiments consolidated the concepts. Hawkins (1969), for example, used a series of four pictures of boys playing with a ball, kicking the ball through a window and being scolded by an adult. He asked middle-class and working-class children to describe the pictures[5]. He found that, for the middle-class children, verbal communication was explicit and could be understood without heavily depending on the context. For the working-class children, on the other hand, meaning was implicit and context-dependent, and relied largely on the listeners' prior knowledge of the narrative content.

Similarly, Lineker (1977), found that, in an experiment that asked them to describe the rules of hide-and-go-seek, middle-class children were more likely than working-class children to explain how to play the game in terms of rules, rather than with reference to particular events in their own experience.

The theory stressed that the codes, elaborated and restricted, were realizations of particular control relations in the socialization patterns in the homes of children. The work of Cook-Gumperz (1973), in particular, gave empirical support to Bernstein's distinction between three modes of control: personal, positional and imperative. These different modes were favoured by different classes: in middle-class homes personal forms of control were largely found; in working-class settings imperative modes predominated; and positional control was found in mixed-class families.

The concept of code, however, underwent change and refinement. Whereas, in the aforementioned work, code was used to refer to features of language, it came to refer to the principles of solidarity and communication underlying life – the 'meaning matrices' defined above. Elaborated codes referred to the prioritizing and deployment (or recognition and realization) of context-independent meanings, and restricted codes referred to context-

[5] Examples of the types of descriptions given by a middle-class child and a working-class child from the experiment are given below:
Middle-class child: Three boys are playing football and one boy kicks the ball and it goes through the window and the ball breaks the window and the boys are looking at it and a man comes out and shouts at them because they've broken the window so they run away and then that lady looks out her window and she tells the boys off.
Working-class child: They're playing football and he kicks it and it goes through there it breaks the window and they're looking at it and he comes out and shouts at them because they've broken it so they run away and then she looks out and she tells them off (Lee, 1973:15).

University of Cape Town

dependent meanings. Language was a *linguistic realization* of the codes, rather than the codes themselves. One of the main studies exemplifying this shift was an experiment designed by Bernstein and Adlam, and analysed by Holland (1981). Here there is an explicit move from the syntactic (grammatical features) to the semantic. It is in the latter sense that code is used in this thesis, and because of this, and the fact that aspects of the Holland (1981) study are partially replicated in the present one, I describe this study in some detail.

In the Holland (1981) experiment, seven-year old working-class and middle-class learners were shown pictures of different foodstuffs and were asked to group them in any way they wanted. They were asked the reasons for their groupings. They were then asked to group the food a second time, and provide criteria for the grouping again. The experiment showed that working-class children generally used context-dependent principles for their sorting in that their groupings referred to personal and particularistic meanings (e.g. 'I like those things.'; 'That is what mother cooks for breakfast.') which generally referred to everyday use. They did not change their principles for sorting the second time, demonstrating a single coding orientation (restricted) which informed both groupings. Middle-class children were found to respond to the context (task) firstly by referring to general principles (e.g. a food category), non context-dependent meanings, and, in a second grouping, to more personalized, local meanings. They thus demonstrated two coding orientations, elaborated and restricted, and context-independent meanings were privileged for the school context. In this way, and through other experiments (for example, Adlam *et al,* 1977), different coding orientations were attributed to different social class groupings. It was argued that the focus of the child's selections were not a function of the child's IQ or cognitive power, but rather a difference in the recognition and realization rules used by the children to read the particular context (the school), make selections (around what is appropriate given the context), and realize a particular text (their groupings of the food).

Bernstein's work was criticized for presenting a deficit theory, for arguing that working-class language was deficient. Bernstein (1996) rejected this interpretation, explaining that '[c]odes arise out of different modes of social solidarity, oppositionally positioned in the process of production, and differentially acquired in the process of formal education' (p. 182). Restricted codes are necessary in the context of production, but in the context of reproduction the school requires an elaborated code for success, and this means that working-class children

University of Cape Town

are disadvantaged by the requirements of the dominant code of schooling. These criticisms and responses will be elaborated in Chapter 3.

2.8.2 Development of the code theory: sociological studies of the classroom

Bernstein's interest shifted from the study of primary socialisation in relation to the codes to a focus on the institutionalized forms of elaborated codes, especially in the school (Christie, 1999). Bernstein's (1990) formal definition of codes was 'the regulative principle, tacitly acquired, which selects and integrates relevant meanings, the form of their realization and evoking contexts' (p. 15). Bernstein (1975; 1990; 2000) developed a conceptual language to describe the elaborated code of the school, and the concepts of classification and framing were central to his analysis. The theory will be explained in more detail in the following chapter. In brief, classification referred to the organisational aspects of pedagogy, the way in which *power* activates certain categories – of subjects, of agents, discourse and space. Framing, on the other hand, refers to the interactional aspects of pedagogy, the way in which knowledge is selected, sequenced, paced and evaluated in the classroom, the moral order of the classroom and who has *control* over these dimensions.

The earlier Bernsteinian studies of classrooms used the concepts of personal and positional relations and elaborated and restricted codes to describe the structure of pedagogy. In particular, Cooper (1976), Edwards (1976) and Pedro (1981) attempted to show differences between different types of classrooms in terms of the social relations of control and the associated codes. In all studies, classrooms were selected on the basis of the social class profile of the students, and comparisons between different social class groupings were made.

Cooper (1976) attempted to test empirically Bernstein's postulate that the school is predicated on an elaborated code. Through his research he attempted to show that a positional/closed role system, associated with a restricted code, dominated the classrooms he studied, both in middle-class and working-class settings. Cooper distinguished between the regulative and instructional discourse, and claimed there was no support for the view that school is predicated on an elaborated code with respect to either the regulative or the instructional discourse. He found a restricted code on both dimensions.

University of Cape Town

It is questionable, however, whether what Cooper (1976) terms 'an elaborated code pedagogy' is sufficiently conceptualized to make the claims that he does. His focus is on the procedural nature of the content and the 'passive' positioning of the pupil, which, he claims, refute the existence of an elaborated code modality in the classroom. I would argue that procedural content and closed roles are not incompatible with abstract and decontextualized meanings, which would entail an elaborated code.

Edwards (1981) came to a similar conclusion as Cooper, arguing that he did not assume, like Bernstein, that the classroom is normally 'predicated upon elaborated codes and their system of social relationships'. He typified meanings in the regulative context as being realized largely through imperatives and through positional appeals in a restricted code, and described pupils as having to 'step into' a predetermined set of 'instructional' meanings and 'leave [the knowledge] relatively undisturbed' (p. 292).

Elsewhere, Edwards (1976), like Cooper, employs a selective definition of elaborated codes, referring to open and closed role systems. The conclusions of both researchers derive from a particular definition which departs from that privileged in the theory. Bernstein (1996:162) is emphatic that the *primary indices of codes* are universalistic/particularistic, context-independent/context-dependent and embedded/disembedded meanings[6]. He also points out that, although there is a relation between forms of control and orientations to meanings, an elaborated code may be achieved under positional or personal modes of control. That is, the instructional and the regulative dimensions of pedagogy may vary independently of one another (ibid), or, as Hasan (2000:79) states, there is an 'error in equating the framing aspect of classroom discourse with pedagogic discourse as a whole'.

Nonetheless, it was through these early classroom studies that the distinction between the moral order and the instructional order became clearer (for example, Pedro, 1981) and the central feature of the codes as relating to meaning became pronounced (for example, Holland, 1981). Bernstein's work had originally differentiated between an instructional dimension to

[6] In later work, the terms elaborated and restricted codes were subsumed under higher order concepts, those of vertical and horizontal discourses (Bernstein, 2000:207). The focus of codes was on the interactional practices, meanings and contexts, taking the form of the discourse for granted (ibid). Horizontal and vertical discourses thus show code modalities as realizations of forms of discourse, and allow for the examination of their social base. Given that the *realizations* of the discourse – interactional practices and context-independent and context-dependent meanings – in the context of the classroom are the focus of my investigation, I have chosen to use the terms elaborated and restricted codes, but do refer to horizontal and vertical discourse as well.

University of Cape Town

pedagogy and a moral dimension or order, in the early terms 'expressive' and 'instrumental orders'. These aspects were brought back in the theorizing of classification and framing, and in particular through the work of Pedro (1981), 'instructional' and 'regulative' discourse came to describe the transmission of specific instructional knowledge and skills, embedded in the hidden curriculum of the school, the moral order, or regulative discourse. Pedagogic discourse was defined, and the framing of the regulative and the instructional discourse were analytically separated.

Pedro (1981) looks at how the social context of the school and the social background of the single pupil are related to the classroom discourse. Her interest is sociolinguistic, and she looks at the semantic orientations in different classrooms, and how language is realized along an underlying social code, examined in terms of the regulative discourse in the classrooms. Her research focuses on mathematics and Portuguese lessons in three selected primary schools – a middle-class school, a lower working-class and a mixed-class school. Pedro relates a linguistic analysis of language functions, following Halliday, to a Bernsteinian analysis of classroom discourse.

With Bernstein, Pedro worked out three networks for the analysis of classroom discourse – for the pedagogical context, the specific instructional discourse and the specific regulative discourse – and applied these to twelve lessons in the primary schools. For the regulative discourse she looked at forms of control. As expected, she found imperative modes predominating in the working-class school and personal modes in the upper middle-class school. Positional modes of control predominated in the mixed class school. In relation to the question of code theory and reproduction, Pedro ultimately makes the following argument:

> We have shown how the pedagogical codes realized in classroom discourse lead to a specialization of discourse according to the social class composition of the school class and how this realization is limited and dominated [for] working class children. Thus the authority given to the teacher generates different language realizations according to the competencies carried by the pupils. In this way our data confirm Bernstein's theory and illuminate how the social classes are reproduced by the educational process (Pedro, 1981:291).

It is not clear, however, what 'gives' the teacher authority, nor is the teacher regarded as a potential interrupter (Bernstein, 1975) in this process of reproduction. Pedro's (1981) conclusion is that

> ... on the one hand the outer form of the classroom discourse is given by the frames created by the state (curriculum, timetable, material, class size, etc.) and on the other hand the inner form of classroom discourse will be given by the society through the social positioning of the pupils in the society which constitutes the school class (p. 287).

Pedro, as with the present study, is interested in the processes of social reproduction through the different semantic options that are taken up in different classrooms. Further, Pedro is concerned with the nature of the linguistic realizations of these semantic options. Unlike the current study, however, Pedro (1981) removes the teacher role: 'We are of course aware of the importance of the teacher and the necessity to consider the space the teacher has in governing the discourse. However, this space seems to be rather limited (p. 252)'. The present study will suggest that the social positioning of the teacher, and the teacher as a sub-relay, is central to understanding the macro-relay in the social reproduction of difference.

2.8.3 Recent studies of pedagogy and social class

Bernstein's subsequent theorizing focused on aspects of acquisition, recognition and realization rules, and on the fields of production and symbolic control analyzed through the pedagogic device. A key paper in the course of this development, *Codes, Modalities and the Process of Cultural Reproduction: A Model* (Bernstein, 1981), sketched a model for understanding pedagogic discourse and reproduction. This broad theoretical work continues to inform the work of a number of researchers concerned with explaining pedagogy in different contexts.

Dooley (2001) examines the adaptation of pedagogy for Taiwanese migrant students in a state secondary school in Australia. She is particularly interested in the teacher-student relations realised in particular forms of classroom interaction. The main finding of the study was that differential pedagogic types were made available to Taiwanese, Chinese and other Asian students and that these were more teacher-directed and constrained than those made available to other students. This is explained largely in terms of the teachers' characterizations of learners.

Similar types of classroom research look at different pedagogic modalities for different social groupings of learners. Singh (2002) examines the structuring of English curricular knowledge

University of Cape Town

and forms of teacher-student interaction in two secondary school classrooms in Queensland, Australia. Arnot & Reay (2004) focus on framing in the analysis of pupil's participation in their learning and on the consequences of contemporary pedagogic practice in a middle-class and working-class school in the United Kingdom (UK). Both studies consider how showing the inner logic of pedagogy through Bernstein's concepts reveals the structuring of inequality with respect to different groups of pupils.

The on-going work of the Sociological Studies of the Classroom at the University of Lisbon (ESSA) (for example, Morais & Miranda, 1996; Morais & Neves, 2001; Morais *et al*, 2004) has focused on the micro processes in the classroom to explore the 'relations present in the context of reproduction of the pedagogic discourse' (Neves *et al*, 2004:280). The various authors show that specific aspects of pedagogic practice are favourable to the development of the elaborated coding orientation required by the school (Fontinhas *et al*, 1995:445). The work of ESSA comprises action research, and more effective pedagogic modalities, derived from the research, are designed and tested with learners from different social class backgrounds. Teachers are thus explicitly trained to teach particular modalities of elaborated code.

Morais (2002) summarizes some of the results of the empirical work of the ESSA, explicitly defining what values of classification and framing, along which dimensions, proved optimal for the achievements of working-class students. Consistent with all of the ESSA work, Morais (2002) again stresses 'explicating the evaluative criteria as the most crucial aspect of a pedagogic practice to promote higher levels of learning of all students' (p. 568). Making the evaluative criteria explicit consists of 'clearly telling children what is expected of them, of identifying what is missing from their textual production, of clarifying the concepts, of leading them to make synthesis and broaden concepts and considering the importance attributed to language as a mediator of the development of higher mental processes' (Morais & Pires, 2002:8).

The work is particularly significant in relation to the questions raised through the school effectiveness research reviewed above. The authors show how schooling *does* make a difference, and specify precisely in what ways. The crux of their argument, and the impetus for their work, is quoted at some length below.

University of Cape Town

> When family codes and practices are in continuity with school pedagogic codes and practices, acquisition of the recognition and realisation rules appropriate to school contexts is facilitated by the elaborated orientation brought in by children. Similar power and control relations in the family and the school permit more efficient access to recognition and realisation rules in school contexts. This immediately gives an advantage to children whose processes of primary socialisation are regulated by pedagogic codes similar to school codes. In general, these children tend to come from higher social or dominant ethnic groups. However, this situation can be altered by school pedagogic practices whose characteristics permit access to the school coding orientation (Morais & Neves, 2001:213-214).

Those aspects identified as being most crucial in facilitating access for lower social groups are the explication of the evaluative rules, and weak framing over pacing, creating the opportunity for students to intervene in the expected rate of their acquisition. Likewise Rose (2004), in his research into literacy pedagogy for 'indigenous learners', specifies precisely the dimensions facilitating a weakening of the negative relation between social class and educational achievement: a weakening of the framing of pacing and sequencing rules, and a weakening of 'the framing regulating the flow of communication between the school classroom and the community the school draws on' (p. 106). The difference in the work is that, while Morais and her colleagues demonstrate the optimal values and dimensions empirically, Rose asserts these.

Finally, and crucial to the present study, Morais (2002) is emphatic regarding the significance of the classification of everyday and school knowledge. She stresses that the classification should be strong for all children, but especially for working-class children – 'there are knowledges and competences of a high order to be learned by *all* children, and the school should make them available to all' (Morais, 2002:561, emphasis in original).

The work of ESSA, and that of Rose (2004), shows how reproduction works, and suggests the potential for its interruption. They take an experimental approach, rather than observing pedagogy as it unfolds naturalistically, and it is not their aim to try and uncover the differential response of teachers to the training in particular aspects of practice. The ESSA work, however, does differentiate between teachers in terms of their scientific knowledge and investigative competences. The work distinguishes (through classroom observation and the teacher training process) between the levels of conceptual demand that different teachers promote. A low level of conceptual demand involves terminological and factual learning, and simple cognitive competences like memorization. A pedagogic practice of a high level of

University of Cape Town

conceptual demand involves the application of knowledge, problem solving and hypothesis formulation (Morais *et al*, 2004). Rose (2004) does not differentiate between teachers. In the section that follows I highlight the teacher as a key sub-relay, a dimension obscured in a focus on pedagogy.

2.9 Social class positioning of teachers

I have stated that my primary interest with respect to the reproduction of difference through pedagogy is in orientations to meaning – how these orientations are different for learners of different social classes, and how the differences are reproduced through pedagogy. All the literature refers to learners. If social class makes such a difference for learners, what about teachers? I have suggested, and reiterate here, that it is possible to speculate on the possibilities of extrapolating this hypothesis to teachers, that teachers of different social class backgrounds realize different orientations to meaning in the school. The second interest of the study is in the teacher's positioning in relation to the reproduction of social class differences through pedagogy. This entails an exploratory consideration of the implications of teachers' own social class backgrounds and their professional or strategic dispositions.

There is very little work which addresses teachers' social class backgrounds as an explanatory aspect of pedagogic practice. In the literature, social class has generally been addressed in terms of analyses of the labour market and teaching as a category of work. In the light of capitalist modes of production, the work highlights the ambiguous class location of teachers' work (for example, Connell, 1985). In general, this literature refers to the proletarianization of teachers, and the 'labour process of teaching' (Ozga & Lawn, 1988) or it problematizes the class location of teachers (typically categorized as middle-class work) in terms of Marxist and neo-Marxist arguments (Ginsburg, 1987; Ozga & Lawn, 1981). The focus of this work is on the contradictory class location of teachers' work.

In the Marxist and neo-Marxist arguments, teachers are said to fall between the bourgeoisie and the proletariat (Harris, 1982). This ambivalent class location is analyzed in relation to teachers' status, positions and claims to professionalism (Sachs & Smith, 1988). Shalem (1990) takes these theories of teachers' contradictory positions within the labour force, or social structure, and examines the ways in which teachers' social identities are constituted in

University of Cape Town

specific historical contexts of struggle (in South Africa), and the formation of a particular set of beliefs and perceived interests. She is interested in a theoretical investigation into the link between teachers' material conditions and their perceptions or interests.

In the foregoing work teachers' class position as *workers* is interrogated, but not their social class positioning in terms of background. There are a few studies in South Africa which make passing reference to the social class background of teachers (for example, Jessop & Penny, 1999; and Hyslop, 1990). However, no systematic research has been undertaken into the issue. In the United States, Metz's (1994) study is one of the few that does take account of teachers' social class background in a consideration of their work, and the study attempts to look systematically at the social class backgrounds and positioning of teachers. She undertakes a study of three different social class contexts and compares them in a range of descriptive terms, considering categories of influences that shape the daily work of teachers.

One of these categories of influence is the teachers' social class backgrounds and positioning. Metz's (1994) focus on the social class differences of the teachers in her study is articulated in terms of attitudinal dimensions, which is not a feature of this study. She is interested in how teachers' social class affect their definitions of their jobs. Those who associate with managers and professionals in their social milieu emphasize the importance of their responsibility to do a good job, rather than an association with particular pedagogic practices. She found that teachers with more working-class associates define their responsibilities more 'in terms of conscientiously putting in more hours' (p. 95), and emphasize the boundary between their work and their home life.

Metz's (1994) observations about the social class of the teachers are interesting, as much research assumes that teachers are middle-class. Metz (1994) points out crucial differences resulting from teachers' social class background. She stresses, however, that social class is not deterministic. Teachers with similar social class backgrounds at different schools responded differently to different socialization and administrative pressures: 'While class is a crucial element in constituting the life of every school, it never determines that life in any simple or complete sense' (Metz, 1994:99).

Metz (1994) does not attempt to relate her analysis to the teachers' pedagogic practice. In an earlier study, however, she does refer to the kinds of responses that 'blue collar' teachers

University of Cape Town

have to working-class students, and the kinds of authority patterns between teachers and students of working-class backgrounds: 'Many teachers of blue collar background thought absolute parental authority should be part of their prerogatives' (Metz, 1993:133). She also examines the moral assessments that middle-class teachers and working-class teachers made of working-class learners. Middle-class teachers had much less faith that working-class learners' 'inherent abilities were adequate to help them overcome their deficits, even if they could be persuaded to try and were assisted in the effort' (Metz, 1993:128). Minority teachers were less likely to regard minority students as 'morally tainted with the values of what teachers regarded as an illegitimate community lifestyle' (Metz, 1993:132).

However, Metz' primary interest is in teacher cultures. Her work points to distinctions that have been raised elsewhere between more 'professional' and more 'civil servant' orientations towards work, and she relates these to social class. Welmond (1999), in a study of teacher identity in Benin, casts the civil servant/professional distinction in terms of 'being' and 'doing'. Being refers to teachers' rights – including their contractual arrangement, pay, and what they expect as a result of *being* a teacher. *Doing* is defined in terms of responsibilities – how the functions that teachers are required to conduct come to be defined. He does not relate these to social class, however.

What we know about these types of distinctions in South Africa is the result of loose categorizations that have become part of common understandings, rather than any sustained empirical research into the area. Teachers are often spoken of as falling somewhere along a continuum from worker to professional. These typifications are associated with differing orientations, broadly categorised along racial lines. Teachers are held to comport either a civil servant orientation (attributed to the form of training in historically black institutions), or a vocational orientation (stemming from a particular emphasis in the training in liberal white universities). 'Worker' also denotes an affiliation with union activity, and an historically political role.

Connell *et al* (1982), does relate these distinctions of professional and civil servant to social class, and also to the schooling type that teachers find themselves in, i.e. state school or private. They identify the contradictions of some state school teachers' social class position, coming as they do from working-class backgrounds.

University of Cape Town

State school teachers, for their part, have faced the problem of defining their relationship with a mainly working-class clientele, with whom they share some important experiences: among them common background in many cases, and the experience of working for an impersonal and often insensitive employer (p. 132).

The authors point out that 'the very contradictoriness of state school teachers' situation means there are potentials for different kinds of practice' (Connell *et al*, 1982:133), but they don't explore what these are.

The above are all dispositional arguments, in the Bourdieuian sense, that link *position* to action, or potential action, or where, in the structure–disposition–practice scheme, the central explanatory weight is carried by properties of socialized agents (Nash, 2003b: 43). I attempt to do similar work in this study, and although speculative, I suggest a tighter link between social class, professional disposition and pedagogic practice.

2.10 Conclusion

In this chapter I have outlined some of the empirical antecedents to this study in order to locate the study and to frame the research problem. To summarise, the school effectiveness literature confirms that there are differences between the achievement of rich and poor students in schools. The home background of students is the strongest predictor of how students achieve in school. Beyond that, the school effectiveness literature specifies a number of factors that do make a difference, but it is unclear precisely what those factors are, and, more importantly, how it is that the school is generally unable to interrupt the effects of the home. In other words, we know that social class is reproduced through schooling, but it is unclear how this happens. I therefore established the first part of my research interest – how social class differences are reproduced through pedagogy, and a consideration of the macro-relay linking social class, pedagogy and the specialization of voice.

Some of the studies of classroom processes in the interpretivist tradition, and those that have attempted to look at reproduction processes at the level of the classroom, were considered. There is convergence in these studies around the fact that different kinds of knowledge are

University of Cape Town

distributed to different students, and secondly, different forms of control are obvious in different social class groupings. However, the description of these processes lacks the specificity of language for describing pedagogy and is silent about the role of the teacher as a 'sub-relay'.

The evolution of Bernstein's code theory, and the empirical studies related to the theory, were outlined. Bernstein's particular reproduction frame, and his account of codes, provide a useful means for addressing my research problem. Morais (2002), and the ESSA group in particular, show ways in which these investigations can be operationalized with respect to pedagogy.

The study's second interest is in the teacher as a sub-relay - in terms of the triad social class, professional disposition and pedagogic practice. Metz (1994) and Connell (1982) open up the potential for a consideration of the social class position of teachers. The present study prioritizes the role of the teacher in the interrogation of pedagogy and the reproduction of difference. Through a consideration of the teacher as a sub-relay in the macro-relay of class differences through pedagogy, the present study attempts to bring together aspects of the sociology of teaching and pedagogy that are generally treated separately in the literature – pedagogy and the teacher.

In the following two chapters I outline the analytical framework used to address the research problems. Chapter Three outlines the theoretical assumptions informing the study, and Chapter Four discusses the research design and the generation of a 'language of description' for the analysis of the data.

University of Cape Town

Chapter 3: Theoretical framework for the study of social class and pedagogy

3.1 Introduction

This chapter and Chapter 4 constitute the analytical framework for this study, which focuses on the investigation of social class and pedagogy within a Bernsteinian framework. The research problem was identified in Chapter 2 as two-fold. Firstly, I am interested in how social class difference is reproduced in schooling, through a consideration of orientation to meanings. This entails an analysis of the types of pedagogy in middle-class and working-class classrooms, and the transmission of context-independent and context-dependent meanings, or elaborated and restricted orientations to meaning. Here I am interested in the macro-relay, and the relation between social class, pedagogy and the specialization of voice. Secondly, I consider the key role of the teacher as a sub-relay in this process of social reproduction, and tentatively posit a relationship between social class, professional dispositions and pedagogic practice. I suggest that social class informs pedagogic outcomes, not only for learners, but also for teachers.

In this chapter the theoretical antecedents of the study and the theoretical assumptions underlying the analysis are presented. In the following chapter I present the 'external language of description' for the development of these theoretical underpinnings in relation to the data.

3.2 Theoretical antecedents

3.2.1 Bernstein and code theory

I showed briefly in the previous chapter how Bernstein offers a theoretical language to explain how social inequalities are reproduced in the family and through the school. He provides a sociological framework for the investigation of how social class, social practice and forms of

University of Cape Town

human consciousness are related (Hasan, 2002: 538). Bernstein's central question – 'How does the outside become the inside, and how does the inside reveal itself and shape the outside?' (Bernstein, 1987:563) – is essentially the Althusserian question about ideology. The theory of code is central to Bernstein's concern with how we organise experience and make meaning, and his theorizing of pedagogic discourse, of the instructional embedded in the regulative, provides a means for describing how this happens in pedagogy.

Codes regulate meaning systems, or, as Diaz (2001) puts it, codes produce 'meaning matrices in which and through which subjects recognize and realize their practices' (p. 94). Code theory is concerned above all with orientation to meaning and the internalization of orders of relevance (Hasan, 2002:539). Bernstein made an initial distinction between elaborated and restricted codes. Although these codes were originally related to linguistic patterns, the crucial distinction, and one which persisted through the development of the theory, is between context-dependent and particularistic meanings (restricted codes) and context-independent and universalistic meanings (elaborated codes). So, although initially the theory set out to establish a formal, structural relationship between social relationships, modes of language use and linguistic forms themselves, Atkinson (1985) emphasizes that '[l]anguage ... is subsidiary, in that it is a means to understanding social relationships, structures and processes' (p. 68). Holland (1981) defines codes in this way:

> ...the selection and organization of meaning, of what is seen as relevant and taken as the focus of attention in any situation, and in the way in which these meanings are organized in practical discourse ... a basic distinction is made between relatively context-dependent and context-independent meanings (p. 2).

Bernstein argued that these codes, or coding orientations, were class-related in that they were related to the social division of labour, which privileged either context-independent meanings or context-dependent meanings. Stated succinctly:

> The simpler the social division of labour and the more specific and local the relation between an agent and its material base, the more direct the relation between meanings and the specific material base, and the greater the probability of a restricted coding orientation. The more complex the social division of labour, the less specific and local the relation between an agent and its material base, the more indirect the relation between meanings

University of Cape Town

and a specific material base, and the greater the probability of an elaborated coding orientation. (Bernstein 1990:20).

Bernstein (1990) provides an example which clarifies the meaning of the relation between orientations to meaning and the social division of labour. A peasant working on a sugar plantation would view himself as part of a simple division of labour. His social interactions would have, as their centre of gravity, interactions which refer to practices relating to a local, specific material base, such as the cutting of cane. The patron, on the other hand, would see himself as part of a complex division of labour, which includes the plantation, the local market and the circulation of capital. 'The patron's centre of gravity would lie within a complex division of labour – regulating practices with respect to a generalized material base' (Bernstein, 1990:20). Note that these locations of peasant and patron are physical (i.e. material) locations with different relations to the material base, which give rise to different interactional practices and so to different coding orientations.

Bernstein's thesis of the social class bases of different orientations to meaning was given empirical weight through the experiments described in Chapter 2 (summarized in Bernstein, 1990:56-58 and Lee, 1973), especially those of Holland (1981). In general, these experiments found restricted codes to be prevalent in the homes and communication patterns of working-class children, whilst middle-class children were socialized into, and utilized, both restricted and elaborated coding orientations, and privileged the latter in the school context.

The main criticism of Bernstein's code theory is that it is a deficit theory, where the working class is presented as deficient in their orientation to restricted codes. As stated in Chapter 2, Bernstein's intention was rather to show rather that elaborated and restricted code orientations are part of everyone's social interaction in different spheres[1]. The school, however, is predicated

[1] Nash (2003a) provides a useful discussion of the criticisms directed against sociologists of education who theorize the relation between classed family environments and cognitive dispositions (like Bernstein, but also Baudelot & Establet, 1981; Bourdieu, 1974; Walkerdine & Lucy, 1989). Nash (2003a) shows that there is abundant evidence that 'children brought up in families where classed forms of literate socialization have been practiced, enter school with specialized cognitive abilities and associated habits of social presentation' (p. 181). Nash's (2003a) own interest is in what he calls 'cognitive *habitus'* to describe the 'capacities and capabilities of the body to carry out the kind of abstract problem-solving exercised in mathematics and other language-based, symbolic information processing' (p. 172), a term not dissimilar to the way in which I use 'elaborated code' in this study. I would agree with Nash's (2003) emphasis, that he is *not* arguing that the school cannot contribute to the development of this cognitive *habitus*.

University of Cape Town

on and privileges an elaborated code, and working-class learners are disadvantaged in terms of the requirements of the school. That is not to say that working-class language or meaning-making is deficient, simply that it is not congruent with the requirements of the school, to which middle-class children are more aligned, given their socialization in homes where parents are productive within a more complex division of labour.

Some of the most vociferous criticisms of Bernstein's thesis came from linguists, especially Labov (1972), who challenged many of the 'deficit' linguists in the 1960s. His central argument was that the apparent lack of 'verbosity' and 'logic' in responses by lower-class black students in experimental situations was a function of the testing situation and the use of a different dialect, rather than of students being 'deficient'. It is accepted generally that Labov's criticism, which is that Bernstein makes a deficit argument, largely rests on a misreading of Bernstein's sociolinguistic work. As Atkinson (1985) points out, the definition of restricted code did not refer to 'quantitatively diminished or sparse' language, nor did it imply a lack of logic. Bernstein (1990) points out Labov's error in conflating code and deficit.

In general, in relation to the linguists, Bernstein was at pains to distinguish his work from conventional linguistics and sociolinguistics. Implicit in Bernstein's work is what Atkinson (1985:103) calls a 'structuralist anthropology-cum-sociology'. In defense of his position, Bernstein relegates the construction of 'deficit' to the macro level of power relations:

> The code theory asserts that there is a social class-regulated unequal distribution of privileging principles of communication [...] and that social class, indirectly, affects the classification and framing of the elaborated code transmitted by the school so as to facilitate and perpetuate its unequal acquisition. Thus the code theory accepts neither a deficit nor a difference position but draws attention to the relation between macro power relations and micro practices of transmission, acquisition and evaluation and the positioning and oppositioning to which these practices give rise (1990:118-119).

Here, Bernstein draws attention to his concern with levels of analysis – how the macro and micro levels of society and school are related. Another interesting rebuttals of the notion of deficit comes from Hasan (1993). She argues that working-class practices, with positional modes of

University of Cape Town

discourse of competence (the instructional, including specific skills) into a regulatory discourse (regulatory of character, conduct and manner, and of theories of pedagogy).

Instructional and regulative discourse are two of the structural components of pedagogy. The third element is the organizational form (which I term instructional form), which is theorized by Pedro (1981). Here the way in which learners are grouped within the classroom for pedagogic purposes is specified, and, in particular, the question of whether students are individualized or communalized is analyzed. Because Bernstein's theory of pedagogic discourse does not consider *what* is classified, instructional form cannot be expressed in terms of classification and framing. The relation between instructional form and pedagogic discourse, and precisely how they articulate remains, however, a task for future theorizing.

University of Cape Town

Classification and framing

Bernstein provides a language for the description of pedagogic discourse through the concepts of classification and framing. Classification refers to the social division of labour. At the macro level classification generates categories of agents and discourses: the categories or insulations are instantiations of power. At the micro level, classification is about the organizational or structural aspects of pedagogic practice. Classification is about *relations between,* and the degree of maintenance between categories, and these include the boundaries between agents, spaces and discourses.

Classification is expressed as being strong (where boundaries are explicit and categories are insulated from one another), or weak, where there is integration, or where the boundary is weak or blurred. In terms of discourses, the relations between different subject areas (inter-disciplinary relations), and between school knowledge and everyday knowledge (inter-discursive relations) are considered, as well as the relation between knowledge within a particular subject area (intra-discursive). With respect to the classification of agents, the theory identifies how teachers and learners' pedagogic identities are demarcated. Classification is further related to the concept of *voice,* which is about the specializing work of the particular category. The specialization of voice is explained further below.

Where classification at the macro level is related to the social division of labour, framing refers to social relations within this social division. That is, specific social relations in production/reproduction generate particular practices which we can talk about in terms of framing, or control relations. Framing, therefore, refers to *relations within* (within boundaries). Framing, in a sense, supports classification, it produces 'the animation of the power grid' (Hasan, 2002a), but it also opens up the potential for the change of boundaries, the contesting of power relations. It is through interaction (framing) that boundaries between discourses, spaces and subjects are defined, maintained and changed.

At the micro level of pedagogic practice, framing refers to the location of control over the rules of communication. 'Framing refers to the degree of control teacher and pupil possess over the selection, sequencing, pacing and evaluation of the knowledge transmitted and received in the pedagogical relationship' (Bernstein 1975:88). Conventionally, framing has to do with the way in which the relationship between the teacher and the learner is set up, where strong framing refers to a limited degree of options for students, and weak framing implies more 'apparent'[2] control by learners. Again, framing is expressed in terms of its strength or degree of control. Strong framing would imply that students have limited control over the 'relations within' and a limited degree of control over the sequencing, pacing, selection and evaluation of the knowledge transmitted.

Earlier I referred to classification as being related to the concept of *voice*. The interactional dimension, framing, is related to the concept of message. Bernstein uses the notion of a voice-message system to delineate how an acquirer's consciousness is specialized, through a particular practice, to produce particular realizations. He states:

> From this perspective classificatory relations establish 'voice'. 'Voice' is regarded somewhat like a cultural larynx which sets the limits on what can be legitimately put together (communicated). Framing relations regulate the acquisition of this 'voice' and create the 'message' (what is made manifest, what can be realized).

---

[2] Because Bernstein privileges a particular definition of pedagogy which is hierarchical, and where the transmitter is in possession of the rules for evaluation, learner control over the discursive rules of pedagogic practice must be 'apparent'. This would also explain why the rule for regulating the conduct of transmitters and acquirers is the 'hierarchical' rule (Dooley, 2001:61).

University of Cape Town

> The dynamics of the framing relations *initiated* by the acquirer can initiate change in the expected message and so in the governing 'voice' (Bernstein, 1999:260).

Here we also see the crucial relation between classification and framing. It is framing (control or message) which contains within it the making and the unmaking of the classification (power or voice). It is in the distinction between power and control that Bernstein allows the intentional and structural aspects of power (Atkinson, 1985) of conventional sociological theories to co-exist, and operate dialectically.

There are, however, difficulties in working with the concepts of classification and framing empirically. Because they are dialectically linked, to 'see' them separately poses a challenge for the researcher. Classification cannot maintain itself without framing. Thus, instances of the classification relation are evident only through the framing relations, the interactional. The interactional and the organizational are dialectically linked, and empirical instances of one always imply the other. Framing is, after all, defined as pedagogic discourse, which Bernstein (1996:28) sets out as:

$$\text{Framing} = \frac{\text{instructional discourse}}{\text{regulative discourse}} \qquad \frac{ID}{RD}$$

Classification is in a hierarchical relation to framing, it is prior, but it is empty without the mechanisms to achieve the boundary – that is, framing. Hence the dialectic. The difficulty is also alluded to in Bernstein (1996:19), where he argues that 'power and control are analytically distinguished and operate at different levels of analysis. Empirically, we shall find that they are embedded in each other.'

The relationship between everyday knowledge and school knowledge is a case in point. Bernstein would describe these differences in terms of framing: 'Thus we can consider the variations in the strengths of frames as these refer to the strength of the boundary between educational knowledge and everyday community knowledge of teacher and taught' (Bernstein,

University of Cape Town

1975:206). Atkinson (1985), referring to the same quotation, has argued that, in practice, 'this latter aspect of boundary seems equally a matter of classification and frame, since it is often related directly to the relative purity and strength of the membrane of curriculum contents. Empirical research tends to reflect this overlap and ambiguity' (Atkinson, 1985:136)[3].

Dowling's (1999) response to this issue is to dispense with framing. He does this because he does not operate with a notion of boundary. Classification for him refers to degrees of specialization rather than strength of insularities. Further, his project is different – he wants to analyze the contents of the classification rather than elucidate its structure. I retain the distinction of classification and framing because the theoretical underpinnings of these concepts in power and control, and the social division of labour and social relations, are crucial to my analysis of the reproduction of differences through pedagogy and the specializing of consciousness. In relation to framing Bernstein asserts that 'control is double faced for it carries both the power of reproduction and the potential for its change' (Bernstein, 1996:19). The distinction between power and control, unique in the discipline of sociology, thus allows for the description of the making and potential unmaking of the social reproduction of inequality.

A further distinction is made in the theory between internal and external framing and internal and external classification. In the interaction teacher-student, internal framing refers to the way in which the teacher establishes the rules for the selection, sequencing and pacing in the transmission of knowledge between herself and the learners *in the classroom*. External framing refers to relations between the teacher and external regulators – other teachers, the administration, parents, the curriculum. Again these relations are expressed in terms of strength. So, for example, weak external framing infers that there is a wide range of choices for the teacher and that she has a high level of control over transmission.

University of Cape Town

[3] In this study I use classification to describe the way in which knowledge is organized and the relationship between educational knowledge and everyday knowledge. When talking about the extent to which teacher and learner control selection of content (i.e. the recruitment of everyday narratives, for example), this is framing over selection, not classification. Thus, when looking at the recruitment of everyday narratives by children in the classroom, I would describe this as framing (relations within). When weak, this has an effect on classification in that, at least temporarily, it reduces the specialty of the pedagogic discourse. When contrasting the formal knowledge of school with everyday knowledge, classification becomes more useful (relations between).

Bernstein (2000:100) provides a taut formula for classifying codes in terms of the different dimensions and values outlined above:

$$\frac{E}{\pm C^{ie}/\pm F^{ie}}$$

Here E stands for orientation to meaning – elaborated, and the line stands for the embedding of the orientation in classification and framing values. Variation in these classification and framing values gives rise to different *modalities of pedagogic practice* (ibid)[4].

Classification and framing describe the structural and interactional aspects of pedagogic practice, exposing the power and control relations that inhere in pedagogic practice. These concepts are connected at both macro and micro levels to a set of related concepts which allow for the analysis of the workings of power and control, in particular in relation to transmission and acquisition processes. Finally, classification and framing are related to recognition and realization rules respectively.

> Recognition rules create the means of distinguishing between and so *recognizing* the speciality that constitutes a context, and realization rules regulate the creation and production of specialized relationships internal to that context. At the level of the subject, differences in code entail differences in recognition and realization rules (Bernstein, 1990:15, emphasis in the original).

Classification provides the key to distinguishing contexts. It is classification which orients the speaker to what is expected and what is legitimate given the context, that is, the recognition rule. Framing regulates the realization rule – how legitimate meanings may be put together and made public. The related concepts are summarized in diagrammatic form below.

[4] A problem in working with classification and framing in the South African context is raised in the expression of elaborated codes. They assume a certain verticality – the code for schooling is generally regarded as necessarily elaborated. However, the empirical texts generated in this study, as will be shown, present that which may fall out of this categorization. This will be taken up in Chapter 4, and in the analysis of the data.

University of Cape Town

Bernstein (2000:100) provides a taut formula for classifying codes in terms of the different dimensions and values outlined above:

$$\frac{E}{\pm C^{ie}/\pm F^{ie}}$$

Here E stands for orientation to meaning – elaborated, and the line stands for the embedding of the orientation in classification and framing values. Variation in these classification and framing values gives rise to different *modalities of pedagogic practice* (ibid)[4].

Classification and framing describe the structural and interactional aspects of pedagogic practice, exposing the power and control relations that inhere in pedagogic practice. These concepts are connected at both macro and micro levels to a set of related concepts which allow for the analysis of the workings of power and control, in particular in relation to transmission and acquisition processes. Finally, classification and framing are related to recognition and realization rules respectively.

> Recognition rules create the means of distinguishing between and so *recognizing* the speciality that constitutes a context, and realization rules regulate the creation and production of specialized relationships internal to that context. At the level of the subject, differences in code entail differences in recognition and realization rules (Bernstein, 1990:15, emphasis in the original).

Classification provides the key to distinguishing contexts. It is classification which orients the speaker to what is expected and what is legitimate given the context, that is, the recognition rule. Framing regulates the realization rule – how legitimate meanings may be put together and made public. The related concepts are summarized in diagrammatic form below.

[4] A problem in working with classification and framing in the South African context is raised in the expression of elaborated codes. They assume a certain verticality – the code for schooling is generally regarded as necessarily elaborated. However, the empirical texts generated in this study, as will be shown, present that which may fall out of this categorization. This will be taken up in Chapter 4, and in the analysis of the data.

University of Cape Town

Figure 3.1 Classification and framing and related concepts (adapted from Dowling, 1999:9; Bernstein, 1990:31 and Bernstein 1990:38)

Power	Control
Social division of labour (structural)	Social relations (interactional)
Classification	**Framing**
Relations between	Relations within
Voice	Message
Recognition rules	Realization rules

The point is that there is a differential distribution of power and control relations across different social classes, and these produce different practices and forms of consciousness. It is through the codes that we see the differential positioning of subjects of different social class groupings, dominant and dominated. Bernstein poses the question in this way:

> What we are asking here is how the distribution of power and the principles of control are transformed, at the level of the subject, into different, invidiously related, organizing principles, in such a way as to create the possibility of change in such positioning (1990:13).

And he answers his own question like this:

> The broad answer given by this thesis is that class relations generate, distribute, reproduce, and legitimate distinctive forms of communication, which transmit dominant and dominated codes, and that the subjects are differently positioned by these codes in the process of acquiring them (ibid).

University of Cape Town

In the thesis I look at how these codes are configured at the micro level of the classroom, and reflect on the implications of the theory for teachers as well.

3.2.3 Specialization of voice

I have shown above how acquisition is regulated by the classification and framing relations ($\pm C^{ie}/\pm F^{ie}$) of pedagogic practice. Bernstein talks about identity in the code theory as being constructed by variations in classification and framing relations, through 'voice-message relations'. He argues that 'categories constitute 'voices' and that practices constitute their

'message'; message is dependent upon 'voice', and the subject is a dialectical relation between 'voice' and message' (Bernstein, 1990:27).

Thus identity in the code theory is the outcome of the 'voice-message' relations. Bernstein (1981) explains how classification tells us about the degree of insulation which is a crucial regulator of the relations between categories and the specificity of voices: 'We can begin to see that the degree of insulation regulates criteria of demarcation between categories and so the *rules of their recognition*' (pp. 313-314, emphasis in original). I prioritize the concept of specialization of voice over identity, as 'voice does not reside in the subjectivity of individuals. Rather, subjectivity is created through the socialization of individuals into categories of agents, knowledge and contexts that are distinguished by the particularity of their voice' (Dooley, 2001:77).

'Specialization' then 'reveals differences from, rather than commonality. It means that your educational identity and specific skills are clearly marked and bounded' (Bernstein, 1975:81). In the thesis I analyze the specialization of the acquirer's voice through classification and framing. However, there is a limit with respect to classification and framing in its potential to address the research problem of the study. Bernstein is concerned with the *relay*: showing the reproduction of the specialized knowledge of schooling I am also concerned with the *relayed*. In other words, I want to show, not only the structure of the specializing of voice, but also the semantic content of what is classified. In the thesis, specialization of voice is an outcome of the entire pedagogy, not only the classification and framing relations, as I will show later.

Dowling (1998), too, is concerned with the operation of the relay, but in the course of deriving his categories of strategies and domains he also enables an analysis of the relayed. That is, he presents a set of dichotomous concepts at a somewhat lower level of abstraction than classification and framing. Bernstein describes the forms of consciousness (essentially elaborated and restricted), and Dowling translates these as forms of knowledge. Forms of consciousness can only be seen in the materiality of what teachers and learners do at the level of the classroom. Dowling is interested in how knowledge types are distributed. These types are contained in

University of Cape Town

domains and distributed through strategies, and it is through the differential distribution of these knowledge forms that social inequalities are reproduced.

Bernstein does not focus on interaction in the classroom, i.e. what people do. Dowling allows for a focus of the dynamic of pedagogy whereby the concrete flow of communication is analyzed. Thus, through Bernstein and Dowling, we have a means for talking about the relay and a means for analyzing what is relayed. Dowling gives the semantic content of what is classified.

The significance of Dowling's conceptualizing of knowledge forms and strategies will become clearer in the analysis. In brief, I take the analysis of particular voice-message relations further by examining how these are produced in the micro interactions in the class – the setting of particular tasks by the teacher. Drawing on Dowling (1998), I look at the strategies deployed by the teacher as evident in the tasks set, and the relation of these strategies to mathematics and literacy as fields of knowledge, and the consequent positioning of the teacher in relation to the specialized discourses of mathematics and literacy. In this analysis I also utilize the distinction between everyday and school knowledge (Muller & Taylor, 1995) extensively. I elaborate the concepts drawn from Dowling below, and then discuss the distinction between school knowledge and everyday knowledge further.

University of Cape Town

3.2.4 Dowling's domains and strategies

Domains

Dowling's (1998) work is located within social activity theory, defined succinctly by Ensor (1999):

> According to Dowling, the social can be understood as the articulation of social activities, where an *activity* is 'an analytic space' which enables the description of 'the empirical as constituted by the division of labour in general' (Dowling, ibid, pg. 88). An activity thus produces and reproduces, (re)produces, the division of labour in society, specialising both social positions and social practices, regulating what subjects may say, do, or mean (p. 45).

Dowling's concern is with the ways in which activity (by which he means ideology) specializes practices and regulates what can be said or done. Activities also interpellate positions, and are constitutive of human subjectivity. This is not dissimilar to Bernstein's notion of classification, as set out above. However, as I have stated earlier, Dowling works with classification and not framing (Dowling, 1999). Unlike Bernstein, Dowling (1999:11) argues that specializing takes place, not at boundaries, but always within. In a sense he is concerned to develop the classifications within classification – to elaborate a taxonomy of classification. He works his thesis out in relation to an analysis of mathematical texts, developing a schema to show how activities (as instantiated in mathematics textbooks) distribute strategies (or messages) over a range of positions (or voices).

Activity is regulated by domains, and Dowling identifies four domains: the esoteric domain, the public domain, the expressive and the descriptive domains. Two of these domains are of concern in this study: the esoteric domain and the public domain. The esoteric domain is that domain of specialized denotations and connotations (Dowling, 1998:136); it is the domain most strongly classified with respect to other activities, and the domain within which the regulating principles of the activity reside. Dowling, with an interest in mathematics as an activity, gives, as an example of an esoteric domain practice, a standard algebra exercise such as '$18x + 92 = 137$'. In this example there is no reference to everyday knowledge, or the public domain.

The public domain is the domain which has the 'appearance of non-specialized practices' (ibid), or of the everyday. Dowling stresses, that in relation to mathematics, for example, it is through this domain that apprentices may enter an activity. As an example, a public domain practice is instantiated in a mathematical exercise which is expressed entirely in everyday terms, such as totaling a shopping list[5].

[5] With the expressive and descriptive domains, which are not of concern in this study, Dowling constructs the relation between non-specialized and specialized forms of content and expression, and how these may relate. For example, in the descriptive domain, non-specialized content may be expressed in mathematical form – a café ordering list expressed as 'a café orders p brown loaves and q white loaves of bread [...]'(Dowling, 1998:136).

Strategies

In Dowling's theory, it is the strategies which reproduce features of the activity, and we can say that strategies refer to different domains. Dowling distinguishes between expanding and limiting strategies. Expanding strategies broaden the message in terms of esoteric domain topics, and limiting strategies exclude messages relating to the esoteric domain. Within the expanding strategies, Dowling distinguishes between principling and proceduralizing discourses:

> The general quality which distinguishes principled from procedural discourse is that the former exhibits connective complexity, whereas the latter tends to impoverish this complexity, minimizing rather than maximizing connections and exchanging instructions for definitions (Dowling, 1998:146).

Proceduralizing strategies 'exchange instructions for definitions' (ibid) and reduce the level of abstraction of knowledge. Proceduralizing strategies particularize the message. Principling, on the other hand, is an abstracting strategy, where definitions and taxonomic classifications reduce the context dependency of the message. Within these broad distinctions Dowling identifies four strategies associated with abstracting and particularizing discourses. Generalizing strategies are both expanding and abstracting. 'Specializing is the construction of abstract message with respect to a specific topic or setting' (Dowling, 1998:147). Generalizing and specializing strategies entail an esoteric domain message. Fragmenting strategies realize the esoteric domain as segmental, rather than articulated. 'The public domain is constituted as an incoherent collection of settings, or alternatively, as constituted by public domain rather than esoteric domain principles' (p. 149). Localizing elaborates an instance (esoteric or public domain) rather than generating segments or collections (ibid).

It becomes clear how Dowling provides a language to speak about the relation between the general and the particular, the concrete and the abstract, by relating particular strategies to domains. My own use of domains and strategies, which derives from Dowling's model, differs in significant ways from Dowling's use. I have simplified the concepts and delocated them from Dowling's more general activity theory. The concepts have also been disaggregated in relation to the present study's data. This will be discussed in relation to the external language of description in the following chapter, and in the analysis chapters which follow on from there.

University of Cape Town

3.2.5 School knowledge and everyday knowledge

The movement from the particular to the general, or from context-dependent meanings to context-independent ones, is essentially a move from everyday meanings or knowledge to more vertical, codified and abstract knowledge, such as that found in the school curriculum. The initial distinction made between these different types of knowledges was made by Durkheim (1915), who distinguished between sacred and profane knowledge. In South Africa, in particular, there is extensive debate about the relation between these two forms of knowledge in the curriculum and schooling. Muller and Taylor (2000) put the question thus: 'How can or should the common-sense knowledge of experience and local culture, indeed of the everyday world, relate to the codified knowledge deemed worthy of inclusion and certification in the formal curriculum?' (p. 13). They distinguish between everyday knowledge (drawing on Geertz, 1973) and school knowledge, which reflects their central concern.

Dowling (1998) uses related terms of public domain knowledge and esoteric domain knowledge, the former relating to everyday knowledge and the latter to the knowledge, principles and practices of disciplinary knowledge. Dowling's distinction arises out of an analysis of school mathematics textbooks, where he found an uneven distribution of types of knowledge, such that higher ability students were exposed to texts that allowed access to the esoteric domain – generalizable principles were foregrounded – whereas lower ability students were subjected to texts where the mathematics knowledge was obscured by public domain exemplars and procedural activities. In these various distinctions, the implications of the differential distribution of these knowledge types is highlighted. Of Dowling's research, Muller and Taylor (2000:68) comment that 'the lower ability student, paradoxically, is left free to be a local individual but a failed mathematics learner'.

Dowling insists, however, that the public domain is crucial, for it is the 'domain through which apprentices must enter the activity' (1998:136). In other words, the everyday is a 'key portal to school knowledge'. Similarly, Muller and Taylor (2000) argue for a 'moderate constructivist approach' to everyday knowledge in the classroom, which Taylor *et al* (2003) summarize as the

University of Cape Town

> selective use of everyday knowledge in order to exemplify and apply relevant principles of formal knowledge, and the careful structuring of the relationship between the formal and the everyday, so as to clearly explicate the syntax and specialised language of the former (Taylor *et al*: 2003:79).

The importance of the distinction between everyday knowledge and school knowledge for this project follows the work cited above, and its emphasis on the unequal distribution of types of knowledge to different students, often on the basis of social class. The study is also informed by the analysis of the distorting effects of the recontextualizing of the everyday into school learning. This is highlighted by Muller and Taylor (2000), who talk about the issue in terms of 'crossing borders' between these different domains of knowledge. Following Walkerdine (1988), they articulate the kind of work that is necessary in crossing the border successfully in relation to school mathematics:

> The pedagogical task, therefore, is to identify areas where out-of-school practices might usefully dove-tail with school mathematics and to structure the school discourse so as to work systematically through the process of transfer. The shift from one practice to another involves the prising apart of one set of relations of signification and rearticulating or translating them to produce new meanings (Muller & Taylor, 2000:69).

In this study I use these related concepts, everyday and school knowledge, public domain and esoteric domain knowledge, interchangeably. The former I use when talking about the classification of instructional knowledge. The latter I use in particular when discussing Dowling's (1998) categories of strategies in relation to the domains.

3.3 Summary: theoretical assumptions informing the study

From the foregoing discussion I distil a set of assumptions which inform this study and the analysis of the relation between social class, pedagogy and orientations to meaning.

3.3.1 Pedagogy involves transmitters and acquirers in a hierarchical social relation where criteria are transmitted

Bernstein offers the following formal definition of pedagogy:

University of Cape Town

> Pedagogy is a sustained process whereby somebody(s) acquires new forms or develops existing forms of conduct, knowledge, practice and criteria from somebody(s) or something deemed to be an appropriate provider and evaluator (2000:78).

And of the pedagogic relation he says, similarly,

> … there is a purposeful intention to initiate, modify, develop or change knowledge, conduct or practice by someone or something which already possesses, or has access to, the necessary resources and the means of evaluating the acquisition (Bernstein, 1999b:267).

Pedagogy therefore consists of a social relation of a transmitter and an acquirer, where the rules for evaluation lie with the transmitter. The relation is therefore hierarchical. For Bernstein, social relations are always relations of control, and 'the social relation of pedagogy is asymmetrical: teacher and acquirer are always unequal' (Dooley, 2001:52).

Bernstein further distinguishes between segmental pedagogy and institutional pedagogy. The former is carried out in everyday experience, such as learning to dress, or how to stand in a queue for service. Institutional pedagogy is carried out in official sites, usually with accredited providers, where acquirers constitute a group or social category (Bernstein, 2000:78). In this thesis I refer to acquirers as students, pupils or learners, and to transmitters as teachers. The official site of the institutional pedagogy analyzed is that of the Grade 3 classroom located in the primary school.

University of Cape Town

3.3.2 School learning involves the induction of acquirers into an elaborated code

Following Bernstein (1990) I propose that 'the codes of education consist of elaborated orientations to meanings because of the indirect relation of these meanings to a specific material base' (p. 32). 'In a sense, educational knowledge is uncommonsense knowledge. It is knowledge freed from the particular, the local' (Bernstein, 1971: 215).

Although Bernstein asserts that schooling is predicated on an elaborated code, he does acknowledge that 'because the codes of education consist of elaborated orientations it does not follow that these are always transmitted [by teachers] and acquired by all groups of pupils' (Bernstein, 1990:32).

Whether teachers do, or do not, transmit an elaborated code and whether learners do, or do not, acquire this code is at the heart of the thesis. Centrally the concepts of classification and framing (Bernstein, 1975; 1990; 2000), and the concepts of domains and strategies (Dowling, 1998), allow for the investigation of the transmission and acquisition of these codes, as well as the related concepts of recognition and realization rules.

It is through the sets of related concepts of classification and framing, recognition and realization rules, and voice and message, that the transmission and acquisition of the elaborated code of schooling is investigated.

3.3.3 The teacher is a potential interrupter or reproducer in the process of social reproduction

Bernstein (1975), in relation to the new and old middle classes, and visible and invisible pedagogies, talks about pedagogy as both an interrupter and a reproducer system. What is 'interrupted' or 'reproduced' is the socialization (the classification and frames) of the home. 'Reproduction and interruption are created by variations in the strength of classification and frames' (Bernstein, 1975: 122). In this study I examine the teacher as a potential interrupter or reproducer. I examine the professional dispositions of the teachers and I also look at the pedagogic labour of the teacher in the classroom. In relation to the specialization of students' voice, I draw evidence of whether the teachers do in fact operate as reproducers and/or interrupters.

I look at the teachers' pedagogy in terms of pedagogic modalities (used in an extended sense from that of the code theory to describe a number of dimensions of pedagogic practice), and I consider the professional dispositions of teachers. My use of dispositions (which I refer to as professional or strategic dispositions) is loosely based on Bourdieu (1977), referring to relatively

University of Cape Town

stable ways of looking at the world that guide action. These are structural classificatory and assessment propensities and are *socially acquired,* and manifest in opinions and outlooks. 'Strategic' and 'professional' confine the consideration of teachers' disposition to the education field – to their position as *teachers*. These dispositions entail a theory of instruction. The theory of instruction, according to Bernstein 'belongs to the regulative discourse, and contains within itself a model of the learner and of the teacher and of the relation. The model of the learner is never wholly utilitarian; it contains ideological elements' (Bernstein, 2000:35). This theory of reading the child – where the child is 'transformed into a text' – contains assumptions that teachers make about children and how they learn.

In the analysis I look at dispositions in terms of the regulative and instructional dimensions of pedagogic discourse, and I use classification and framing to talk about dispositional states. This analysis allows for a consideration of the strategic dispositions of the teachers, enacted in the social context of the school. I tentatively relate these dispositions to the social class positioning of the teachers.

Lastly, teachers' strategies and dispositions are filtered through the social context of the school. In the thesis I describe the social base of the school in terms of the specialization of time in the school, and in terms of Durkheim's (1933) concepts of the division of labour and forms of solidarity. These concepts, usually applied to the study of society, are used here in relation to the school. The division of labour potentially has implications for social cohesion at the schools – whether this is based on *common faith or covenant* (Durkheim, 1933:109) associated with mechanical solidarity, or social cohesion based on *contractual relationships* (Durkheim, 1933:206), associated with organic solidarity.

Put simply, mechanical solidarity is founded on a simple division of labour and common belief system, both of which shape individual identity into roles based on one's position within a hierarchy. Organic solidarity emerges within a more complex division of labour which relies on a high degree of interdependence, because differences between individuals are accepted as specialized aspects of a functioning system. With the greater complexity and difference within organic solidarity, a common belief system is harder to maintain and covenant must be replaced

University of Cape Town

by contract, binding individuals to each other by a social contract spelt out in rules, laws or duties. The division of labour within schools is considered in relation to the extent to which teachers' work is specialized, and the types of relations between teachers and management.

3.4 Conclusion

In this Chapter I have provided a broad overview of the theoretical antecedents to this study, and the theoretical assumption upon which the study is based. The theory both informed the way in which the project's problem was framed, and provided the means for addressing it. However, the theory had to be fashioned to address my particular problem, and the particularities of the empirical data produced. In the following chapter I discuss the process of interaction between theory and data in detail in a discussion of the study's research methodology and the development of languages of description for the analysis of data.

University of Cape Town

Chapter 4: Research methodology

4.1 Introduction

In Chapter 3 I set out the theoretical framework of the study. In this chapter I consider issues of research design and analysis. Together, Chapter 3 and the present chapter constitute the analytic framework for the study, and explain the theoretical resources and their use in the analysis that follows.

The first part of this chapter describes the study's *sample* – the schools, teachers and students that were selected. The constitution of the sample, on the basis of social class, is described in detail. The second part of the chapter deals with the *production of the data* – the data sources and research strategies. There were three main data collection activities. Teachers were observed for three consecutive days in their classrooms, teachers were interviewed, and tasks were conducted with students.

The third part of the chapter focuses in detail on the *analytical methods* employed. I describe my general methodology in relation to the development of an 'external language of description' (Bernstein, 2000). Theory, in this general methodology, is indispensable, as it is the models which the theory generates that indicate what constitutes data, and how the data should be read, or, as Bernstein (2000) puts it, '[theoretical models] should be able to provide the principles which will identify that something [empirical phenomena] as falling within the specification of the model and identifying explicitly what does not so fall' (p. 125). I raise some of the problems that emerged when the theory was used to 'read' the data.

University of Cape Town

4.2 The study sample

4.2.1 The exploratory case study as research strategy

In Chapter 1, I described the motivation for this research as an interest in, and a desire for, a better understanding of the differences in learning in schools in different social class contexts, and the role of the teacher in that process. Because in-depth comparative work of different classroom types (in terms of social class profile) in the South African context has not been undertaken, and because the social class background of teachers has not been systematically explored in research in South Africa, the study is exploratory in design. As a result it has certain design features particular to exploratory research.

Firstly, to allow for in-depth analysis, it is small in scale, including four schools with eight teachers and eighty students. Secondly, these schools, teachers and students were purposively selected to place certain features on display. The multiple cases were deliberately selected because they represented two ends of the social class continuum: lower working class and upper middle class. Two of the schools were in upper middle-class areas, where teachers from middle-class backgrounds taught students from upper middle-class homes. The other two schools of the sample were located in very poor communities, where the students came from lower working-class communities, and were taught by teachers from working-class backgrounds.

Thirdly, the exploratory nature of the research entailed multiple sources of data (Yin, 1984) collected through interviews, observations, questionnaires, experimental tasks and documents[1]. The research design of this study is best described as an exploratory case study research design (Yin, 1984) using multiple cases. Cresswell (1998:61) defines a case study as an exploration of a 'bounded system' of a case (or multiple cases) over time, through detailed in-depth data collection.

In comparative case study research such as this, Bryman (2001) suggests that 'the key to the comparative design is its ability to allow the distinguishing characteristics of two or more cases to act as a springboard for theoretical reflections about contrasting findings' (p. 53). At

[1] Due to constraints of space, not all of this data was used in the analysis. For example, teacher planning files, student notebooks, school report cards and observations of school assemblies were not used.

University of Cape Town

the same time, in order to formulate these comparisons, the researcher needs to be explicit about the focus at the outset (ibid), and I derived such focus from an empirical interest and from a particular theoretical orientation derived from Bernstein – code theory.

In summary, the study comprises multiple cases, purposively sampled in order to highlight the differences between two social class schooling contexts. The cases were deliberately selected to optimise the contrasts in contexts in order to construct a model considering social class, pedagogy and the reproduction of difference. A brief introduction to each of the teachers in the sample is given below in the context of a description of the schools in which they teach. The descriptions of the schools are based on observation and on a school questionnaire administered to principals (Appendix C). The sample of students is also introduced.

4.2.2 Introduction to the cases: the schools and teachers

Four schools were selected – two former Model C schools in a predominantly White, upper middle-class suburban setting and two former DET schools in a working-class township area. Schools in the same suburb were selected to ensure greater homogeneity in the socio-economic profile of the two social class contexts. Two teachers were selected from each of the schools. The teachers in the working-class setting all came from working-class backgrounds, and the teachers in the middle-class setting from middle-class backgrounds. In each case the Head of Department, or grade head for Grade 3, and one other Grade 3 teacher was approached to participate in the study. Participation was on a voluntary basis. During these initial meetings with the teachers the gender, age, social class background and experience of the teachers were ascertained.

4.2.2.1 The working-class context

Both Uxolo and Lwazi are located in Khayelitsha, which is one of the newest and fastest-growing of the townships surrounding Cape Town. Historically, like most of the other townships, Khayelitsha was built to cater for the labour requirements of Cape Town when the Group Areas legislation of the apartheid government was still in place. Located approximately 30 kilometres from the city centre, it has been, for more than a decade, the main centre for newly arrived immigrants from the Eastern Cape, mostly seeking work

University of Cape Town

opportunities. Although it is steadily becoming more settled, many of the suburbs still consist largely of shack housing.

Both schools were formerly administered by the DET. The official medium of instruction in the schools is English, although at the Grade 1–3 (foundation phase) level, the medium of instruction is Xhosa. Both schools are located in informal housing settlements, comprised mainly of shacks and some permanent brick dwellings. Many residents of these areas were recent migrants (mainly from the Eastern Cape), in particular in the area surrounding Uxolo. The rate of unemployment in the two communities adjacent to the schools was high, and the school populations were drawn mainly from these communities.

Uxolo

University of Cape Town

Uxolo was eleven years old. The school was adequately resourced with sufficient classrooms, desks, chairs and textbooks. Some of the classrooms were prefabricated buildings. The school had no library or other specialist rooms, apart from a staffroom, offices and storerooms. The total student enrolment at Uxolo was 1492, and there were 46 staff members. The principal had been the head of Uxolo for eleven years. All the staff and the students at the school were Black, apart from two Coloured learners. The average class size in Grade 3 was 44, and there were three Grade 3 classes.

The school fees were R30 per year, and the school did not use any particular admission criteria, apart from giving preference based on the date of application. The school had experienced a number of incidents of violence in the last few years: older learners had entered the school property with guns, and students had been robbed and injured on their way to and from school. The principal estimated that there were approximately 30 students absent on a typical school day. The grounds of the school were largely sand. Litter was evident on the grounds and had accumulated on and near the school fence. Two netball courts in front of the school doubled as the school parking area.

Nomsa was the HOD for Grade 3 at Uxolo, and taught with Yonela. They had both been at Uxolo for eleven years, and had taught at various levels within the primary school. Nomsa

was 38 years old and was born in Cape Town. Yonela was 36 years old and came from the Eastern Cape. Both were fully qualified to teach at primary school level.

Lwazi

Lwazi was eight years old. A year prior to the study the school acquired new premises, having shared premises with another primary school for a number of years. The school was adequately resourced with sufficient classrooms, desks, chairs and textbooks. The library was under-utilised and very limited. The school had a hall, a resource centre and a computer laboratory, which had fallen into disuse. There were 1325 students and 35 staff members at the school. The principal had served in that capacity at Lwazi for five years. All the staff and the students at the school were Black. The average class size in Grade 3 was 41, and there were four Grade 3 classes.

The school fees were R70 per year, and admission was based on order of date of application. The principal reported that he dealt with late arrivals, absenteeism, theft and classroom disturbances on a daily basis. Vandalism of school property was also quite common. The school was surrounded by a fence. The grounds were largely sand, although some attempt had been made to grow plants and grass in the front of the school. There was also a vegetable garden. School gates were not locked during tuition time, and there was free access to the school. During break times hawkers came onto the school property to sell food and drinks to the learners and teachers.

University of Cape Town

Babalwa was HOD for the foundation phase at Lwazi. She was 45 years old and was born in Cape Town. Babalwa had been teaching for 15 years. Palesa was one of the Grade 3 teachers. She was 40 years old, came from the Eastern Cape, and had been teaching for eight years. Both teachers were qualified to teach in the Foundation phase.

4.2.2.2 The middle-class context

Arbor and Rhodes are located in affluent, previously White suburbs of Cape Town, which are leafy, attractive and established suburbs. Both schools are former Model-C primary schools, where the medium of instruction was English. Both schools drew the majority of their student population from the surrounding middle-class communities. The two schools were extremely

well-resourced with extensive, well-utilised libraries, sporting facilities, computer laboratories, art rooms and laboratories. The grounds were attractive, with gardens, trees, and well-maintained school buildings. Access to the school was tightly controlled by security, and the school gates were locked during tuition time.

Arbor

Arbor was 118 years old, although the location of the school had changed since its establishment. The principal had been head of Arbor for seven years. The school implemented a strict admission policy, based on residence in a particular area, and the majority of students came from the surrounding middle-class suburb. A few students travelled from townships by car or taxi; however, they were in the minority. Admission was also considered on the basis of sibling attendance, male/female ratio and achieving racial diversity.

The school fees at Arbor were approximately R6500 per annum, and the school could afford to employ additional staff members with fees paid by parents. Fifty per cent of the staff was employed in governing body posts, that is, posts that were paid for by fees raised from parents. There were 52 staff members and 738 students. Most of the staff was White, although there were some Black, Coloured and Indian staff members (these were largely in support and administrative posts, but a few were educators). Although exact figures were not available, the student body was racially mixed, and, from a rough estimate of the classes observed, comprised 50% White children, 40% Coloured and 10% Black children. The average class size in Grade 3 was 28, and there were three Grade 3 classes. The parents of the students were generally professionals, and Arbor was a popular choice with academics in particular. Some students, as indicated above, did come from less affluent backgrounds.

Anne was HOD for curriculum at Arbor. She had been teaching for 24 years. She was born in Pretoria, and was 53 years old. Kate taught with Anne, and had five years teaching experience. She was 26 years old and came from Durban. Both teachers were fully qualified to teach at the primary school level.

University of Cape Town

Rhodes

Rhodes was 109 years old. Its premises were old, spacious buildings with various new additions and alterations made through the years. It was the only school in the sample that was a single sex school (for girls), and the student body consisted predominantly of students from upper middle-class backgrounds. The school admitted learners on the basis of residence in a particular area, but also on the basis of academic performance and (English) language proficiency. The total number of students at the school was 550, and the school fees were R7040 per year. The average class size in Grade 3 was nineteen, and there were three Grade 3 classes. 60% of the learners were White, 27% were Coloured and the rest were Black, Indian and Asian. There were 55 staff members at the school, 22 of whom were appointed in governing body posts. Again, although there were some Black and Coloured staff members, they were all in support posts (gardeners, cleaners, guards, etc.).

Fiona was HOD for the foundation phase at Rhodes. She was 57 and had been teaching for 26 years. Jeanne was 23 and in her second year of teaching. Both teachers came from the Eastern Cape.

The tables below summarise the main features of the four schools and the eight teachers:

Table 4.1 Characteristics of the four schools

School	Number of students	Number of staff	School fees / annum	Average class size Grade 3	Desks and chairs for all learners	Presence of textbooks	Availability of specialist rooms, e.g. library, labs
Lwazi	1325	35	R70	41	Yes	Yes	Yes
Uxolo	1492	46	R30	44	Yes	Yes	No
Rhodes	550	55	R7040	28	Yes	Yes	Yes
Arbor	738	52	R6500	19	Yes	Yes	Yes

Table 4.2 The sample of eight teachers

Teacher	Age	School	Position	Number of years teaching experience
Anne	53	Arbor	Head of dept	24
Kate	26	Arbor	Educator	4
Fiona	57	Rhodes	Head of dept	27
Jeanne	23	Rhodes	Educator	1
Yonela	36	Uxolo	Educator	8
Nomsa	38	Uxolo	Head of dept	11
Babalwa	45	Lwazi	Head of dept	15
Palesa	40	Lwazi	Educator	8

University of Cape Town

4.2.3 Student social class at the four schools

In addition to the selection of the schools and teachers, 80 students, ten from each teacher's class, were selected for the student tasks. Occupational and educational data on the care-givers of these 80 students were collected via survey forms sent to the homes of the students. This data confirmed the middle-class and working-class profiles of the schools' student populations.

The scale used for measuring occupational level of parents was derived from Seekings (2003)[2]. Seekings reviews various class scales and adapts these for the particularities of the South African context. In particular, he differentiates between the core and marginal working classes, between contracted workers or labourers, and those workers (including farm and domestic workers) who sell their labour for wages without any contract, which makes them particularly vulnerable to employers. Further, an intermediate class is introduced, as, 'in the South African context, skilled manual workers often enjoy a degree of economic power comparable to supervisory and routine non-manual employees, largely because of the high capital intensity of South African industry' (Seekings, 2003:18). The category 'unemployed' is used to characterize those without a job who are actively looking for jobs, and also those who are discouraged by a perceived lack of job opportunities (Nattrass, 2000). The category 'other' refers to those persons who are self-employed or do not participate in the labour market due to other activities or sources of income, such as students, pensioners, child minders and the sick or disabled (Seekings, 2003: 24). The scale is constructed thus:

1. Upper class: managers and professionals **(UC)**
2. Semi-professional class: teachers and nurses **(SPC)**
3. Intermediate class: routine white collar, skilled and supervisory **(IC)**
4. Core working class: semi skilled and unskilled workers **(CWC)**
5. Marginal working class: farm and domestic workers **(MWC)**
6. Unemployed **(UM)**
7. Other **(O)**

University of Cape Town

[2] There are other schemas in use. However, the one constructed by Seekings (2003) was developed through extensive empirical work in the same social class settings as those of the present study – in the Cape Town area in the Western Cape province.

Categories 1, 2 and 3 constitute the category *middle class* as used in this study, and 4, 5 and 6 refer to the *working class* category. In characterizing the social class background of the learners, in addition to parental occupation levels, principals' reports of the community from which the school population was drawn were considered, as well as parental education levels.

All of the children attending Uxolo and Lwazi came from impoverished backgrounds. There was frequently no electricity and running water in the homes. Many children at the school had health or nutrition problems. According to the principals, most children come from homes where primary caregivers had not received more than primary education. Further, in both schools there were high numbers of children of migrants, who came with their own specific social and educational needs[3].

At Arbor and Rhodes children predominantly came from homes where parents were employed in professional high-skilled jobs or semi-professional jobs; where education levels were generally high and the material conditions of the home were privileged. There was some difference between the Arbor and Rhodes contexts, and this will be indicated below.

A sample of ten learners from each of the eight teachers' classes was selected – a total of twenty learners from each school. The occupational levels of the students' two primary caregivers (in most cases a mother and a father) are shown below. The results are shown by school, and where the total number of caregivers was less than 40, this indicates the presence of only one caregiver in one or some of the homes.

Table 4.3: Class location of student caregivers

Class location	Number of caregivers			
	Rhodes n=40	Arbor n=39	Lwazi n=36	Uxolo n=34
UC	30	16	0	0
SPC	4	8	0	4
IC	1	11	1	1
CWC	0	0	14	12
MWC	0	0	6	5
UM	0	0	12	10
O	5	4	3	2

[3] In both Uxolo and Lwazi, teachers took into their Grade 3 classes learners who had had no schooling. This is often the result of child labour practices in the Eastern Cape province (such as goat herding, other agricultural work or child minding). Once it is decided that the child should attend school, these children are sent to Cape Town, where, in the Western Cape, law prescribes that, for example, a of child nine must enter Grade 3, regardless of whether they have had previous schooling or not.

University of Cape Town

Table 4.3 shows obvious differences between the students in the schools in the middle-class context and those in the working-class context. More than a quarter of the working-class caregivers were unemployed. The rest were predominantly CWC and MWC – employed in capacities such as domestic workers, cleaners, security guards and petrol attendants. At both Lwazi and Uxolo two of the caregivers were salespersons, and were classified as Intermediate Class (IC). At Uxolo there were also four semi-professional caregivers. Two of the students' aunts were nurses, and two fathers were policemen. Excluding the Other (O) category, which included a pensioner and students, 89% of the working-class caregivers occupied the working class occupational categories CWC and MWC.

There were no significant differences between the two working-class schools, but there were some differences between Rhodes and Arbor. The caregivers at Rhodes fell overwhelmingly into the UC category (75%), whereas at Arbor the caregivers tended to be spread across the middle-class categories. There were far more caregivers working in clerical jobs, especially secretarial, at Arbor. All but one of the O category for both schools were housewives. At Rhodes the UC category included accountants, a judge, a nuclear physicist, academics, doctors, managers and owners and directors of businesses. At Arbor the UC category included accountants, lawyers, an actuary and managers, owners and directors of businesses. There were a number of teachers, nurses and a social worker that fell into the Semi-Professional Class (SPC) category, although these represented a minority of caregivers. In total, for both schools, and excluding O category, 100% of the caregivers fell within the middle-class occupational categories.

University of Cape Town

The differences described above are, not surprisingly, mirrored in the educational levels of the caregivers at the four schools, shown in Table 4.4 below (the sample does not include current scholars or students):

Table 4.4: Education levels of student caregivers

Education level	Number of caregivers			
	Rhodes n=40	Arbor n=38	Lwazi N=35	Uxolo n=33
No primary schooling	0	0	0	1
Some / all primary schooling	0	0	11	5
Some secondary schooling	0	0	18	14
All secondary schooling	8	17	6	12
Diploma / certificate	12	10	0	1
Bachelors degree	7	0	0	0
Post graduate degree	13	11	0	0

Table 4.4 shows that the majority of caregivers (74%) in the working-class context had completed some or all secondary school education. At Rhodes, 50% of the caregivers had a university degree. Two of the caregivers at Rhodes had PhDs. At Arbor the majority of the caregivers (71%) had completed high school or had attained a diploma or certificate. All the caregivers in the middle-class context had at least completed high school, and 29% of the caregivers' highest qualification was a postgraduate degree.

The educational levels of the caregivers at Uxolo were marginally higher than those at Lwazi. 36% of caregivers completed high school at Uxolo, as opposed to 17% at Lwazi. 25% of caregivers in the working-class context had no high school education.

4.3 The production of the data

As suggested above, case study research often involves multiple sources of information for the collection of the data. The data reported here, and used in the analysis, was collected over a one-year period, beginning in February 2003 and ending in December 2003. During that period all the schools and teachers were visited repeatedly according to a plan of extended and short visits, detailed below. Pilot studies were conducted prior to this time period. The three main data collection activities were observing the teachers, interviewing them and conducting tasks with the students. The various data collection strategies involved in the study are summarized in Table 4.5 below. The table shows how the information was elicited, from whom, and the way in which it was recorded.

University of Cape Town

4.3.2 Teacher structured interviews

Each of the eight teachers was interviewed individually for between one and one-and-a-half hours. These were structured interviews which focused on a range of aspects of the teachers' work. Questions were posed to teachers around their orientations to teaching and to learners, including questions such as: 'Why do you think some kids are bright and do well and others not. What makes a difference?' and: 'Think of a teacher who you do not admire or have respect for. Give me a few reasons why you do not admire or respect that person'. The interviews also focused on the teachers' pedagogic practice, presenting them with a series of tasks which they were asked to respond to. Teachers were asked to comment on social relations within the school, and they were asked about their relationships with other teachers and with management and parents. Importantly, the interview also captured the teachers' biographical data.

The interviews were audio-recorded and transcribed in full, and translated when teachers spoke in Xhosa. The interview schedule is contained in Appendix B. In addition, informal interviews held with teachers during the course of the research were recorded in field-notes and formed part of the total teacher interview data set.

4.3.3 Student tasks

In the fourth term, interviews were held with the 80 selected students to conduct two tasks with each of them[4]. Both tasks were conducted individually with each learner. The first task was an adaptation of the Holland (1981) sorting experiment described in detail in Chapter 2. In this task learners were required to sort 20 picture cards of food items, and provide criteria for their grouping. The students' groupings and rationales for the sorting experiment were recorded on pre-coded schedules.

[4] The students were selected using stratified random sampling. Teachers were asked to indicate, using a '1', '2' or a '3' next to all students' names on their class list, whether students were high, low or medium achievers. Students were then randomly selected: three '1's, three '3's and four '2's in order to constitute the sample of ten learners in each class. In the sorting task, no significant differences were found that related to the students' ability levels as reported by the teachers. Thus I do not refer to these again in the analysis, but present them here as the mechanism for selection.

University of Cape Town

The second task conducted with the learners was a mathematics task. The task was designed to elicit both solutions to Grade 3 mathematics problems and to reveal the processes by which learners approached these problems. The task was individually administered to the same learners as the sorting task.

The task consisted of thirteen mathematics problems, incorporating items from three main content areas in the Grade 3 mathematics curriculum: counting and ordering, calculations, and solving problems. The test sheet and problems (in both Xhosa and English) are shown in Appendix F and explained further in Chapter 7. The test items were spread over four pages, allowing space for learners to work out and write their solutions. Learners were also supplied with additional paper for calculations. Detailed observation notes were taken of how the students completed each item in the mathematics tasks.

The duration of the two tasks varied from fourteen minutes to nearly one hour. The reason for this variation was that no time constraints were placed on the learner: it was important for the researcher to gather a complete record of each learner's responses to the tasks, whatever the length of time required. The sorting and mathematics tasks were carried out in Xhosa with the Xhosa learners, and, for all the students, the mathematics questions were read aloud once[5].

4.3.4 Contextual information

Information on the schools was collected via a questionnaire to the school principal. The questionnaire collected a range of information about the school – its staffing, resourcing and student population profile. In particular, information that related to the socio-economic level of the students in the school was collected. The school questionnaire can be found in Appendix C. Information about the students' caregivers was collected using a survey form sent to the homes of the students.

[5] Although each student had a test sheet with the questions printed in their mother tongue in front of them, questions for the mathematics task were read aloud. The reason for this is that it has been reported elsewhere (see Taylor *et al*, 2003) that, in testing situations with Grade 3 students in mathematics in South Africa, in some cases the actual mathematical understanding of students is not being tested because they can't read. An attempt was made to address this problem by giving all students the opportunity to *hear* and/or read the question.

University of Cape Town

The second task conducted with the learners was a mathematics task. The task was designed to elicit both solutions to Grade 3 mathematics problems and to reveal the processes by which learners approached these problems. The task was individually administered to the same learners as the sorting task.

The task consisted of thirteen mathematics problems, incorporating items from three main content areas in the Grade 3 mathematics curriculum: counting and ordering, calculations, and solving problems. The test sheet and problems (in both Xhosa and English) are shown in Appendix F and explained further in Chapter 7. The test items were spread over four pages, allowing space for learners to work out and write their solutions. Learners were also supplied with additional paper for calculations. Detailed observation notes were taken of how the students completed each item in the mathematics tasks.

The duration of the two tasks varied from fourteen minutes to nearly one hour. The reason for this variation was that no time constraints were placed on the learner: it was important for the researcher to gather a complete record of each learner's responses to the tasks, whatever the length of time required. The sorting and mathematics tasks were carried out in Xhosa with the Xhosa learners, and, for all the students, the mathematics questions were read aloud once[5].

4.3.4 Contextual information

Information on the schools was collected via a questionnaire to the school principal. The questionnaire collected a range of information about the school – its staffing, resourcing and student population profile. In particular, information that related to the socio-economic level of the students in the school was collected. The school questionnaire can be found in Appendix C. Information about the students' caregivers was collected using a survey form sent to the homes of the students.

University of Cape Town

[5] Although each student had a test sheet with the questions printed in their mother tongue in front of them, questions for the mathematics task were read aloud. The reason for this is that it has been reported elsewhere (see Taylor *et al*, 2003) that, in testing situations with Grade 3 students in mathematics in South Africa, in some cases the actual mathematical understanding of students is not being tested because they can't read. An attempt was made to address this problem by giving all students the opportunity to *hear* and/or read the question.

4.3.5 Evolution of the study: piloting

In order to test the research instruments and refine the study design, a number of pilot activities were undertaken. Two pilot classroom observations were conducted, the teacher interview was piloted twice, and the student interview was piloted once. The first pilot classroom observation took place in two of the schools that became part of the sample: Lwazi and Arbor. This pilot consisted of three-day observations of one teacher in each of the schools. Informal conversations were also held with the teachers. Although not a deliberate design feature, the second pilot observation was carried out during a period spent on student exchange in New York City, in a working-class district called Yonkers, north of the city.

The interview schedule was piloted for the first time in the Yonkers school with the two teachers that I observed there. The schedule was again piloted at two schools in Cape Town, with schools and teachers with similar profiles to that of the final study sample, which, at that point, had been selected. The student tasks were also piloted with three students in each of these pilot schools.

In each case the pilot studies contributed to the study in three ways. Firstly, they helped in the refinement of the research instruments. In particular, in relation to the teacher interview and the student tasks, the schedules were refined in relation to outcomes of each pilot exercise. Secondly, the pilots alerted me to some of the methodological entailments of the data collection strategies. Some of these were practical (for example, the lack of a reliable electricity source in some classrooms), and some related to the relationship between researcher and research subject and the sensitivity of interactions and negotiations. At Lwazi, for example, many of the teachers were highly suspicious of my purposes in the school, and significant effort was needed to convince them that I was not from the Department of Education. This resulted in adjustments to the way in which I introduced the interview, and to the order of the questions.

Finally, the pilot studies contributed to the conceptual development of the project. In this regard the pilot study in New York was particularly illuminating. Similarities between the United States working-class context and that of the township schools in South Africa, where I had conducted the initial pilot, were remarkable. This was when the salience of social class as a feature of pedagogic practice became most obvious to me, and it was the 'strangeness' of

University of Cape Town

the US context that allowed for the 'stripping away' of layers of the familiar to see key issues emerge.

Although part of the data collection (especially the observations) entailed open recording of the data, my approach to the data collection described above, and to the research project in general, was to be as explicit as possible about what I expected to find empirically in relation to the theory that I used to orient my enquiry (largely Bernstein's code theory, and theory of pedagogy). Thus, unlike grounded theorists, or pure ethnographers, who seek to enter the field with no preconceptions about what they will find, I followed Burawoy's suggestion: 'to lay out as coherently as possible what we expect to find in our site *before* entry' (Burawoy *et al*, 1991:9). In this way, in my development of an external language of description for the structuring and reading of the data, I was able to identify 'theoretical gaps and silences' (ibid p.10). These could then be addressed through iterations between a relatively robust theoretical frame (or internal language of description) and the data, to produce an external language of description for my particular project. This is discussed in detail below in relation to the analysis of the data.

4.4 Analysis of the data

In considering the analysis of data, Brown and Dowling (1998) remind us that 'the text very definitely does not tell its own story. Rather, its description must be *biased* according to an explicit and coherent theoretical framework' (p. 89). In what follows, I show in detail the manner in which I conducted the analysis of the data. My purpose in doing so is three-fold. Firstly, in order to lend reliability to the study, I make as explicit as possible the process whereby the data was analyzed. Secondly, what I hope to demonstrate through the account is a particular approach to the systematic analysis of the data, which varies according to the type of data collected and the way in which it was collected. Finally, the description points to the relationship between theory and data in the process of analysis, by identifying in each case the 'orienting concepts' used and the external language of description developed.

'Orienting concepts' is a term derived from Layder (1998) to describe specific concepts that are drawn from a general theory and used to 'orient' the researcher in approaching both data collection and initial analyses of the data. Below, a general idea of the analytic approach is

University of Cape Town

given by discussing each of the three main data sets in turn: the observation data, the student task data and the teacher interview data. Exemplary extracts are shown from the different stages of analysis, from data collection to data organisation through to coding schemes, in order to illustrate the process. Prior to this description the development of *languages of description* is explained in more detail.

4.4.1 The development of an external language of description

A language of description is the set of concepts and constructs which allows both for the structuring of data and the reading, or analysis, of that data. Bernstein describes languages of description as follows:

> Briefly, a language of description is a translation device whereby one language is transformed into another. We can distinguish between internal and external languages of description ... A language of description constructs what is to count as an empirical referent, how such referents relate to each other to produce a specific text and translate these referential relations into theoretical objects or potential theoretical objects. In other words the external language of description (L^2) is the means by which the internal language (L^1) is activated as a reading device or vice versa (Bernstein, 2000: 132-133).

The internal language of description, introduced in Chapter 3, is the theory. Moore and Muller (2002:634) describe an external language of description as a 'data-near device', that is, the concepts and constructs that allow the theory to 'read' the data. This external language develops on the basis of deductive and inductive analysis, moving iteratively between the internal language and engagement with empirical data (Dowling, 1998). The language of description thus developed provides 'the basis for establishing what are to count as data and provides for their principled reading' (Ensor & Hoadley, 2003:92).

The question arises, then, as to how and where the theory changes. In this regard, and in order to counter potential circularity in the theory-data relation, Bernstein (2000) introduces the notion of the discursive gap. Moore and Muller (2002) define this gap as lying between the internal and the external language of description:

> The external language must not only be able to describe what is outside the theory in terms relevant to the theory, but also somehow be capable of recognising what is *beyond* the theory. It must submit to an external ontological imperative that allows that which is outside to 'announce itself' (p. 634).

Put more simply: 'Data, via the external language, can thus create a surplus that requires an extension of the theory to make sense of it, or do justice to it' (ibid). At the same time, Moore and Muller (2002) go on to argue, the theory, through its conceptual categories, is able to generate more empirical possibilities than may be evident in a particular instance, raising the 'possibility of other ways of doing things' (p. 635). So, the discursive gap provides the space for the development of the theory.

Ensor (2002) points out that the gap has been used in a number of different ways by different authors. However, all point to the 'loose articulation' between different moments in the research process, especially between the empirical world and internal and external languages of description. Ensor (2002) argues that the gap signals that the empirical world can only be grasped via theory, and that the empirical world is, as Bernstein emphasised, 'always ideologized'. Like Dowling (1995), the gap here lies between the empirical world and the theory, and signals the limits of what it is able to grasp. Ensor (2002) argues that, 'theories are cultural arbitraries in the sense that they are historically and contextually contingent, and our knowledge of the world stands removed from its 'objective' materiality' (p. 46). I will return to the issue of the gap below.

4.4.2 Classroom observation.

There were three stages to the analysis of the classroom observation data. The first involved the analysis of the classification and framing of pedagogic discourse. The second considered the instructional form, and the third examined the instructional strategies in terms of the concepts of domains and strategies, as described in Chapter 3.

In the first instance the classroom observation information collected had to be translated into data. That is, the information captured on video needed to be structured. This translation process, from information to data, was driven in part by the theoretical categories and concepts (orienting concepts of classification and framing) that I started with, and by what the information itself presented.

University of Cape Town

The observation data was summarized in the following way. All tapes of the total 24 days formal observation were scrutinized and broken down into time segments. Below I give an example of this type of primary treatment of the data from Babalwa's teaching.

Figure 4.1: Example of an initial summary of the classroom observation data

BABALWA DAY 3 , Lwazi , Tuesday, 29 July 2003				
Time	Duration (mins)	Subject	Topic	Lesson Code
08:00 – 08:07	7	Miscellaneous	Waiting for bell to ring	
08:07 – 08:12	5	Miscellaneous	Prayers	
08:12 – 08:35	23	Xhosa literacy	The seasons	BAB3L001
08:35 – 08:39	4	Miscellaneous	Handing in/out books	
08:39 – 09:41	62	Xhosa literacy	Trees	BAB3L002
09:41 – 09:45	4	Miscellaneous	Handing in / out books	
09:45 – 10:15	32	English literacy	The weather	
10:15 – 10:29	14	BREAK		
10:29 – 10:35	6	Miscellaneous	Waiting. T cleans desk	
10:35 – 11:15	37	English literacy	The weather	
11:24 – 11:59	35	Numeracy	Rounding off	BAB3N001

Only literacy (first language) and numeracy lessons were considered for analysis, and these were extracted from the summaries and allocated a code (for example, BAB3L001, for the first (001) literacy lesson (L) in Bablwa's class (BAB) on the third observation day (3)). The lessons were again represented in tabular form, shown in Figure 4.2 below. This second table identified a) the lesson code, given in the summary above, b) the lesson duration, c) the lesson topic, d) what the teacher did, and e) what the learners did. The table also included extracts of dialogue that would potentially provide exemplary texts.

University of Cape Town

Figure 4.2: Example of a secondary summary of the classroom observation data, in ordinary language categories.

Literacy – Babalwa				
Lesson code	**Duration**	**Topic**	**What the teacher does**	**What the learners do**
BAB3L001	23 mins	Reading	Teacher reads 2 paragraphs to learners from the textbook about autumn.	Listen to the teacher read. Follow in their textbooks.
			T asks Ls to repeat phrases about seasons after her. T: Spring is a time of the year. It is what? Ls: It is a time of the year T: The book says spring is warmer than winter. It is warmer than winter. It is what? Ls: It is warmer than winter.	Chant phrases after the T T: In summer it is very hot. It is what? Ls: It is very hot T: How is summer Ls: It is very hot T: How is summer Ls: It is very hot T: How is summer Ls: It is very hot
BAB3L002	62 mins	Shapes of leaves	Teacher reads from the textbook about different shapes of leaves	Listen to the teacher read. Follow in their textbooks
			The teacher talks about the shapes of trees	Ls chant after T

Figures 4.1 and 4.2 show descriptions of the data in ordinary language. The aim was to construct data texts defined by the unit of analysis – in this case the lesson (numeracy and literacy). At this point 89 numeracy and literacy lessons had been identified and summarized, and were ready to be coded.

4.4.2.1 Classification and framing of pedagogic discourse

In relation to the classroom observation data, I was primarily interested in two dimensions of variation: classification, which is about the structuring of discourses, spaces and agents (the 'what' and 'who' of pedagogy), and framing, which is about the relative control teachers and learners have over selection, sequencing, pacing, evaluation and hierarchical rules (the 'how' of pedagogy). These conceptual dimensions are summarized in Figures 4.3 below:

Figure 4.3: Conceptual categories for characterising pedagogy

Framing	Discursive rules	Extent to which teacher controls **selection** of content
		Extent to which teacher controls **sequencing** of content
		Extent to which teacher controls **pacing** of content
		Extent to which teacher makes explicit the **rules for evaluation** of learners' performances
	Hierarchical rules	Extent to which teacher makes formal or informal the **social relations** between teacher and learners

Classification	Relations between discourses	Inter-discursive (strength of boundary between the subject area and other **subject areas**)
		Inter-discursive (strength of boundary between the subject area and **everyday knowledge**)
	Relations between spaces	Teacher – learner (strength of demarcation between **spaces** used by teachers and learners)
		Space for learning (strength of boundary between **space,** internal and external, to the classroom and learning)
	Relations between agents	Teacher – learner (strength of demarcation of **pedagogic identities**)

A coding instrument was designed to assign values, in terms of framing, to the discursive rules of pedagogic practice: the selection, sequencing, pacing and evaluative criteria of educational knowledge. The coding instrument also assigned values to the hierarchical rules (the extent to which teacher and learner have control over the order, character and manner of the conduct of learners). The instrument also considered discourse relations in terms of the strength of classification (or boundedness) between different subject areas (inter-discursive) and between school knowledge and everyday knowledge (inter-discursive). The instrument

University of Cape Town

further looked at the classification of spaces and agents. In this way the high-level concepts of classification and framing were transformed into a coding scheme to read the data. The indicators, or theoretical constructs, named empirical instances of particular abstract concepts. The coding scheme comprised 19 indicators, providing a means for making the conceptual categories shown in Figure 4.3 'observable'. An example of one of the indicators, for the framing of the evaluation criteria, is given in Figure 4.4 below. The full coding scheme can be found in Appendix D.

Figure 4.4: Extract from the coding instrument for analysing the classroom observation data in terms of the classification and framing of pedagogic discourse

Discursive rule **EVALUATION RULES** (F^{+-})
The extent to which teacher and learner have control over the evaluative rules of the instructional knowledge pertaining to the meaning of concepts and principles and their appropriate realisation

5. In the course of learners conducting an activity or task	F^{++}	F^{+}	F^{-}	F^{--}	F^{0}
	Evaluative criteria very clear and explicit	Evaluative criteria quite clear and explicit	Evaluative criteria quite unclear and implicit	Evaluative criteria very unclear and implicit	Transmission of evaluative criteria not observable
	The teacher constantly moves around and monitors what learners are doing and makes comments. To the whole class, and to individuals, she repeatedly goes over what constitutes an appropriate performance.	The teacher makes some points, either to the whole class or to individual learners, so as to clarify what is expected of them in the task.	The teacher makes a few comments during the course of the task and looks at some of the learners work or listens to them read. However, this is not sustained and the criteria for a successful production are not made explicit to all.	The teacher looks at a few learners' work when it is brought to her attention. She rarely or never listens to them read. She seldom makes a comment to the learner. Comments are not extended to the whole class.	The teacher engages in other work in her space and is not seen to look at what the learners are doing. She makes no comment on the work as it proceeds. No action is taken to ascertain what the learners are doing.

University of Cape Town

In Figure 4.4 framing is expressed in terms of its strength or weakness using standard Bernsteinian notation – F^{++} representing the strongest framing (or teacher control) over the evaluation criteria and F^{--} representing very weak framing. F^{0} will be explained below. A sample of lessons was then coded using the coding scheme. Each lesson was coded for 19 indicators (such as the one above) for the different dimensions of pedagogy as offered by the theory. In the course of this initial analysis changes were made to the coding scheme. A similar process had already been undertaken with the pilot data and the coding scheme, and this was repeated. The coding scheme in the end went through at least six iterations. The external language of description – the indicators, or theoretical constructs – was thus developed through interactions between the theory and the empirical data. The entire data set was then coded using coding sheets, an extract of which is shown in Figure 4.5. The full coding sheet is shown in Appendix E.

Figure 4.5: Extract from the coding sheet for the analysis of the classification and framing values assigned to the classroom observation data

COBS CODING SHEET

Teacher: ___________ **Lesson code:** ___________ **Subject:** _______________ **Duration:** _______________
Lesson: ____

1	DR – Selection	In the introduction / discussion to a task	F^{++}	F^{+}	F^{-}	F^{--}	
2	DR – Selection	In doing an activity	F^{++}	F^{+}	F^{-}	F^{--}	
3	DR – Selection	When learners have concluded an activity	F^{++}	F^{+}	F^{-}	F^{--}	
4	DR – Sequence	In the course of the lesson	F^{++}	F^{+}	F^{-}	F^{--}	
5	DR – Pace	In the introduction / discussion / question and answer	F^{++}	F^{+}	F^{-}	F^{--}	
6	DR – Pace	In the learners doing activities / tasks	F^{++}	F^{+}	F^{-}	F^{--}	
7	DR – Evaluation	In the explanation / exposition to a topic / task	F^{++}	F^{+}	F^{-}	F^{--}	F^{0}
8	DR – Evaluation	In the course of learners conducting an activity or task	F^{++}	F^{+}	F^{-}	F^{--}	F^{0}
9	DR – Evaluation	In the kinds of verbal answers required of learners	F^{++}	F^{+}	F^{-}	F^{--}	F^{0}
10	DR – Evaluation	At the conclusion of the task / activity	F^{++}	F^{+}	F^{-}	F^{--}	F^{0}
11	HR – Teacher / Learner	When the teacher leaves the class or another teacher enters the class	F^{++}	F^{+}	F^{-}	F^{--}	
12	HR – Teacher / Learner	When learners do routine activities in the classroom	F^{++}	F^{+}	F^{-}	F^{--}	
13	HR – Teacher / Learner	In the physical interaction between teachers and learners	F^{++}	F^{+}	F^{-}	F^{--}	

University of Cape Town

Not all indicators were coded for all lessons; in some instances the question of appropriateness was raised. For example, an independent reading lesson set up for learners to engage with a reader on their own was not coded according to the following indicator: 'the extent to which the evaluative rules were transmitted in relation to questions posed by the learner', as this was clearly not appropriate, given the structuring of the activity. Thus the purpose of the lesson was taken into account in assessing which indicators it was appropriate to code for, and which not. All indicators were, however, ultimately covered. In the end a characterization of all lessons was possible. That is, all lessons could be mapped onto the scheme. However, the observable features of certain lessons were more limited than the coding scheme could potentially measure.

The final coding values assigned to the teachers were cumulative values across all the literacy and numeracy lessons of that particular teacher. These values were derived by assigning numerical values to each of the classification and framing values for each indicator, and taking an average for each conceptual category. So, for example, the coding of the first 5

indicators of a numeracy lesson (FION003) and literacy lesson (FIOL002) in Fiona's lessons was as follows (the shaded block represents the selected code):

Figure 4.6: Extracts form the coding sheets for the coding of two lessons in Fiona's class

Lesson FIOL002

1	DR – Selection	In the introduction / discussion to a task	**F^{++}**	F^{+}	F^{-}	F^{--}	F^{0}
2	DR – Sequence	In the course of the lesson	**F^{++}**	F^{+}	F^{-}	F^{--}	F^{0}
3	DR – Pace	In the introduction / discussion / question and answer	F^{++}	F^{+}	**F^{-}**	F^{--}	F^{0}
4	DR – Evaluation	In the explanation / exposition to a topic / task	F^{++}	**F^{+}**	F^{-}	F^{--}	F^{0}
5	DR – Evaluation	In the course of learners conducting an activity or task	F^{++}	**F^{+}**	F^{-}	F^{--}	F^{0}

Lesson FION003

1	DR – Selection	In the introduction / discussion to a task	F^{++}	**F^{+}**	F^{-}	F^{--}	F^{0}
2	DR – Sequence	In the course of the lesson	**F^{++}**	F^{+}	F^{-}	F^{--}	F^{0}
3	DR – Pace	In the introduction / discussion / question and answer	F^{++}	F^{+}	**F^{-}**	F^{--}	F^{0}
4	DR – Evaluation	In the explanation / exposition to a topic / task	**F^{++}**	F^{+}	F^{-}	F^{--}	F^{0}
5	DR – Evaluation	In the course of learners conducting an activity or task	F^{++}	**F^{+}**	F^{-}	F^{--}	F^{0}

University of Cape Town

If we were looking here at the evaluative rules, and if these were the only two lessons being coded, then adding numerical values assigned to the codes and dividing the total by the number of coding instances would produce the global code for the evaluative rules for Fiona. This would translate here into F^{+} [3] + F^{+} [3] + F^{++} [4] + F^{+} [3] / 4 = 3.25 = F^{+}.

Once this analysis was completed, extracts from the data were transcribed fully. At least one numeracy lesson and one literacy lesson were transcribed for each of the eight teachers, although in most cases more extracts were transcribed. An attempt was made to select a representative lesson for each teacher, and one in which most of the codes above could be observed. These transcriptions were then individually coded, using the classification and framing indicators, and compared with the final coding given from the previous coding exercise. Where discrepancies or anomalies arose I returned to the full set of lessons and recoded the set for that particular dimension. This constituted my main reliability check for the observation data.

What this second process of coding indicated was that the coding assigned to teachers represented a general (or aggregated) coding for lessons. At another level of analysis (for example, a line-by-line close reading of classroom communication) there would be far more

variation *within a lesson* for all the dimensions of pedagogy than the final code would suggest. So, for example, one might well find a teacher within a single lesson working between strong and weak framing over pacing, selection and sequencing. We may see the teacher relaxing the hierarchical rules at times, and at other times explicitly controlling the order, conduct and manner of students in the classroom. Nevertheless, what I attempted to do in this analytic exercise was to gain an 'average' or 'global' characterization of each of the teachers' pedagogic practice.

Identifying the gap – framing relations and the F^0 value

Reference was made earlier to the discursive gap, and how it allows for the development or extension of the theory. Here, I want to show, at some length, how the potential for theory development opens up through analysis. This is a modest exemplar, but it does illustrate the generative effects of the process of analysis in terms of the theoretical concepts informing the study. In its specificity, Moore (2001) explains how Bernstein's theory holds the potential to avoid the circularity referred to earlier:

> By rigorously specifying in advance what we should expect to see if the theory holds, we can measure the limitations of the theory if we fail to find it or encounter other things unexpected and unspecified. In this way the theory can avoid the circularity that so often characterises (and vitiates) research applications of theories lacking such methodological depth (p. 368).

Bernstein's sociological theory of pedagogy presents the researcher with a highly systematic account of how pedagogy works. The theory is worked out with a rigour and precision that gives rise to an array of inter-related concepts that have a delicacy and 'methodological depth' (Moore, 2001) which is extremely useful to the researcher.

However, there are dangers inherent in such a comprehensive and robust theory. Gamble (2004) identifies the problem in this way:

> The researcher choosing to work within a Bernsteinian framework may initially find herself trapped in what feels like a labyrinth of concepts, all related yet all carriers of distinct meanings . . . This brings with it the danger of encouraging the researcher to fit (or force) empirical evidence into pre-elaborated categories which are already available and to be lulled into a misconception that no further theoretical labour is necessary other than to verify an already established theory (p. 51).

University of Cape Town

Gamble (2004:53) argues that, in fact, the 'theoretical labour' entailed in using the theory is greater. Bernstein's theory provides the space for this labour by identifying the discursive gap, a structural feature of his epistemology. Here I illustrate an instance of where such work was done, in relation to the conceptual category framing. I take an example from my observation data to show how the theoretical range F^{++} to F^{--} for the evaluative rules failed to capture certain pedagogical forms in my data. The example comes from Babalwa's class.

Extract 4A: Babalwa - literacy

The teacher stands at the front of the class and pages through the textbook. All the learners have a copy of the textbook in front of them. She says, 'Here people, I like this section on leaves. We were learning about trees, neh? And then went on to leaves.' The teacher goes on to explain what the book says about colours, that there are shades of colours, for example, blue-green. She copies a set of leaves, which shows these colour variations, from the textbook onto the board. However, she copies only the set of leaves, not the colours. What the teacher has encountered in the textbook is the end of a previous section on colours, which precedes a section on trees. The iconographic indicator – leaves – has led her to select this page as leaves relate to the more general theme in use, trees. But the topic of trees is only addressed halfway down the page. The lesson continues.

The teacher numbers the leaves she has drawn on the board and the learners shout out the numbers as she writes them. The teacher then moves directly onto the next section in the book on trees. She says, 'He says here there are parts of the tree, that's what I like, but then he says we don't tell colours as they are. So here are the parts of the tree. He says write them in their order from the biggest to the smallest. Read these as I write them on the board.' The teacher writes on the board: tree, leaf, branch, bush, and asks learners which are found at the bottom of a tree. A learner says that roots are found at the bottom of the tree. The teacher replies:

Teacher: No no. Don't tell me things you haven't seen. I'm not asking for what you've thought about, I'm asking for what you've seen. Okay, from the tree, bush, leaf and branch, which one do you get from the bottom of the tree? Things that you get at the bottom. Bottom, bottom.'

She underlines 'bottom' on the board. Another learner says roots. After a while the teacher looks back at the text book and realises that she has made a mistake, reading 'tree, bush, branches, leaf', instead of 'stem, roots, branches, leaves'. She moves directly on to the next question, which requires writing from biggest to smallest, tree, branch, leaf, bush. Learners respond and the teacher writes each word on the board. She then returns to the question of what is found at the bottom of the tree. As she writes, learners repeat the words over and over again. The following exchange occurs as she moves onto the next section in the book:

Learners: leaves, leaves, leaves, leaves, leaves, leaves leaves, leaves, leaves leaves, leaves, leaves leaves, leaves, leaves

Teacher: Hey stop. The reason why we are repeating this is because you do your own thing when I turn my back on you. Now the writer says the same words rhyme at the end. Now we've done a tree. Haven't we done a tree?

Learners: Yes Miss. Yes we've done it.

Teacher: Now we know how a tree is formed. Now the writer says there are certain words that rhyme at the end. This is what I like. And he also says write those that rhyme in the box. [Teacher looks at the book for a while] Ja, here's work. Close your books. I'll give you work on the board. Don't talk Grade 3. Don't talk, don't talk. Sleep on your desks. Lower your heads.

The teacher writes 6 words on the board: tree, fruits, home, flowers, smoke, bushes, roots.

Teacher: Listen, listen. I did not say shout on the top of the roof. Now write the rhyming words. He says some words are rhyming at the end so he wants you to write those that rhyme at the end. Here's the correct date, the thirty-first. Let's write. Let's work. No talking. I want rhyming words. I want rhyming words. I want rhyming words.

University of Cape Town

Later the teacher bangs on her table with a ruler and shouts at the learners to be quiet.
Teacher: Write, write, even though you don't know.
The teacher sits at her desk for the remaining 23 minutes of the lesson. At no point does she see what learners are writing. The bell rings for break and learners close their books and go out.

A consideration of the coding of this lesson will be illustrative of the coding procedure in general, and what I define as the F^0 category in particular.

Selection and sequence in this instance would both be coded F^{++}. The reason for this is that the teacher decides what knowledge will be transmitted and in what order transmission will take place. Learners are not given opportunities to alter the selection and the sequence of the knowledge, even where, at one point their interjections potentially are a corrective to the teacher's misreading of the text[6]. Likewise, it is the teacher who asserts the pacing or expected rate of transmission. She decides that the lesson will continue until the bell rings, and learners do not have control over the stipulated pacing. Pacing is therefore also coded F^{++}.

A problem arises, however, in the coding of the evaluative rules. The required performance of learners ultimately is to copy down words that rhyme, but no concept of rhyming is transmitted, and its recognition is potentially opaque to the learners. Because the evaluative criteria have not been transmitted, the teacher can only elicit the legitimate text from the learners on the basis of assertion: 'Write, write, even though you don't know.', and that legitimate text appears devoid of instructional content. The learners are required to write; *what* they write does not seem to matter[7].

The framing of the evaluative criteria is difficult to categorise as either weak or strong. Thus the category F^0 in the coding scheme has been developed in order to capture such instances of transmission, which appear devoid of evaluative criteria relating to the instructional

[6] However, it could be argued that, in this case, the teacher in fact substitutes the textbook for herself; or she recruits a proxy voice – the sequence and selection of the textbook – because her voice isn't able to do the pedagogic work. Neither student nor teacher here appears to be controlling the knowledge but rather the textbook is followed to the word, strongly dictating the sequence and selection. So an initial (iconic) selection in terms of the theme 'trees' is made, but from there the sequencing follows that of the textbook from the top of the page to the bottom.

[7] Similarly, the following exchange takes place in another lesson:

Teacher:	Now we've done a tree. Haven't we done a tree?
Learners:	Yes Miss. Yes we've done it.
Teacher:	Now we know how a tree is formed.

Again, the legitimate text is extracted on the basis of assertion. The learners had merely named parts of a tree up to this point; they had not addressed 'how a tree is formed'.

University of Cape Town

discourse, or where these are obscured by regulative criteria[8]. That is, the transmission of principles relating to the subject knowledge is obscured. All is about comportment, form, or behaviour. The descriptor for one of the indicators for F^0 for the evaluative criteria reads:

> **Evaluative criteria: In the introduction / explanation / exposition to a topic / task**
> **F^0** - It appears as if no attempt is made to transmit the concepts and principles in the instructional practice. What counts as a successful production in terms of instructional knowledge is therefore totally unclear. The purpose of the task/activity/discussion is unclear. Learners are unclear as to how to proceed, or they are only given criteria relating to how they should *behave*.

It is also evident from this example that the coding of the data can at times be derived only in conjunction with an assessment of what learners recognize and realize in their performances. This is because there must be certainty (using this instance as an example) that the learners have not spent several prior lessons focusing on rhyme, and that the absence of an explicit articulation of the evaluative rules could therefore be considered redundant. In such cases reference was made to learner productions and learner notebooks, or to observation of learners carrying out the tasks.

University of Cape Town

I have indicated how a possibility exists for an F^0 coding with respect to the evaluative rules. F^0 represents an inability to observe the code. It may also point to a breakdown in pedagogic discourse, or the absence of (a particular dimension of) pedagogy. Bernstein (2000) at one point does suggest the possibility of the F^0. In the following quotation we recall that realization rules are transmitted and acquired through framing relations and the recognition rules through classification:

> Many children of the marginal classes may indeed have a recognition rule, that is, they can recognise the power relations in which they are involved, and their positioning in them, but they may not possess the realisation rule. If they do not possess the realisation rule, they cannot speak the expected legitimate text. These children in school, then, will not have acquired the legitimate pedagogic code, but they will have acquired their place in the classificatory system. For these children, *the experience of school is essentially an experience of the classificatory system and their place in it* (Bernstein, 2000:17, my emphasis).

Bernstein here acknowledges the possibility that one can be positioned within the school (that is, one always gets sorted into the social relation) but have no access to the realization rule.

[8] There is not an absence of control. The teacher asserts control here, but there is no evidence of the teachers' specialized voice. Consequently, the teacher is unable to evaluate and we get F^0 for the evaluative rules.

The question arises as to how one codes framing values in such a pedagogy. Here I propose the necessity of including an F^0 framing value for the framing over the evaluative rules where the absence of being able to observe the pedagogic code for instructional discourse is confronted. In a sense, it represents a collapse of the instructional discourse into the regulative discourse.

However, the categorization raises a number of problems. The first is the question around sequence, selection and pacing when there is an apparent absence of evaluative criteria. What then is sequenced, selected and paced? Is it possible that F^0 in fact represents an absence of pedagogy, and should therefore be bracketed off from an analysis of classification and framing? The reason that I have been reluctant to do this is because we know from classroom research that this is a form of pedagogy (or non-pedagogy) not uncommon in schools in South Africa (see especially Ensor *et al*, 2000; Hoadley, 1999; Jacklin, 2004). Within the same analytic framework I attempted to capture more conventional understandings of what pedagogy entails, and that which appears to fall outside these understandings.

The general methodology for operationalizing the concepts of classification and framing broadly follows the work of Morais and Pires (2002) and Morais and Neves (2001), and more generally the work of the Sociological Studies of the Classroom project at the University of Lisbon. However, the original theory of classification and framing was developed in contexts of schooling that were possibly far more functional, in conventional notions of the working of schools, than many schools found in South Africa. Further, the theory and its application to classroom observation data was extended and developed largely in Portugal with respect to science, two contexts which are in all probability far more strongly classified than phenomena that arise in other contexts (for example, literacy learning in South Africa, shown in the example above).

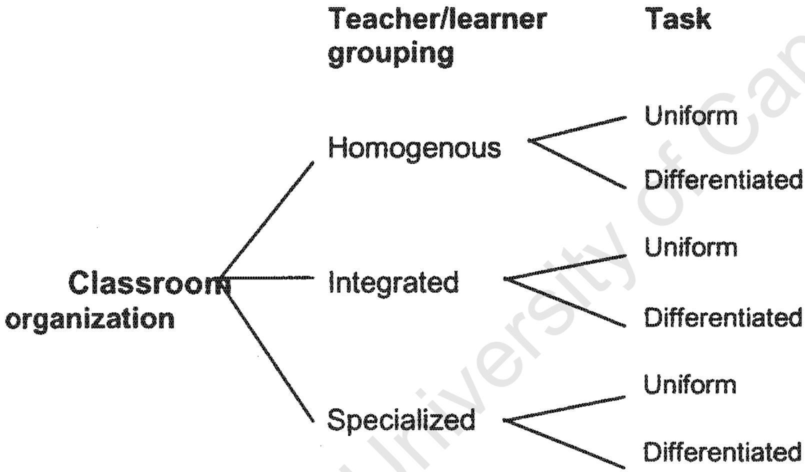
Thus, in order to capture pedagogy of very different types on the same scale, it was necessary to extend that scale to include a greater range of pedagogic forms, and this emerged in relation to the framing of the evaluative rules. In this way the original theory begins to open up both the possibilities and the exigencies for further theorizing. However, it was necessary to start with a sound theory in order to make this visible. '*Without a model, the researcher can never know what could have been and was not*' (Bernstein, 2000:135).

University of Cape Town

4.4.2.2 Instructional form

Following the analysis of the instructional and regulative discourse through the concepts of classification and framing, I examined in greater depth the classification of agents and the question of differentiating in the classroom by looking at the instructional form of the pedagogy. Following Pedro (1981), this entailed looking at the differentiation between different organisational groups within the classroom – the whole class, groups and individuals, and between contents. Here the interest was in whether the pedagogy communalized or individualized learners. Because of space and redundancy I don't go into detail here, but show the scheme, adapted from Pedro (1981), that was developed for the analysis, and refer briefly to its dimensions.

Figure 4.7: Scheme for the analysis of instructional form



University of Cape Town

The scheme (explained in greater detail in the analysis) differentiates between the teacher working with the whole class (homogenous), or the classroom organization comprising learners working with each other (integrated), or the teacher working with groups or individuals (specialized). Further, the scheme identifies the differentiation of contents, and the extent to which different tasks are assigned to different learners (differentiated), or whether all learners do the same tasks (uniform). Whereas the unit of analysis for classification and framing was the lesson, the unit of analysis for the instructional form was the task. This is defined below.

4.4.2.3 Instructional strategies and knowledge domains

The analytic process regarding the classroom observation data with respect to classification and framing and the instructional form was addressed above. The purpose of the third stage of the analysis of the classroom observation data was to go deeper into an analysis of how the voice of the pedagogic subject was potentially specialized through pedagogy, and to this end I drew mainly on Dowling's (1998) concepts of domains and strategies. I wanted to show what kinds of strategies the teachers deployed, and whether these represented specializing or localizing strategies, generalizing or fragmenting. This entailed looking at what message (public or esoteric domain) the strategies distributed to learners.

The table of 89 lessons exemplified in Figure 4.3 were broken down into tasks, which became the unit of analysis. A task is defined as an activity with a single goal or theme that the learner is required to do (Ensor, 1999). Through the tasks that the teacher set I sought to identify the instructional strategies deployed. In total the lessons were broken down into 169 tasks – 103 literacy tasks and 66 numeracy tasks. The tasks were enumerated in the following form, an example taken once again from Babalwa:

Figure 4.8: Extract from a summary of tasks in Babalwa's literacy lessons

Babalwa – Literacy		
Lesson code	**Task description**	**Task number**
BABL001	Learners listen to the teacher read a paragraph about seasons, and then repeat the same paragraph after her, line by line.	1
BABL001	Learners listen to the teacher talk about seasons and repeat phrases after her when prompted.	2
BABL001	Learners listen to the teacher read a paragraph and chant phrases after her.	3
BABL002	Five learners read the same paragraph as in 3 about the seasons. The whole class reads the paragraph.	4
BABL002	Teacher-led discussion about trees. Learners repeat phrases after teacher.	5
BABL002	Copy drawings of trees from textbook and copying labels for trees from board	6

Following Dowling (1998), I discerned two central strategies deployed by the teachers in the classrooms: localizing and specializing. These two strategies relate directly to my concern with the specializing of learning in the two contexts and the trajectory established towards context-independent meanings. The definitions of these strategies are adapted and simplified

from Dowling's concepts. In my definition, specializing strategies contain an esoteric domain message, and localizing strategies refer primarily or wholly to the public domain.

In order to look at all tasks across all teachers, coding networks were developed to analyse the tasks of all the numeracy and literacy lessons. Separate coding networks were developed for the two subjects, as empirical instances of localizing and specializing strategies embodied in the tasks varied substantially across the subjects. The networks for the coding of literacy and numeracy are presented below. Each task was analysed individually, and the concepts of localizing and specializing strategies were the initial differentiating categories. As I worked through the data, these two categories were disaggregated, and the networks shown below emerged as a result. In this way, the network allowed for 'generating and refining analytic categories and structures' (Brown & Dowling, 1998:92).

Figure 4.9: Network for the analysis of literacy tasks

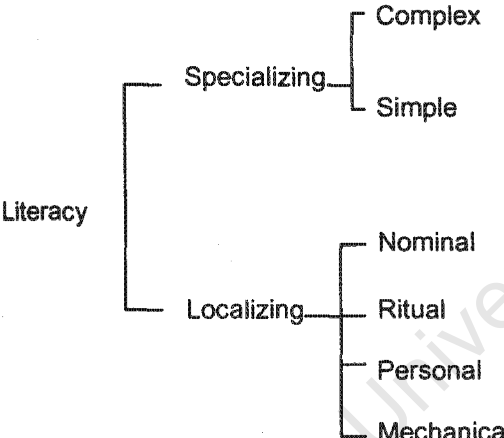
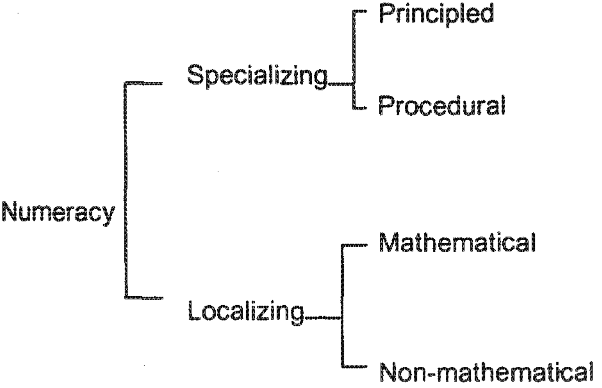


Figure 4.10: Network for the analysis of mathematics tasks



University of Cape Town

Full definitions of the aggregations of the strategies are given in the analysis. These aggregations were achieved through the repeated coding of the data until all instances were captured, and sufficient delicacy existed in the coding network for the purposes of the study interest. A calculation of the prevalence of different strategies could be made from a count of the different categories that the network made possible.

After the tasks were analysed as discrete units they were arranged into *pedagogic assemblies*, a revised unit of analysis. Tasks were considered vertically, across the three days of observation, and the relations between these tasks were examined. The interest was in whether the sequence of tasks represented generalizing or fragmenting strategies. This was judged by examining what it was that connected the tasks to each other, that is, what was foregrounded in the pedagogy. Again the theoretical categories are drawn from Dowling (1998), and although used in a different way, are broadly consistent with his definitions.

Generalizing refers to the articulation of the regulating principles of the esoteric domain, a connection between the pedagogic assembly (or sequence of tasks across the three days) and what Dowling (1998) refers to as the 'gaze' of the esoteric domain, which regulates the realization of an assembly.

Fragmenting strategies realize the 'esoteric domain as segmental rather than articulated' (Dowling, 1998:149). The principles that generate the pedagogic assembly are not made explicit, or the pedagogic assembly is constituted by public domain rather than esoteric domain principles (ibid). There is no reference to principles connecting the segments.

What I have presented is an account of the analytic approach to the classroom observation data in order to indicate the iterations between theory and data in the development of the external language of description (represented in the coding scheme, categories and networks). Setting out a clear language of description has a number of advantages, as articulated by Ensor and Hoadley (2004):

> Firstly, it starts from a clearly stated theory of pedagogy, which is used to develop coding categories. Secondly, and following on from this, it is transparent and relatively open to interrogation. It is possible to access the criteria by which the classrooms have been analysed, and in this way the findings can be challenged on the basis of these (p. 97).

University of Cape Town

questions appeared, and on which learners wrote their solutions; sheets with students' rough workings; and the observation notes of the researchers. In the first instance, the data was organised in terms of student responses, whether these were correct or incorrect, and the nature of the error. Secondly, tables were constructed which captured the way in which the students solved problems. Examples of each of these are given below. These represent extracts from the full tables that were constructed for the ten learners in each of the eight classes. These representations of data constitute a second level analysis of ordinary language, which were later translated into terms of recognition and realization rules.

Figure 4.12: Extract from data summary table of the student mathematics task from Babalwa's class detailing students' methods for solving problems

Babalwa – student method

Student	QUES1	QUES 2	QUES 3	QUES4	QUES 5	QUES 6	QUES7
Zinzi	Pause. Counters (39). Counts?	Pause. Pause. Slow mental calculation	Pause. No calculation evident	Pause. No calculation evident	Draws counters. Counts on. Recount.	Draws counters (21). Counts?	Draws counters. Counts on. Recount.
Xoliswa	Counters. ?	Deliberation. Slow mental calculation	QMC (w)	Pause SMC (w)	Draws counters. Counts on.	Draws counters. Counts on.	Draws counters. Counts all.
Banda	Quick mental Calculation	Slow mental calculation	Counts on fingers. Counts on.	Deliberation. SMC (w)	Draws counters. Counts all.	Draws counters. Counts on. Recount.	Draws counters. Counts on.
Kwezi	Quick mental Calculation	Quick mental Calculation	Slow mental calculation (r)	QMC (w)	Draws. Counts on fingers. Counts on.	Counts on fingers. Counts on.	Counts on fingers. Counts on.

Figure 4.13: Extract from data summary table of students mathematics task from Babalwa's class detailing students' solutions and error analysis

Babalwa – student solutions & error analysis

Student	QUES1	QUES 2	QUES 3	QUES4	QUES 5	QUES 6	QUE7
Zinzi	113	19,28,38, 98	40	32	■	145	72
	Can't differentiate	Writes small to big numbers but of own choosing	????	Has chosen the bigger number ('more')		Draws 21 lines and then writes. Struggle with 3 digits?	Attempts to add; counting inaccurate
Xoliswa	■	1,2,3,4	69	20	■	2003	■
		????	Copies out last number (3,6,9 – can't go beyond)	Has selected one of the numbers.		Attempts to count on. Can't deal with 3 digits.	
Banda	■	■	■	32	■	306	71
				Has chosen the bigger number ('more')		Attempts to count on using counters. Counting error. Tries twice.	Has added instead of subtract
Kwezi	■	■	■	32	■	■	71
				Has chosen the bigger number ('more')			Has added instead of subtract

University of Cape Town

The ■ icons in Figure 4.13 represent a correct answer, digits represent the incorrect answer and the analysis of error is given below this number. For the analysis of the student mathematics task the orienting concept was the students' mastery of the recognition and realization rules of Grade 3 mathematics, which informed the categorizing of the data shown here and subsequent findings shown later in the analysis.

4.4.4 Teacher interviews

The teacher interview was used firstly to collect biographical information about the teachers. This data was used to consider teachers' social class backgrounds and current social class positioning. Conventional sociological scales were used in this analysis, as well as Bourdieu's (1986) concept of 'capitals'. This is elaborated in Chapter 8. Secondly, the interview data was used to elicit teachers' strategic dispositions.

The analysis of the teacher interview data departed from the analytical approaches described above in several important ways. The orienting concept here – of professional dispositions – was at a level of generality which did not allow a straightforward way into the data. Thus the generation of categories, though structurally guided by the theory, was more inductive. In attempting to define teachers' professional dispositions, the approach to the interview transcripts is best described as *direct interpretation* (Stake, 1995). In this approach, meaning is drawn from single or several instances, without looking for multiple instances. Cresswell (1998:154) describes direct interpretation as a process of 'pulling the data apart and putting them back together again in more meaningful ways'. This method is contrasted to *categorical aggregation* (Cresswell, 1998), a feature of the analysis of the pedagogic modalities.

Thus, in the analysis of the classroom observation data and student interview data in Chapters 5, 6 and 7, a combination of quantitative and qualitative techniques[9] was employed. That is, much of the description of the full data sets involved a count of particular conceptual categories, which were then exemplified through extracts from the data (as well as the conceptual categories being defined through these extracts). In relation to the teacher interview data, analysed in Chapter 8, I employed a solely qualitative approach. Topics were initially sought from the data and labelled in terms of ordinary language. Initial stage analytic

[9] I use the basic, literal distinction here between quantitative and qualitative: 'categorical data count as qualitative, and ordinal, interval and ratio data count as quantitative' (Howe, 2001:201).

University of Cape Town

To put it another way, the development of an external language of description represents a form of construct validity (Yin 1984:36), where what is to count as data, and how that data is read (i.e. the recognition and realization rules of the analysis) are made explicit and available for scrutiny. In other words, the 'chain of evidence' (ibid) is explicit.

4.4.3 Student tasks

The purpose of the two tasks administered to students was to ascertain the extent to which their voice had been specialized with respect to the school code. The first task elicited students' general coding orientation through the food sorting experiment, described earlier, based on Holland (1981). The categories defined by Holland were used to code the data, and the schedule for the recording of the experiment was pre-coded. An extract from the schedule is shown below.

Figure 4.11: Extract from the data collection instrument (pre-coded) for the student interview

Student grouping of items

Date:	
School:	
Teacher:	
Learner:	

First grouping

		Context independe nt	Context dependent				
Grouping by student	Reason given	Foodstuff category	Use	Attribut es	Percep tual	Ambiguou s / implicit	No focus
Group 1:							
Group 2:							

Counts of categories were done, and percentages calculated. The pre-coded nature of the schedule made the analysis quicker and more straightforward than most of the other analyses. The strength of the design of Holland's (1981) original analytic frame is borne out by the fact that the categories provided for coding did not need adjustment in the replication study. They were inclusive and precise.

The second task, relating to Grade 3 mathematics, sought to assess students' mastery of Grade 3 mathematics, and to elicit the strategies they deployed for solving problems. For the mathematics task, three components comprised the data set: the test sheet on which the

University of Cape Town

questions such as 'How does the teacher talk about students?' and 'What does the teacher say about learning?', and so forth, guided the initial sorting of the data. In the second stage these empirical descriptions were translated in terms of Bernstein's analysis of pedagogic discourse. This enabled a structural description that related teachers' dispositions (drawn from the interview data) with teachers' pedagogic practice (drawn from the observation data). Thus teacher utterances were interpreted in terms of the instructional and regulative discourse, how the relation teacher-student was framed and how students were classified.

Finally, both the collection and analysis of the interview data differed from that of the other data sets in the particular features of the method and the type of data they produce. Ensor (1999; 1997) points out the specificity of the 'context' of interviewing.

> Respondents are invited to draw on linguistic and somatic resources for the elaboration of subjectivity. The evoking context [...] foregrounds and backgrounds subjectivities, and in this way motivates the selective recruitment of resources. Subjects recruit resources in their elaboration and that which is recruited or recontextualised at the same time constitutes subjectivity. In this sense subjectivity is both constituting and constituted; the subject opens up its own space through recontextualising, but at the same time is constituted by what it recruits (Ensor, 1999:98).

What Ensor stresses here is that the subjectivity of the interviewee is not fixed; that it is the context of the interview (who is interviewing, where, when) that evokes particular selections. Interview data, in Ensor's view, must therefore be treated as 'constructed', and what should be examined are the ways in which subjects 'recruit resources in the elaboration of their positions' (1999:263). Put another way, the particular 'resources' that the interviewee selects from a potential 'reservoir' in constructing a particular 'repertoire', or subjectivity, should inform the treatment of the data. One way of identifying this process is by looking at the way in which the interviewees position themselves in relation to practices, people and ideas that have positive and negative attributes.

Following Ensor, I attempted to build this into my interview schedule, and included such questions as: 'Think of a teacher who you do not admire or have respect for. Tell me a few reasons why you do not admire or respect that person.' And: 'Say a new, beginning teacher was taking over your class for the year. What are the most important things you would need to tell him or her?' and: 'If you had to send your own child to primary school, where would you send your child? What makes you choose x school?' In each of these cases, the questions

University of Cape Town

make it possible, in the analysis, to identify the way in which the interviewees mark themselves out in relation to a particular choice, or person, or decision. The kinds of selections that the teacher makes are therefore made visible, suggesting the construction of a particular subjectivity regarding being a teacher and teaching.

4.4.5 Further analytic activities

I have sketched out in some detail above, the analytical approach taken to the three main data sets: the classroom observation data, the student task data, and the teacher interview data. A further analytic activity related to a description of the social bases of the school in which the teachers worked. In particular the analysis drew on the classroom observation data in order to analyse the specialization of time, or the division of the school day into units set aside for engagement with the formal curriculum, the extra curriculum, and for other activities. This description, as well as data from the teacher interviews and the grade meeting observations, was used to characterize the division of labour and forms of solidarity (Durkheim, 1933) in the schools.

In the next section the issues of internal and external validity are addressed.

4.5 Internal validity

Maxwell (1996) differentiates between three types of validity: description, interpretation and theory, related to the types of understanding deployed in qualitative research. I consider the validity implications of each of these three modes of understanding in the present study. These categories will summarize issues that have mostly been raised in the course of the chapter, and will therefore be brief. Many of the issues refer back to the development of an external language of description.

Descriptive validity is dependent on a full and accurate recording of data. To achieve this in the study, all classroom observations were video-recorded and the teacher interviews and grade meetings were tape-recorded. The latter were transcribed in full, and in the case of the video recordings, extracts were transcribed where necessary (that is, for detailed scrutiny of classroom talk). For the interviews, the classroom observations and the student tasks, a fully

University of Cape Town

trained researcher and translator (the same person – Xolisa) was employed, both at the research site, and for subsequent translations of recorded data. Full and detailed field notes of the student tasks were kept, and these were organized on a pre-structured schedule in order to systematize the recording.

Interpretative validity, Maxwell (1996) argues, is threatened when one imposes one's own framework or meaning rather than understanding that of the research subject. However, the purpose in this study, elaborated in the account of the development of the language of description, is precisely to do this, *in relation to an explicit theory.* The point, as I have already stated, is to be explicit about how the data is structured and analyzed, and the way in which the theory and empirical data are put into conversation with each other. This is consistent with a Bernsteinian approach, which can be broadly characterized as a sociological realist position. Neither I, as researcher, nor the research subject, are free to interpret reality 'however we like' within this approach. Rather the object is *epistemic gain:*

> … we do not have to make any claims about the absolute veracity of assertions. A comparative claim is perfectly adequate: 'Its message is: whatever else turns out to be true, you can improve your epistemic position by moving from x to y; *this step is a gain'* (Taylor, 1995: 54, emphasis added). To concede this is to concede no more than that some research findings tell us more than others do. Otherwise put, some claims to knowledge are less valid than others are: 'We are not free to interpret reality just, however, we like, that is part of the meaning of the word 'reality'' (Hammersley and Gomm, 1997b: 2) (Muller, 1999: 64, references as in the original text).

How is this achieved? Dooley (2001) states it most succinctly: 'The value of the Bernsteinian approach is that tentativity and fallibility [of knowledge claims] can be negotiated through challenges mounted on the grounds of the adequacy of the methodology of production'. In this study, following mainly Bernstein (2000), Dowling (1998), Ensor (1999) and others, establishing these grounds of adequacy entails the development of external languages of description. It is through a 'stable, explicit and rigorous methodology of production' (Moore and Muller, 1999:202) that it is possible to have confidence in knowledge claims. External languages of description, then, provide the chief mechanism for addressing interpretative validity as understood within a sociological realist approach.

Theoretical validity is threatened if insufficient attention is paid to discrepant data or alternative understandings. I would argue that this is partly addressed by developing a

University of Cape Town

language of description, through interaction between theory and data, that is able to capture variations, degrees or forms of a particular phenomenon. I have also attempted to address this issue, in particular in the classroom observation data analysis, by analyzing the *full data set* and showing the results via 'counts' or quantitative techniques.

In this study theoretical validity is weakened by the length of the observation period. In total, the teachers were observed for five days, but three consecutive days were used for the analysis. Although these three days represent fairly typical practices in the classrooms, a longer time period may have allowed for greater certainty and greater potential for variations and discrepancies to emerge.

Maxwell also raises some potential threats to validity, most notably *researcher bias* and reactivity. Again, the development of a clear external language of description facilitates a principled reading of the data, and makes this reading available for contestation. Researcher bias is minimized at the point of analysis in this way. At the point of data collection, I maintain that a full recording via video and audio means minimizes researcher bias.

Reactivity refers to the influence of the researcher on the setting or individuals being studied. As mentioned, I attempted to naturalize teachers to my presence by conducting two classroom observations prior to the main observation from which the data was drawn. Some of the teachers required constant reassurance that I was not there to evaluate them or to report on them to the Department of Education, and I believe this was adequately achieved. I am at least confident of the fact that what teachers did present was their version of 'best practice', and I would argue that this suited my research purposes in observing how teachers constructed an 'ideal lesson'. Teachers were always given sufficient warning as to my presence, and on three occasions observations were cancelled at teachers' requests. The teachers all claimed to forget my presence by the second day of the formal observation. One of the teachers pointed out that it would be difficult to change practice, as the students would make it obvious if she did anything out of the ordinary.

University of Cape Town

4.6 External validity

In relation to external validity, or generalizability, we can say that there are two types: statistical and analytical. Statistical generalizability allows one to generalize empirically, given the construction of the sample and its representivity of a particular population. Analytical generalizability allows one to generalize from a particular theoretical model, developed in the course of the research. The purpose, then, is to generalize findings to theory, in much the same way as a natural scientist generalizes from experimental results to theory (Yin, 1984:39). Case studies, according to Yin, are generalizable to theoretical propositions and not to populations or universes. In the present study the model of connective links between social class, pedagogic modalities, the specialization of voice and strategic dispositions, is developed in the interest of further research and consideration. Hence it is exploratory and also sets up a theoretical frame for application elsewhere. In this way it has the potential to be generalized to other sites/cases.

4.7 Conclusion

This chapter set out to show in some detail the process whereby research information was translated into data defined by different units of analysis. The focus was on how the external language of description was developed in interaction with the empirical data and the theory. The discussion also identified the orienting concepts which allowed ways into the data, and which also contributed to a structural description relating the different parts of the argument presented in the thesis. These aspects are summarized in Table 4.6 on the following page, which also shows the specific research questions introduced in Chapter 1 and the chapters in which the different aspects of the analysis will be shown. The results of the analysis of the data are shown in the chapters that follow.

University of Cape Town

Table 4.6: Summary of the analytic approach

Research question	Data source	Unit of analysis	Orienting concept/s	Language of description representation	Internal language of description	Chapter
How is the pedagogy in different classrooms structured differently?	Classroom observation data	Literacy and numeracy lessons	Classification and framing	Coding schema of nineteen indicators for classification and framing	Code theory – classification and framing (Bernstein, 1975; 1990; 2000)	Chapter 5
	Classroom tasks	Literacy and numeracy tasks	Organizational form (Pedro, 1981)	Schema	Organizational form (Pedro, 1981)	
What strategies are deployed by the teacher in the distribution of knowledge in the classroom?	Classroom tasks	Literacy and numeracy tasks	Localizing and specializing strategies (Dowling, 1998)	Networks	Social activity theory (Dowling, 1998)	Chapter 6
	Classroom task sequences	Pedagogic assemblies	Generalizing and fragmenting strategies (Dowling, 1998)	Coding categories	Social activity theory (Dowling, 1998)	
What are the dominant coding orientations displayed by students in the different classrooms?	Student sorting task	Student categorizing principles – context-dependent and context-independent	Elaborated and restricted codes (Bernstein, 1975)	Coding categories (Holland, 1981)	Code theory – elaborated and restricted orientations to meaning (Bernstein, 1975; Holland, 1981)	Chapter 7
What strategies and competencies do students display in relation to Grade 3 mathematics learning?	Student mathematics task	Student solutions and methods for mathematics problems	Localizing and specializing strategies (Dowling, 1998) Recognition and realization rules of Grade 3 mathematics	Coding categories	Social activity theory (Dowling, 1998) Pedagogic discourse: recognition and realization rules (Bernstein, 2000)	
What is the social class positioning of teachers in the different social class contexts?	Teacher interview	Teacher biographical information	Social class positioning	Coding categories	Social class; social & cultural capital (Bourdieu. 1986)	Chapter 8
What differences are there in teachers professional dispositions in the different social class contexts?	Teacher interview	Teacher utterances	Professional dispositions	Coding categories	Theory of pedagogic discourse: instructional and regulative discourse (Bernstein, 2000)	
What are the differences in the social bases of the schools?	Teacher interview Classroom / grade meeting observation data	Minutes in the school day Relations between school staff	Use of time Division of labour	Table of time use	Specialization of time Division of labour & forms of solidarity (Durkheim, 1933)	

University of Cape Town

4.6 External validity

In relation to external validity, or generalizability, we can say that there are two types: statistical and analytical. Statistical generalizability allows one to generalize empirically, given the construction of the sample and its representivity of a particular population. Analytical generalizability allows one to generalize from a particular theoretical model, developed in the course of the research. The purpose, then, is to generalize findings to theory, in much the same way as a natural scientist generalizes from experimental results to theory (Yin, 1984:39). Case studies, according to Yin, are generalizable to theoretical propositions and not to populations or universes. In the present study the model of connective links between social class, pedagogic modalities, the specialization of voice and strategic dispositions, is developed in the interest of further research and consideration. Hence it is exploratory and also sets up a theoretical frame for application elsewhere. In this way it has the potential to be generalized to other sites/cases.

4.7 Conclusion

This chapter set out to show in some detail the process whereby research information was translated into data defined by different units of analysis. The focus was on how the external language of description was developed in interaction with the empirical data and the theory. The discussion also identified the orienting concepts which allowed ways into the data, and which also contributed to a structural description relating the different parts of the argument presented in the thesis. These aspects are summarized in Table 4.6 on the following page, which also shows the specific research questions introduced in Chapter 1 and the chapters in which the different aspects of the analysis will be shown. The results of the analysis of the data are shown in the chapters that follow.

University of Cape Town

Table 4.6: Summary of the analytic approach

Research question	Data source	Unit of analysis	Orienting concept/s	Language of description representation	Internal language of description	Chapter
How is the pedagogy in different classrooms structured differently?	Classroom observation data	Literacy and numeracy lessons	Classification and framing	Coding schema of nineteen indicators for classification and framing	Code theory – classification and framing (Bernstein, 1975; 1990; 2000)	Chapter 5
	Classroom tasks	Literacy and numeracy tasks	Organizational form (Pedro, 1981)	Schema	Organizational form (Pedro, 1981)	
What strategies are deployed by the teacher in the distribution of knowledge in the classroom?	Classroom tasks	Literacy and numeracy tasks	Localizing and specializing strategies (Dowling, 1998)	Networks	Social activity theory (Dowling, 1998)	Chapter 6
	Classroom task sequences	Pedagogic assemblies	Generalizing and fragmenting strategies (Dowling, 1998)	Coding categories	Social activity theory (Dowling, 1998)	
What are the dominant coding orientations displayed by students in the different classrooms?	Student sorting task	Student categorizing principles – context-dependent and context-independent	Elaborated and restricted codes (Bernstein, 1975)	Coding categories (Holland, 1981)	Code theory – elaborated and restricted orientations to meaning (Bernstein, 1975; Holland, 1981)	Chapter 7
What strategies and competencies do students display in relation to Grade 3 mathematics learning?	Student mathematics task	Student solutions and methods for mathematics problems	Localizing and specializing strategies (Dowling, 1998) Recognition and realization rules of Grade 3 mathematics	Coding categories	Social activity theory (Dowling, 1998) Pedagogic discourse: recognition and realization rules (Bernstein, 2000)	
What is the social class positioning of teachers in the different social class contexts?	Teacher interview	Teacher biographical information	Social class positioning	Coding categories	Social class; social & cultural capital (Bourdieu. 1986)	Chapter 8
What differences are there in teachers professional dispositions in the different social class contexts?	Teacher interview	Teacher utterances	Professional dispositions	Coding categories	Theory of pedagogic discourse: instructional and regulative discourse (Bernstein, 2000)	
What are the differences in the social bases of the schools?	Teacher interview Classroom / grade meeting observation data	Minutes in the school day Relations between school staff	Use of time Division of labour	Table of time use	Specialization of time Division of labour & forms of solidarity (Durkheim, 1933)	

University of Cape Town

Chapter 5: Pedagogic modalities I: the classification and framing and instructional form of the pedagogic practice

5.1 Introduction

Having framed the study empirically, theoretically and methodologically in the preceding chapters, the following four chapters present the analysis of the data. In this chapter, and in Chapter 6, I present the analysis of the classroom observation data. The purpose is to define the eight teachers' pedagogic practice in terms of pedagogic modalities. Conventionally, in the Bernsteinian literature, a pedagogic modality will refer to a particular combination of classification and framing relations. Here I use an extended sense of the term, to refer to the configuration of five dimensions in describing the pedagogy:

- classification and framing relations
- instructional form (individualizing and collectivizing)
- instructional strategies - for individual tasks (specializing and localizing)
  - for pedagogic assemblies (generalizing and fragmenting)
  - for selection (school knowledge and everyday knowledge)

University of Cape Town

Through the descriptions of the pedagogic modalities I uncover certain social and semantic features of the pedagogic practice of the teachers, and relate these to particular orientations to meaning and to the specialization of learner voice. The present chapter and Chapter 6 consider two crucial questions in relation to how the pedagogy in the different social class contexts differs. The first question focuses on differences in the structure of the pedagogy in the two contexts. The second question considers the strategies that the teacher deploys in the distribution of knowledge in the classroom.

This chapter considers the first two dimensions of the pedagogic modality: the classification and framing of the pedagogic practice, and the organizational form. Classification and framing, introduced in the previous chapters, generate a general characterisation of pedagogy, and a description of the structuring of pedagogic discourse in the classrooms. Classification

and framing refer to the organisational and interactional aspects of the transmission; they tell us about 'the *what*' (what is transmitted) and 'the *how*' (how content is transmitted). Further, I consider the instructional form of the classrooms and the differentiation of agents and content, identifying how the teacher distinguishes between different learners, and how particular tasks are distributed across learners and groups of learners.

For the analysis of the classification and framing of pedagogic practice, the unit of analysis is the lesson. For the organizational form, individual tasks within the numeracy and literacy lessons comprise the unit for analysis.

5.2 The internal classification and framing of pedagogic discourse

The analysis of classification and framing in this section reveals how knowledge is specialized for learning, and how knowledge transmission is specialized. All literacy and numeracy lessons of all the eight teachers were extracted from the full days of observation. These lessons were coded through the assignation of classification and framing values for each of the dimensions of pedagogy offered by the theory. A total of 89 lessons were coded for all teachers, 58 in literacy and 31 in numeracy. The coding does not differentiate between numeracy and literacy; differences between the subjects are highlighted in Chapter 6. A breakdown of the total number of lessons coded for each teacher is given in Table 5.1 below.

Table 5.1: Total number of literacy and numeracy lessons coded

	Fiona	Jeanne	Anne	Kate	Palesa	Babalwa	Nomsa	Yonela	**Total**
Numeracy lessons	7	4	3	4	3	3	3	2	**29**
Literacy lessons	6	10	13	11	5	5	7	3	**60**
Total (class context)	**58**				**31**				**89**

Two lessons are described below and provide exemplars for the coding of numeracy and literacy lessons. The lessons are drawn from Babalwa and Kate's classrooms.

University of Cape Town

Extract 5A: Babalwa numeracy

The teacher has just finished a lesson on rounding off to the nearest 100, which the learners have not been able to grasp. The teacher begins the following lesson, saying to the class:

Teacher: When I look at you it seems you don't understand properly, but now we are going to do patterns. It says here complete the pattern. There's a pattern I want you to complete. They link with the nearest hundreds but we'll come back to them. Now that you have an idea of nearest hundred I want to see if you have an idea of patterns. For now, for example I want you to do this pattern.

The teacher stands in front of the class looking at a textbook. She writes the following on the board, copying the numbers from a textbook:

Complete the number pattern

50 100 150 ____ ____ ____

1 2 4 7 ____ ____ ____

4 7 12 15 22 ____ ____ ____ ____ ____ _

She tells the learners that she wants them to complete the patterns. She leaves the class and then returns and attends to a number of unrelated issues in the classroom, including arranging for the distribution of milkshake to the various classes. She also talks to another teacher who has come into the classroom.

Teacher: Listen, when I am busy with something or being disturbed, don't make a noise. Noxolo hand out the maths books.

The learners continue to make a noise.

Teacher: You are uncontrollable.

The teacher walks around the class with a big ruler which she raps on the desks.

Teacher: Hey, let's not talk. Let's work.

She wipes the board clean of the previous day's work and the current rounding-off lesson. A learner starts to sing.

Teacher: No, no, what's that? You can't just moo like a cow.

The teacher goes out. None of the learners are observed to complete the patterns successfully. The teacher ends the task by beginning a new task. The pattern task is not completed that day or on the following day. The lesson lasts for 36 minutes.

University of Cape Town

Extract 5B: Kate literacy

The teacher writes up a 'memory sentence' on the board, a device used at Arbor in phonics learning. Each week learners are given a sentence containing a particular phoneme, and the sentence changes each week. In this lesson the memory sentence focuses on the phoneme 'ow', and reads:

'They saw the little fellow throw his yellow arrow into the snow below the window.'

The learners copy the sentence into their workbooks. The teacher reads through the sentence. She talks through most of the words as she goes along, pointing out different spellings of saw and sore, and different meanings of the word saw. The learners read the sentence out aloud and click when they get to an 'ow' sound. They then read through the sentence twice more, once softly to themselves, and once aloud as a class.

The teacher then asks the learners to think of other words with the 'ow' sound in them. She draws two columns on the board, heading the columns with the words snow and cow to indicate the different sounds of the letter combination. Learners offer words which the teacher writes in the columns. The teacher discusses some of the words as she goes along. In response to a learner offering the word 'bow', the teacher says:

Teacher: When you have this word in a sentence you will need to see what it says in the sentence in order to know how to say it.

The learners read through the lists. The teacher then asks for the word 'crow' in a sentence and then writes eight words on the board:

Teacher: Each word is a noun, so I want you to draw a small little picture next to each word, and then you are going to write a sentence for each one.

The learners copy down the columns of words, and write a sentence and draw a picture for each of the eight words. While the learners do this work, the teacher takes a small reading group on the mat in the front of the classroom. As learners complete the work they select new readers from a reading box on the side of the classroom, and read. The duration of the lesson is 39 minutes.

5.2.1 Discursive rules

Selection and sequence

In both extract A and B the teacher decided what the object of the lesson was, and both teachers determined the order of the transmission. The single task presented by Babalwa followed a lesson on rounding-off, a concept which the students had failed to grasp. Although aware of this, the teacher did not make a selection on the basis of their lack of understanding but moved to an entirely new task. In Kate's case the series of tasks relating to the phonic 'ow' were selected and ordered by herself. In both cases, the framing relations with respect to the selection and sequencing of the educational knowledge was strong.

These framing values were consistent with the framing relations found in the classes across all eight teachers, and students were generally not given the opportunity to alter the selection and sequence in either social class context. The framing, however, was found to be slightly more variable in the middle-class context, where, in relation to selection, learners were at times given some choice within a range of options. For example, in all four classrooms in the middle-class context, learners were able to choose their class readers. These were, however, within a limited range of ability-grouped readers. In general it was the teacher who decided what knowledge was to be transmitted, and the order in which it would be introduced. In the working-class context learners were not given the opportunity to vary the sequencing of knowledge, nor make selections as to what knowledge was transmitted. Observation data for all eight teachers was coded F^{++} for both sequence and selection.

Pacing

There is an obvious difference in Extract A and B in the amount of work covered in the two lessons, which were of similar duration (39 minutes in Kate's class, and 36 minutes in Babalwa's class). In general, the pacing in the working-class context was found to be extremely slow, and very little content was covered in the course of a lessons. This is similar to findings of other studies that confirm a relation between different social groupings in schools and pacing practices in the South African context (Hoadley, 2002; Ensor *et al*, 2002) and in the United States (Rowan & Miracle, 1983; Smith, 1998). The latter studies consider

pacing in terms of *coverage*[1]. In Bernsteinian theory, pacing refers to the regulative aspect of the pedagogy and to who has *control* over the expected rate of acquisition. Framing of pacing, therefore, is concerned with the extent to which learners are able to vary the pace of transmission, often evidenced in the extent to which teachers do or do not vary the pace in relation to interjections by the learners. The question then is: 'Who has control over the expected rate of acquisition?' In the example of the working-class context given above, there was very strong framing over the pacing. This was because the learners were not given an opportunity to disrupt the time frames set by the teacher. Further, the teacher did not determine the pace of the lesson through a consideration of what learners produced: she did not see learners' productions. Although it was not clear *what* was determining the expected rate of acquisition, we do know that it was the teacher who determined this. This was generally consistent with the pacing of the lessons in the working-class context. The length of time given for the completion of tasks often appeared to be moderated by the timetable, bells, or getting through a number of subjects rather than being based on an expected rate of acquisition for a particular topic or task.

In the working-class context learners were afforded long stretches of time to complete work, and often sat for similarly long stretches with no work set, or activities were interrupted mid-way and not returned to again in the day or on the following days. At no point were learners given the opportunity to vary this, and teachers generally did not respond to learners' implicit objections, manifest in singing, playing, making a noise and at times, mildly violent interactions between them. An example was evident in Extract 5A above. Learners had become distracted and did not know how to proceed, having finished copying the numbers from the board. The teacher responded with imperative control and a reassertion of a directive to work:

Teacher: You are uncontrollable.
The teacher walks around the class with a big ruler which she raps on the desks.
Teacher: Hey, let's not talk. Let's work.
She wipes the board clean of the previous day's work and the current rounding-off lesson.. A learner starts to sing
Teacher: No, no, what's that? You can't just moo like a cow.

[1] In the research literature, pacing most often refers to the instructional aspect of *coverage*. I deal with high and low coverage in Chapter 6 in the analysis of pedagogic assemblies, and in Chapter 8 in the discussion of the specialization of time.

The allocation of long stretches of time to learning was also often to accommodate the teacher's marking during the lesson. Learners would sit with no tasks set and wait, while the teacher marked each individual book. Here the pace was regulated by the task of marking, and the teacher terminated the lesson once this task was completed. In many instances this was not strictly set up as an evaluative act, criteria were not transmitted in the course of the marking, but rather marking consisted of ticking and signing once learners had completed the work. Marking thus served regulative ends – it addressed the question of whether students had completed the work, rather than whether they had completed it correctly. Learners in these instances would sit and wait, sing softly, draw, play or become disruptive.

In the working-class context, Yonela's class was the only one in which parallel activities were set twice, and on both occasions this consisted of learners selecting books from a reading corner. However, these books for independent reading came from a variety of grades (for example, there was a biology book for Grade 5 and English language books several grades above the reading level of the learners), and the learners' focus was on looking at pictures. The task was unstructured, although learners may indeed have benefited from it through engaging in choosing and handling books, something not apparent at all in the other three working-class classrooms. Overall, the pace in Babalwa, Yonela, Palesa and Nomsa's classes was also coded F^{++}.

In the middle-class settings learners seldom sat and waited for the next activity. The setting of parallel tasks was the primary means for managing learners' differential pacing in this context. These parallel activities either consisted of activities set by the teacher, or tasks which the learners managed themselves. The latter consisted of reading from class readers or doing activities in activity books (such as a 'Number Fun' book for mathematics, or 'High Frequency' for grammar and spelling practice tasks in literacy). An example of this is found in Extract 5B above, where learners selected and read from class readers once they had completed their sentences. At other times the teachers would write up series of tasks on the board for completion, and learners worked through these at their own pace, within the limits of a set period of time determined by the teacher. In this way learners were also learning to manage their learning and pace their own work. In Extract 5B above, we also see an example of the relaxing of pacing in relation to learner's interjections. In response to a student's offering of the word 'bow', the teacher paused and explained the two sounds and meanings of the word.

University of Cape Town

At Rhodes and Arbor the pace was often relaxed in relation to students' written productions and tests. Teachers responded to student errors by going over concepts, or explaining operations, sometimes with the whole class and at other times with groups. There was, however, some variation in the framing over pacing between the teachers. For the Rhodes teachers there was stronger framing over pacing. This was largely due to a number of tests set on the days of observation. At Rhodes testing was done regularly, and these class tests were timed. Learners were reminded frequently of the time, and exhorted to 'hurry up', 'finish up'. In Jeanne's class, tests were more formalized, and the learners were left to complete them on their own. In Fiona's class learners often approached the teacher for explanations, and she frequently extended the duration of the test to allow all the students to finish. Testing was not generally a feature of the pedagogy at Arbor. For Kate, Anne, and Fiona, the overall code for framing over pacing was F^-. The overall code for framing over pacing for Jeanne was F^+

Evaluative rules

There is a strong relation between pacing and evaluative rules. Morais (2002) argues that 'weak pacing is one of the characteristics that directly or indirectly allow the explicating of evaluation criteria' (p. 561). The significance of the evaluative rules in the analysis of pedagogic discourse was noted, in the previous chapters, as those rules which transmit the criteria for the production of legitimate texts. The interest is in the extent to which these criteria were made explicit for learners, and whether the teacher had control over the rules. Each lesson, where appropriate, was coded according to six indicators, which considered the extent to which teachers made explicit the rules for the production of a legitimate text by acquirers. The six indicators referred to the following aspects of a lesson:

- in the introduction/explanation/exposition to a topic/task,
- in the course of learners conducting an activity or task,
- in the kinds of verbal answers required of learners,
- at the conclusion of the task/activity,
- in the number of ways in which a concept is represented in the exposition to a topic/task or during its course, and

University of Cape Town

- in the number of ways in which a concept is represented in response to questions from learners.

In Extract 5A above, we see that Babalwa had been teaching 'to the nearest hundred' (i.e. rounding off, although she doesn't use this term). Babalwa had herself been confused as to the rule for rounding off to the nearest hundred, and the learners did not grasp what it was that they were expected to produce. In the extract Babalwa acknowledged that learners did not understand the previous work on rounding off – 'When I look at you it seems you don't understand properly, but now we are going to do patterns.' – but moved on to a different exercise, which was also not explained. Learners were unable to complete the patterns given to them, as no evaluative rules had been transmitted. That is, the criteria for the production of a legitimate text were absent, and learners were merely able to copy the given numbers from the board. The teacher moved from this exercise onto the next, without taking cognisance of the fact that the learners had not done the task, or remedying this. The task is coded F^0 . An extensive example was given in Chapter 3 to justify and illustrate the F^0 coding value. This code was used when it was not possible to discern the transmission of evaluative criteria.

In an F^{--} coding of the evaluative rules, some attempt to transmit evaluative criteria were discerned. These were, however, very unclear or largely implicit. This coding was often applied to question and answer exchanges between teachers and learners in the working-class setting, where, it is shown later, an oral form of pedagogy dominated. Here an example is given of an F^{--} coding from Palesa's class, where the data is coded according to the following indicator:

F^{--} Evaluative rules very unclear and implicit. The teacher looks only for yes / no answers, or for learners to repeat what she has just said. Incorrect answers are generally ignored, or the reasons for them are not sought. Correct answers are accepted and may be praised, but are not elaborated on.

Extract 5C is from a mathematics lesson, where Palesa was trying to elicit an answer to a simple calculation, 9 ÷ 3, from the learners.

University of Cape Town

Extract 5C: Palesa Numeracy

Teacher:	Now nine divided by three.
Learner:	Six.
Teacher:	I am not saying anything.
Teacher pauses and waits. Some learners put their hands up	
Teacher:	Aviwe?
Aviwe :	Nine.
Teacher:	No, not nine.
Learner:	[shouts out] Eight.
Teacher:	No, no, no. Don't talk if I don't ask you.
Learner:	Nine.
Teacher:	Yhoo. Do you want me to change and be ugly? When I am happy I am going to get stars and put them in the book. I said don't look at the wall.
Learner:	Three.
Teacher:	Don't talk if I haven't asked you.
More hands are raised	
Teacher:	What is it Yonela?
Yonela:	It's three miss.
Teacher:	Yes.

In the extract the teacher simply looked for the correct response; she did not explicitly attend to the fact that four learners gave the incorrect response to a simple algorithm. She then continued with the lesson. This particular extract is representative of an F^{--} coding on the indicator which examines 'the kinds of verbal responses required of learners'. Although the teacher did, in the end, confirm the correct response, incorrect answers were not addressed to indicate how the appropriate production could be derived.

University of Cape Town

The pattern of interaction between teachers and learners shown above was common in the working-class context. Learners' responses were not accepted or modified until the correct response emerged. A variation on this communication pattern was also common – where, in the interaction between teachers and learners, it appeared that any response was acceptable. This is shown in the example below taken from Nomsa's class. In Nomsa's class the learners had spent most of the lesson drawing animals, and the teacher asked the learners to describe the animals they had drawn.

Extract 5D: Nomsa literacy

Teacher:	How's the pig?
Learners hands are raised	
Teacher:	Cokile?
Cokile :	It is brown.
Teacher:	What else?
Learner:	In Eastern Cape pigs are black.
Learner:	It's mouth is roundish.
Teacher:	She says it's got a roundish mouth.
Learner:	It's got brown teeth.
Teacher:	Is that true?
Learners:	Yes.
Learners:	No Miss.

Teacher:	What else?
Learner:	It's got a big head.
Learner:	It's got a big upper lip.
Zuko:	It's fat.
Learner:	It's got 6 udders.
Teacher:	He says its got 6 udders.
Nosisa:	It's short.
Learner:	It's got a long curved back.
Learner:	It does not get full.
Teacher:	It does not get full ne?
Learner:	When it has babies it gets lean.
Teacher:	Next animal.
Learner:	Dog.

The coding of the evaluative rules here in relation to the indicator given above – 'in the kinds of verbal answers required of the learners' –would be F^0. It appeared that any response from the learners was acceptable, and there was no correction or elaboration of learner responses on the part of the teacher. In fact, from the thirteen statements offered by learners describing a pig, it is unlikely that one would be able to objectively recognise the animal being described, and certain of the descriptors were simply erroneous.

This example does, however, introduce the problem of a *trajectory*. In coding the data, all effort had to be made to discern whether or not what seemed to be an absence of the transmission of evaluative criteria merely represented a very initial stage in a learning trajectory. Given that only three days were observed, it was not always possible to ascertain this. However, as I will show later, the fragmented nature of the pedagogy in the working-class context generally undermined the development of learning trajectories. Student notebooks were also consulted when doubts arose. Student notebooks are not presented as part of the analysis, but consulting them is considered a part of the process of observation and validation.

The very weak framing of the evaluative criteria in the working-class setting is implicated in the relation between school and everyday knowledge, which will be discussed below. On a number of occasions, and in a number of the working-class classrooms, the framing over the evaluative rules became so weak that the talk was purely colloquial. This was notable, too, in Extract 4A (shown in Chapter 4, page 95), in comments like:

Babalwa: These leaves have been drawn by the man and the women who drew them in the book. They drew them and drew them and drew them. Don't laugh. They drew them and drew them. Doesn't matter how many. I know you are laughing at my leaves. This person made these leaves and made them and made them. Here are the leaves that they drew. Laugh at me then.

University of Cape Town

Teacher: What else?
Learner: It's got a big head.
Learner: It's got a big upper lip.
Zuko: It's fat.
Learner: It's got 6 udders.
Teacher: He says its got 6 udders.
Nosisa: It's short.
Learner: It's got a long curved back.
Learner: It does not get full.
Teacher: It does not get full ne?
Learner: When it has babies it gets lean.
Teacher: Next animal.
Learner: Dog.

The coding of the evaluative rules here in relation to the indicator given above – 'in the kinds of verbal answers required of the learners' –would be F^0. It appeared that any response from the learners was acceptable, and there was no correction or elaboration of learner responses on the part of the teacher. In fact, from the thirteen statements offered by learners describing a pig, it is unlikely that one would be able to objectively recognise the animal being described, and certain of the descriptors were simply erroneous.

This example does, however, introduce the problem of a *trajectory*. In coding the data, all effort had to be made to discern whether or not what seemed to be an absence of the transmission of evaluative criteria merely represented a very initial stage in a learning trajectory. Given that only three days were observed, it was not always possible to ascertain this. However, as I will show later, the fragmented nature of the pedagogy in the working-class context generally undermined the development of learning trajectories. Student notebooks were also consulted when doubts arose. Student notebooks are not presented as part of the analysis, but consulting them is considered a part of the process of observation and validation.

The very weak framing of the evaluative criteria in the working-class setting is implicated in the relation between school and everyday knowledge, which will be discussed below. On a number of occasions, and in a number of the working-class classrooms, the framing over the evaluative rules became so weak that the talk was purely colloquial. This was notable, too, in Extract 4A (shown in Chapter 4, page 95), in comments like:

Babalwa: These leaves have been drawn by the man and the women who drew them in the book. They drew them and drew them and drew them. Don't laugh. They drew them and drew them. Doesn't matter how many. I know you are laughing at my leaves. This person made these leaves and made them and made them. Here are the leaves that they drew. Laugh at me then.

University of Cape Town

This gradual unravelling of school learning into the colloquial was also evidenced in a 'stream of consciousness' communicative pattern, stemming from very weak framing, or absence of framing, of evaluative criteria, which determined what was said. Without formalised knowledge, the logic or sequence of the talk became that of association and banter:

Babalwa: We don't have a lot of these trees around in Harare [semi-shack settlement where learners live]. When we are going to go to a forest and see all the kinds of trees and leaves, you will see them. There are many kinds of trees. We could talk about them the whole day. A palm, and it's got palm leaves.

For all the teachers in the working-class setting the evaluative rules were coded as F^{--}. This was because, although there were at times attempts to transmit evaluative rules for various tasks, these were unclear and implicit. This was seen in the way the teachers explained tasks, in the monitoring of tasks, in the marking of activities, and in the ways in which the teachers responded to learners' answers.

In the middle-class contexts the teachers were explicit about the requirements of particular tasks, and what constituted a successful production was generally clearly defined. In Extract B above we see how the evaluative criteria for the recognition of the 'ow' phoneme, its sound, spelling and use in words, were transmitted through repetitive use of the phoneme. Learners were also required to produce the sounds and meanings of words orally (in reading the memory sentence and offering words) and in writing (through the construction of sentences). In most of the middle-class classrooms the evaluative rules were made explicit through learners engaging in extensive practice of concepts or operations. Another example is shown in Extract 5E. Here Anne worked with a small reading group, going through lists of words practicing specific phonemes:

Extract 5E: Anne literacy

Learner:	Purchase, curtain, disturb, survive, sur*face*.
Teacher:	*Sur*face. Did you practice these words?
Learner:	Yes.
Teacher:	But with whom? Mmm? Alone?
Learner:	No, with my big brother.
Teacher:	With your big brother, with your mother or father next time, hey. Read this one again.
Learner:	Sur*face*.
Teacher:	*Sur*face. *Pur*pose. Now give me a sentence for surface.
Learner:	You surf in the sea.
Teacher:	You surf in the sea. Okay. You surf in the sea. That's good. That means you ride along the waves. Do you swim right under the sea or do you swim on top of the water?
Learner:	On top.
Teacher:	You swim on the ...
Learner:	Surface.
Teacher:	Okay. You swim on the *sur*face, on the top. *Sur*face.

The coding of the evaluative rules in this instance would be F^{++}. The teacher elaborated on the learner's answer to draw out the meaning of the word. Both pronunciation and meaning were explicitly defined. Anne's class was also characterised by what can be termed 'instructional density' (Hall, 2003). Instructional density is concerned with the number of different ways in which a concept or operation is presented to the learners, so that different learners may grasp the concept or operation in different ways. For example, in learning to form the letter 'f' in cursive in a handwriting lesson, Anne used six different means for learners to grasp the formation of the letter: they watched her writing the letter on the board with explanations; they wrote the letter in the air; they wrote a large letter on a piece of scrap paper; the were asked to visualise the letter in their minds; they wrote a row of cursive 'fs'; then they wrote a series of words with the letter 'f' contained in them.

In both Kate and Anne's classes, although the evaluative rules were strongly controlled by the teacher, learners on occasion did make interjections, and these were taken seriously. For example, in Kate's class, a short while after the lesson presented in Extract 5B on the 'ow' phoneme, the following exchange took place between the teacher and a learner. The learner attempted to construct a general rule, that the 'ow' sound as in 'pillow' will always come at the end of a word:

University of Cape Town

Extract 5F: Kate literacy

Mandy:	Um, if you just get confused, every time the word ends, the 'ow' must always be at the end of the word.
Teacher:	It must make the ow sound.
Mandy:	In that one most words have the sound at the end.
Teacher:	No, but I wouldn't make that as a rule, because there might be some that are not like that and then you would get confused, so say the word pillow, and then say the word that you've decided and then see is it 'ow' sound or flower with an 'ow'. And then decide where it goes.
Later on in the lesson the teacher says:	
Teacher:	Mandy could be right, but with bow for example, it could be bow or bow, and then it doesn't work. See?

The teacher made explicit the fact that the rule is that there is, in fact, no rule. In this instance, all that could be done was to learn the different sounds of the words, but she nonetheless engaged seriously with the student's interjection.

In the middle-class context the framing of the evaluative rules was generally strong. For Fiona, Jeanne and Kate, the coding for the evaluative rules is F^{+}. The requirements for the successful completion of a task were generally explicit, there was a strict monitoring of what learners were doing and extensive rehearsing of what constituted an appropriate performance. The evaluative rules for Anne were strongest (F^{++}), as she was one of the few teachers to respond comprehensively to learners' responses, and transmission in her classroom was characterized by instructional density.

There was a wide variation in the strength of framing over the evaluative rules, ranging from F^{--} in the working-class context to F^{++} and F^{+} in the middle-class context. Framing of the evaluative rules indicates the extent to which the teacher controls the transmission of criteria for the production of the legitimate text. Where the framing was very weak, as in the case of Yonela, Nomsa, Babalwa and Palesa, learners had reduced opportunities for acquiring the realization rules of mathematics and literacy.

5.2.2. Hierarchical rules

The hierarchical rules refer to the extent to which control relations in the classroom are explicit or masked. The framing of the hierarchical rules, or the extent to which learners and the teacher have control over the order, character and manner of learners in the classroom, was measured in this study in three ways. The first was by looking at the physical interaction between the teacher and learners, the second considered the way in which the teacher disciplined learners, and the third looked at the kinds of explanations given by the teachers to

University of Cape Town

the learners regarding the presence of other adults in the classroom, or when the teachers left their own classrooms.

In relation to control, three forms were identified – imperative (F^{++}), positional (F^{+}), or personal (F^{-} or F^{--}). In the imperative form the acquirer is given no options in responding to the control of the teacher, apart from an explicit challenge to authority. The control relation is about simple constraint. Control is based on the teacher/pupil hierarchy, rather than an explication of rules or principles underlying the control. In Extract 5A Babalwa walked around the classroom with a large ruler, rapping it on the learners' desks. She stated to a learner, 'No, no, what's that? You can't just moo like a cow'. No rules were invoked, but control was based on assertion. The imperative form of control was also evident when Palesa and Babalwa used physical threat or action to control learners. In both classrooms the teachers hit learners (once with a ruler and once with the hand), and both teachers pinched learners a number of times.

Positional control is realized when control actions/utterances are based on simple rules. These rules may be announced, as in the example given from Anne's class in Extract 5E:

Teacher: /.../ Did you practice these words?
Leaner: Yes
Teacher: But with whom? Mmm? Alone?
Leaner: No with my big brother.
Teacher: With your big brother, with your mother or father next time, hey /.../

The rule is announced – learners must practice their spelling with their *parents*. Positional control may also be based on grounded rules, which refer to either a particular context (for example, the school or the classroom), the child's formal status (age, sex, age relation), or of a general nature which is accepted across contexts. This was shown in a comment by Yonela to a learner, 'Listen, you must talk properly with me because I talk properly with you. Don't shout at me', so articulating an accepted rule of polite verbal exchange.

In the personal form of control, the effect of the learner's behaviour on him or herself, on the teacher or on others, is explained. The teacher focuses on the learner as an individual and on his or her intentions, motivations or aspirations. Control is 'highly contingent upon the specific context, activity and pupil' (Pedro, 1981:224). For example, in Anne's class she

University of Cape Town

commented to a learner 'I thought your brain was working better, Brandon. I know you can do better than that'.

To make these distinctions clearer, Table 5.2 below shows examples of the different ways in which the teachers told their class to keep quiet, and how these were coded in terms of the different forms of control, and framing over the hierarchical rules.

Table 5.2: Examples of three forms of control: the teachers silencing the class

Hierarchical Rule	Teacher statement	
Personal F^-	Anne:	You are not being fair to me and you are not being fair to this group, because our voices have to get louder and louder because you're talking so much.
	Kate:	I am getting extremely tired from your noise and can't go on working.
Postional F^+	Yonela:	Listen, you must talk properly with me because I talk properly with you. Don't shout at me.
	Jeanne:	If you are in your desk you've got work to do. You may not talk.
	Fiona: Learner: Fiona:	Britney, I can see you won't be able to sit next to Gugu. I just said... No No! Your mou.. lips are just moving. I don't want you to tell me what you've finished, just have it finished.
	Nomsa:	Who's talking when they should be writing. [shouts] Vuyo! Masonwabe, what are you doing?
Imperative F^{++}	Babalwa:	[shouting]. Quiet. I'll hit you, I'll hit you.
	Palesa:	No Anele, I'll hit you.

Control utterances were only one of the indicators for the hierarchical rules. The other referred to the kinds of explanations offered to learners when another adult entered the room, or when the teacher left the room. A clear contrast is given between Babalwa and Anne. In Extract 5A a teacher entered the class to speak to Babalwa, and Babalwa addresses the class:

Babalwa: Listen, when I am busy with something or being disturbed, don't make a noise. Noxolo, hand out the maths books.

The learners continued to make a noise. Babalwa carried on talking to the teacher and then addressed the learners again:

Babalwa: [shouts] You are uncontrollable!

University of Cape Town

This is contrasted to the exchange in Anne's class in the extract below.

Extract 5G: Anne literacy

A teacher enters the class to speak to Anne. He is looking for a form. The class are working on the 'ur' phoneme.

Anne:	Good Morning Mr Pienaar.
Learners:	Good Morning Mr Pienaar.
Anne:	You're welcome Mr Pienaar.
Mr Pienaar:	Am I disturbing?
Anne:	[with some learners] No.
Anne:	Mr Pienaar, which 'ur' in disturb? If you can answer that question you can come in.
Mr Pienaar:	Which which?
Anne:	Which ur in disturb?
Mr Pienaar:	Aaah, uuuh, uuuh
Anne:	[to the learners] If you want to give Mr Pienaar a clue you can point at someone.
Mr Pienaar:	It must be the one that goes like ...
Anne:	Do you want to give Mr Pienaar a clue and you can point at somebody? Which ur ...

The learners point at Anne, whose real first name contains the phoneme 'ur'. Mr Pienaar makes a joke about the pronunciation of Anne's surname and the learners laugh.

In the case of Babalwa, exclusion of the learners from the interaction between herself and the teacher positioned them as subordinate. Learners did not greet adults when they entered the classrooms in the working-class context, and the purpose of these adults' presence was not made explicit[2]. More horizontal relations were established in the case of Anne, where learners were invited to participate in the interaction. In the middle-class context students always greeted adults when they entered the classroom, although they were not always included in the interaction as represented above, and their purpose was at times not available to the learners. Finally, the physical interaction between teachers and learners was also taken as an indicator of the strength of the framing of the hierarchical rules. A more intimate and gentle physical relation, where control was masked, indicated a weaker framing, and less physical warmth, or physical rebuke, where control was explicit, indicated stronger framing.

Each of the lessons was coded using these indicators, measuring what forms of control, justifications and interaction predominated. In the middle-class setting the hierarchical rules for Anne, Fiona and Kate were coded as F^- (mostly personal). Jeanne was coded F^+. In her case, control was dominated by announced simple rules, and she maintained strict control over all aspects of conduct and manner in the classroom. She was less physically affectionate

[2] This included the approach to my presence. In the working-class context neither Xolisa nor I were introduced to learners, and our presence was not explained. In Yonela's class, Xolisa and I were greeted in the mornings. In Jeanne's class I was briefly introduced, and in Fiona and Kate's class I was introduced and there was a brief attempt to explain my purpose in the classroom. In Anne's class the students were given an extended explanation of what I was doing, what research was, what I was going to do with the videos.

University of Cape Town

with the learners. In the working-class context there was strong framing over the hierarchical rules, and imperative forms of control predominated. Babalwa, Nomsa and Palesa's classes were all coded F++. In Yonela's class there was a slightly weaker framing over the hierarchical rules. Yonela's physical interaction with the learners included embracing them to comfort them, gentle touches and holding of hands. Her control was characterized as positional rather than imperative, and on occasions she offered learners rules as to why they should behave in a certain manner. The hierarchical rules for Yonela were coded F^{+}.

5.2.3 Classification of discourses, spaces and agents

In this section I consider the classification of discourses, spaces and agents, that is, the strength of the boundaries between different discourses, spaces and agents.

Discourses

Two extracts are presented and discussed below to illustrate the coding of the classification of discourses. Classification refers to the relations between, or the boundaries between (in this case) school knowledge and everyday knowledge, and between different subject areas.

Extract 5H: literacy Anne

The learners and the teacher sit on the mat. Each learner has a list of words, and the words refer to a particular phoneme.	
Teacher:	Trowel, yes.
Learner:	Trowel, vowel, towel.
Teacher:	I need a sentence for trowel.
Learner:	Trowel.
Teacher:	We spoke a lot about it at the beginning of the year. We even watched the builders with their trowels.
Learner:	Oh. They use trowels to put the cement on the walls.
Teacher:	A trowel is a tool. Other Brandon?
Learner:	Short, porter, reporter, order, report, perform, shorten
Teacher:	Shorten. I need a sentence for shorten.
Learner:	Last night we had to shorten my tracksuit pants.
Teacher:	Because ...
Learner:	Because it was too long.
Teacher:	They were too long. Yes.
Learner:	Mouth, Loud, about, trout, south, ground.
Teacher:	Well done. Shoo! Give me a sentence for trout.
Learner:	Me and my brother went trout fishing at the river.
Teacher:	Mmm. Why didn't you go to the sea for trout fishing?
Learner:	Because trout...
Teacher:	You say my brother and I went trout fishing at the river. Well done.

University of Cape Town

In this extract, the text given to the learners (lists of words) was generated by a conceptual aspect of literacy learning – the recognition and pronunciation of certain phonemes. The interaction between the teacher and learners required that the learners provide decontextualized definitions of words. The teacher sought clarity in the learners' definitions, for example,

Learner: Last night we had to shorten my tracksuit pants.
Teacher: Because ...
Learner: Because it was too long.

and also focused on the grammatical aspects of sentence construction,

Teacher: They were too long. Yes.

The classification between the subject knowledge and the everyday was strong; it was the literacy (or phonics) learning which was prioritized in the interaction. Further, the classification between subject areas was also strong. That is, learning in the various subjects was relatively discrete from other learning, or as the indicator from the coding instrument reads,

C+ In the referencing of knowledge in the lesson the teacher seldom references other contents
– there is little referencing of content from other subject areas within a particular literacy or numeracy lesson.

The following example is taken from Nomsa's class. Here learners have been generating a list of animals, the theme which informs most of the instruction over the three days of observation. The learners were asked to form groups and make a song about an animal of their choice.

Extract 5I: Nomsa literacy

The first group goes to the front.
Teacher: Sing.
Group 1: Cat and mouse, chase each other, and say meow meow!
The learners run around in a circle and sing, and then laugh. They sit down.
Teacher: Okay, next group.
The next group goes to the front of the class and speak their song.
Group 2: A mouse stole food from the pot, it ate nice food.
Teacher: Listen, did they all sing?
Learners: No Miss.
Group 2 sits down.
Teacher: Next group.
Group 3: Have you seen beautiful ducks, going to the pool, tra lalalalalala tra lalalala?
Teacher: It's only Nosiphiwo singing.
All the girls start singing. They repeat the song and then sit down. The next group comes up.

University of Cape Town

Group 4: My rabbit, my rabbit, my rabbit. Don't chase it and catch it.
Teacher: Okay next group. Who's talking? Shut your mouth.
Group 5: I've got a black dog, I've got a black dog, It's got lice, It's got lice, What's its name? What's its name? It's sgobhogobho. What's its surname? It's sginyazonke.
Teacher: Next group.
Learner: He coughed, the priest coughed. His chicken's eggs are going to be fried.
The class laughs.
Teacher: Okay, which group sang well?
Learners: The last group. Their song was funny.
Teacher: Listen, what else did I say you must bring tomorrow?
Learners: Magazines.

A much weaker classification of school knowledge is evident in this extract. This weak classification between everyday knowledge, which applies to the classification of subject areas as well, was largely a result of the predominance of theme-based learning in the classes of teachers in the working-class context. The texts (the songs produced by the learners) were generated from the learners' everyday knowledge. The teacher's assessment of these texts was restricted to regulative dimensions (whether the learners 'sang well'). Other criteria were generated by the learners – the group judged to have sung well was 'funny'. Criteria for the instructional aspects were not discernable, and it was not clear what conceptual aspect of literacy formed the focus of the lesson. The lesson was coded C--, judged according to the following descriptor on the coding instrument:

C^{--} In the referencing of knowledge in the lesson everyday knowledge is almost always/always referenced. Everyday knowledge is constantly referenced so that the distinction between the subject topic or task and everyday knowledge is not always obvious. If everyday knowledge is introduced (by a learner or as part of materials) it is dealt with extensively and may become the focus of the lesson.

These two examples also point to the relationship between the framing over the evaluative rules and the classification of discourses. Strong framing over the evaluative rules is more likely to found with strong classification of discourses, and the converse is also likely[3].

The full set of lessons was coded using the descriptors on the coding instrument. Further examples of the classification relations between school knowledge and everyday knowledge are given in Chapter 6, in relation to both mathematics and literacy. The coding for the inter-discursive relation between subject areas in the working-class context was C^- for Yonela, Nomsa and Palesa, and C^{--} for Babalwa, where there was a focus on theme to the extent that it was difficult at times to determine what the focal subject was. In the case of the relation

University of Cape Town

[3] The latter example also makes clear the dialectical relationship between classification and framing discussed in Chapter 3. The classification of discourse (weak) is seen through the framing (weak) of the evaluative criteria. It is the evaluative criteria that animate, maintain or change the classification.

between school knowledge and everyday knowledge, the boundary was found to be extremely weak across all four classrooms in the working-class context. Here all four teachers' practice was coded C^{--}.

The pedagogic practice of the teachers in the middle-class setting was classified as C^{++} for interdiscursive relations between subject areas. There was little or no referencing of other subject areas in the teaching of a particular subject, and theme-based learning was not a feature of literacy and numeracy teaching in the lessons observed. All four teachers' practice was also coded C^{+} for interdiscursive relations between school knowledge and everyday knowledge.

Spaces

There are two aspects to the classification of spaces of interest here. The first refers to the specialization of space for teaching and learning, and the interest is in the relation between the space of the classroom and the rest of the school (external classification of space). The second aspect of the classification of spaces of concern is the relation between the spaces of the teacher and the spaces of the learners – that is, the classification of spaces internal to the classroom (internal classification of spaces). These classification relations are linked to framing relations, especially the framing of the hierarchical rules and rules for evaluation.

In the middle-class context there was a strong boundary between the classroom and the school outside, and movement between the two was strongly regulated. Students were required to ask permission to leave the room, and there were rules in place regulating who could leave or enter the space, and when. The following was an exchange between Fiona and two learners who have violated these rules:

Teacher: Where have you two been?
Learners are silent.
Teacher: Where have you two been? [pause] What is the rule?
Learner: That you can't ...
Teacher: That you may *not* go to the toilet for half an hour after break time.

Other interruptions to the classroom space were rare, or formalised, as in the case of intercom messages which, both at Arbor and Rhodes, were given at a particular time slot in the day. When other adults entered the room, there was a formal greeting of that adult by the learners,

University of Cape Town

and the purpose of the intrusion was generally made public. The specialization of the space for teaching and learning, or the external classification of space was coded C^{++} for all the teachers in the middle-class setting.

In the working-class context both students and the teachers regularly moved between the inside and the outside of the classroom. Although learners sought permission from the teachers to leave the classroom on some occasions, this was not always the case. As will be shown later in the distribution of time in Chapter 8, the teachers also spent a substantial amount of time out of the class, during which learners, too, went in and out of the classroom space. There was a significant amount of noise disturbance from other classrooms, and there were numerous interruptions. In an extreme case, that of Babalwa, this was due to her selling biscuits to other teachers and learners during the course of the school day. On one day, in her class, there were 28 interruptions.

When adults entered the classroom they were not greeted by the learners, and interactions between the teachers and these adults were private. Here the relation between the hierarchical rules and the classification of space was clear. Framing relations support the classification of space, or, the classification of space is embedded in the hierarchical rules. The classification of the space for teaching and learning was coded as C^{-} for Yonela, Palesa and Nomsa and C^{--} for Babalwa, whose class was most frequently disturbed, and who spent the most time out of the classroom during pedagogic time.

With respect to internal classification – that is, the classification of spaces internal to the classroom – there was a range amongst the teachers. In the middle-class context at Arbor, both teachers were seldom seen to sit at their own desks or talk from the front of the classroom. Ordinarily the teacher would be working amongst and with the learners, either at the learners' tables, which were organised in groups, or on the classroom mat with small groups or the whole class. The classification of spaces in Kate and Anne's classes was coded as C^{--}.

At Rhodes the teachers' and learners' spaces were more clearly demarcated, and this was partly due to testing, during the course of which both Fiona and Jeanne spent a significant amount of time at their own desks. In the case of Jeanne, however, the classroom was organised and managed along quite formal lines, and even during non-test instruction there

University of Cape Town

was a clearer demarcation between her space and that of the learners. Nonetheless, the learners spent a significant amount of time in the teachers' space, approaching her for assistance, and there was a considerable amount of work on the classroom 'mat'. Both teachers' practice with respect to the classification of spaces was coded C^-.

In the working-class context there was also a range in the demarcation of teacher and learner spaces. In Babalwa's case virtually no time was spent by the teacher in the learners' space, or vice versa. Either she gave instruction from the front of the classroom or she sat at her desk. Her practice was coded C^{++}. In Nomsa and Palesa's case some time was spent by the teacher in the learners' space when they were marking, although most instruction occurred from the front of the classroom. Some time was spent by the teacher in isolation at her desk. Both their practices were coded C^+. In Yonela's case she spent considerable time in the learners' space explaining and marking, and her practice was coded C^-.

University of Cape Town

Again the internal classification of space was closely related to framing, in particular framing of the evaluative rules. The classification between the teachers' space and the learners' space points towards different levels of teachers' mediation and individualizing of students' learning in the classroom. Although there was substantial variation between teachers, the characterization of the internal classification of space in the middle-class schools – where the teacher and learner spaces were weakly demarcated and the teacher spent all or most of the time in the same space as the learner – is associated with a stronger framing of the evaluative rules. The converse was true in the working-class context. Stronger internal classification and weaker external classification of space was coupled with weaker specification of the evaluative rules.

Agents (students) with respect to ability

In looking at the classification of agents, the interest is in the extent to which students are differentiated with respect to ability. This in part indicates the strength of the demarcation of the pedagogic identities of the students. Classification of agents was measured by considering the extent to which learners were grouped according to ability in the classroom, given differentiated tasks, by their behaviour, and how they engaged in routine activities. In the working-class context Babalwa, Nomsa and Palesa's practices were coded C^{--} for the classification of agents. This indicates an homogenising of the class with respect to ability

and designated tasks, an absence of routinized activity on the part of the learners, and disruptive or noisy behaviour. Yonela's practice was coded C^- as she had less behavioural problems, and the learners were on occasion seen to manage their own books.

In the middle-class context there was extensive differentiation of the class into ability groups for both maths and reading. Learners managed their own books for learning and conducted routine tasks of their own accord. The teacher generally assigned these tasks beforehand. In Kate, Anne and Jeanne's classes, all the learners worked consistently, and the teacher rarely disciplined them. Fiona's students were talkative, but generally worked consistently and responded promptly to the teacher's control statements. All four of the teachers' practice for the classification of agents was coded as C^{++}. The issue of differentiation will be taken up further below, under instructional form.

5.2.4 Discussion: classification and framing

Table 5.3 below summarises the values derived for each of the teachers for the ten dimensions of pedagogical discourse discussed above.

University of Cape Town

Table 5.3: Final coding values for classification and framing of pedagogic practice of the eight teachers

Social class context	**Middle-class context**				**Working-class context**			
Teacher	Fiona	Jeanne	Anne	Kate	Palesa	Babalwa	Nomsa	Yonela
Discursive rule – Selection	F^{++}	F^{++}	F^{++}	F^{++}	F^{++}	F^{++}	F^{++}	F^{++}
Discursive rule – Sequence	F^{++}	F^{++}	F^{++}	F^{++}	F^{++}	F^{++}	F^{++}	F^{++}
Discursive rule – Pace	F^{-}	F^{+}	F^{-}	F^{-}	F^{++}	F^{++}	F^{++}	F^{++}
Discursive rule – Evaluation	F^{+}	F^{+}	F^{++}	F^{+}	F^{--}	F^{--}	F^{--}	F^{--}
Hierarchical rule – Teacher / Learner	F^{-}	F^{+}	F^{-}	F^{-}	F^{++}	F^{++}	F^{++}	F^{+}
Discourse relations - inter- discursive relations (Between Subject Areas)	C^{++}	C^{++}	C^{++}	C^{++}	C^{-}	C^{--}	C^{-}	C^{-}
Discourse relations - Inter-discursive relations (School / Everyday)	C^{+}	C^{+}	C^{+}	C^{+}	C^{--}	C^{--}	C^{--}	C^{--}
Spaces - (specialisation of space for teaching and learning)	C^{++}	C^{++}	C^{++}	C^{++}	C^{-}	C^{--}	C^{-}	C^{-}
Spaces (insulation teacher / learner space)	C^{-}	C^{-}	C^{--}	C^{--}	C^{+}	C^{++}	C^{+}	C^{-}
Relations betw subjects (teacher and learner)	C^{++}	C^{++}	C^{++}	C^{++}	C^{--}	C^{--}	C^{--}	C^{-}

University of Cape Town

Table 5.3 shows, in summary, the control over the instructional discourse in the two social class contexts, and for the teachers individually. What is evident is that there was strong control over sequence and selection in both contexts. The pacing in the working-class setting was very strong, where learners were not given control over the rate of acquisition, but worked (or waited) according to times stipulated by the teacher. Pacing was weaker in the middle-class contexts.

The evaluative rules were strongly framed in the middle-class context. However, at this stage in the analysis it was not possible to say anything about what the evaluative rules referred to. For example, it is not clear whether the teachers were making explicitly available concrete procedures or conceptual understandings. These distinctions are made later in the analysis. At

this point it is only possible to identify that the evaluative criteria were transmitted clearly and explicitly in the middle-class context, whereas they were generally unclear and implicit in the working-class context. In the working-class context, although several lessons were coded F^0 on certain indicators, this was not the prevalent code for any of the teachers. Very weak framing over the evaluative rules – F^{--} – dominated the working-class context.

In terms of the regulative discourse, there was a predominance of imperative and positional relations in the working-class context, and positional and personal relations in the middle-class context. Thus the pedagogic discourse was constituted by different modes of authority relations, the one more open and negotiated, where the control was masked, and the other more explicit, where the authority and control of the teacher was overt, and non-negotiable rules and assertions guided the moral context of the classroom.

University of Cape Town

In relation to the organizational dimensions of the pedagogic discourse – classification – the table shows weaker classification between discourses in the working-class setting, and strong boundaries between discourses in the middle-class context. Although the coding does not differentiate between mathematics and literacy, there was a stronger classification both between subject areas, and between school knowledge and everyday knowledge in mathematics in the middle-class context and in the working-class context. The relations between discourses will be discussed in detail in the following chapter.

In relation to the classification of space, in the middle-class context there was a strong external classification of space, and a weak internal classification, where learners and teachers' spaces were generally shared. In the working-class context the converse applies: there was weak external classification and strong internal classification of space, although there was a range amongst the teachers, with some teachers spending more time in the learners' space than others.

The classification of agents was also very different in the two contexts, with strong classification of agents and clear demarcation of pedagogic identities in the middle-class setting and a weak classification in the working-class setting. If the classification of agents is examined together with the hierarchical rules, it is possible to obtain an idea of the learners' role specification, and consequently the extent to which, and the way in which, their voice is specialized with respect to the reproduction of knowledge. From the hierarchical rules,

control over the *relations* (F^{+-}) is derived. From the classification of agents, power relations are expressed in *voice*[4].

	Middle class	Working class
Voice (classification of agents)	C^{++}	C^{--}
Relations (hierarchical rules)	F^{-}	F^{+}

From this explication two very different modes of being a student emerge. In the middle-class scenario the learner's voice was strongly specialized (C^{++}), and there was opportunity for negotiation in interaction from this standpoint (F^{-}). In the case of the working-class, the learner's voice was weakly specialized (C^{--}) and there was less opportunity for negotiation around the order, conduct and manner of the classroom (F^{+}). The potential for the logic of assertion is evident in the weak specialisation of voice. The teacher must operate on the basis of assertion, as the structural and interactional dimensions of the pedagogic discourse are such that the appeal can only be to the authority of the teacher (i.e. very weak classification of discourse and weak framing over the evaluative rules). This was seen clearly in the exchange (from Extract 4A, page 95) in Babalwa's class. The learners were becoming disruptive because they did not know how to proceed with a literacy task. They were confronted by the teacher, who banged on the desk and shouted, 'Write, write even though you don't know how'.

An analysis of the instructional and regulative discourses of the teachers' pedagogic practice was presented above. The classification of discourses, spaces and agents was also considered. Pedro (1981) theorized a third element of pedagogic structure – what she termed the 'organizational unit' – to describe the pedagogical context. I draw on Pedro's notion to analyze specifically the way in which the students in the classrooms are differentiated. In this way I extend the discussion of the classification of agents, or the extent to which the pedagogic identities of students are demarcated. I use the term instructional form rather than organizational unit in my analysis.

[4] I will go on to show, however, that the specialization of voice is an outcome of the *entire* pedagogy, not just classification and framing relations, and includes a consideration of the individualizing of the pedagogic subject.

University of Cape Town

5.3 Instructional form: content and agents

The characterisation of the pedagogic discourse above presents a broad characterization of the social relations of the classroom, in particular in reference to the framing of the hierarchical rules and the classification of agents. This section explores the classification of agents in more depth by looking at the instructional form of the pedagogy. This entails, firstly, looking at the differentiation between different organizational groups within the classroom – the whole class, groups and individuals. Here the question is whether students are communalized or individualized in the pedagogy. Secondly, the differentiation of contents is considered, and the extent to which different tasks are assigned to different learners, or whether all learners do the same tasks[5]. The analysis of instructional form presented here thus focuses on differentiation – between agents (students) and between contents (knowledge).

Unit of analysis – the task

For the analysis presented here, and for that which follows in Chapter 6, the unit of analysis is the task. Each of the 89 lessons of the eight teachers was divided into tasks, where *a task is defined as an activity that the learner is required to engage in and which is constituted around a single goal or theme* (Ensor, 1999). Ensor defines the task as involving

> ... an activity followed by a discussion of it, or simply the activity with no discussion. Where the activity and the discussion following it can stand as semantically independent, these have been classified as separate tasks. When the activity and discussion can only be semantically decoded simultaneously, they have been classified as a single task (Ensor, 1999:128).

The total number of tasks identified for each of the teachers is shown in Table 5.4 below.

University of Cape Town

[5] Cohen (1997) describes these differences in terms of unidimensional and multidimensional classrooms, where the former have an undifferentiated task structure and the latter varied materials and methods, more individual tasks, and varied grouping patterns. He, like Rosenholtz & Rosenholtz (1981), draws attention to the effects of these classroom types on students' perceptions of their ability and that of others. In multidimensional classes fewer children define themselves as 'below average' and reports of peers are more dispersed and consensual.

Table 5.4: Total number of tasks analyzed for the eight teachers

Teacher	Total number of literacy tasks	Total number of numeracy tasks	Total number of tasks
Anne	21	16	37
Kate	18	11	29
Fiona	7	12	19
Jeanne	12	7	19
Yonela	10	4	14
Nomsa	12	3	15
Babalwa	11	7	18
Palesa	12	6	18
TOTAL	**103**	**66**	**169**

5.3.1 Analysis of instructional form

The scheme used to analyze the data with respect to instructional form was briefly introduced in Chapter 3, and is shown again here. The data – the task/s within a lesson that the learner was required to perform – were coded according to the classroom organization within which the task was performed. Again, there is no differentiation here between mathematics and literacy, but there is in the analysis in Chapter 6. Three options regarding the classroom organization were identified: *homogenous,* where the teacher worked with the class as a whole; *integrated,* where students worked with each other in groups; and *specialized,* where the teacher worked with groups of students or individual students. In this instance the interest was in the grouping of agents in the instructional form.

In relation to the treatment of content, each task was also coded as to whether it differentiated or not between different members of the class or groups – and was coded *uniform* or *differentiated.* In all cases where a task was coded 'differentiated' there was differentiation on the basis of ability, (although the category potentially could also refer to sex, language, religion). Two differentiated tasks are exemplified in the description of a lesson in Kate's class in Extract 5J.

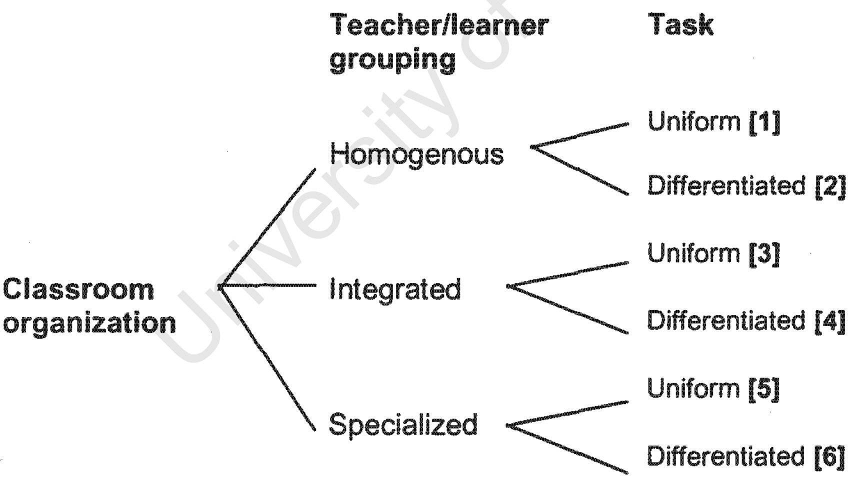
University of Cape Town

Extract 5J: Kate literacy

> The teacher has been working with the class on the 'ow' phoneme. Having gone through the 'memory sentence' for the week, the teacher instructs different ability groups – the stars, the fish, the frogs and the comets – to select a phonics card from colour coded boxes on the side of the classroom. While learners complete these cards, which have a range of tasks on them, the teacher takes reading groups on the mat at the front of the class. Each group comprises 6–8 learners, and the criterion for grouping is reading ability. Each learner reads individually from a graded reader while the others follow. This is followed by a few questions and some discussion, although the structure of the discussion varies with the ability groups. For the weakest group the focus is on locating the narrative, pronunciation and expression; the highest group focus almost exclusively on the meaning of the text, and some vocabulary.

There were two tasks in the lesson: the completion of a phonic card, and reading. The phonic card task was coded as homogenous (the teacher working with the whole class) and differentiated (the phonics cards were ability graded; different learners worked on different tasks). The reading task was coded as specialized (the teacher worked with groups of learners) and differentiated (the reading tasks were ability graded). The scheme is shown in Figure 5.1 below.

Figure 5.1: Scheme for the analysis of instructional form



Four further examples for the coding are given below.

In the first example, in a mathematics lesson in Fiona's class, the teacher showed learners how to do a division sum using multiplication rather than sharing. The whole class did an example of the operation in their books: 47 divided by 5. The task was coded as homogenous (the whole class worked together) and uniform (everyone did the same task) **[1]**.

University of Cape Town

In the second example, in Fiona's class, the teacher took small graded reading groups of five to seven learners. Learners read through a list of spelling words and offered definitions for some of the words. Learners talked about what had happened last in the reading book. The lesson was coded as specialized (graded groups) and differentiated (readers and spelling lists were ability graded for different groups) **[6]**.

In the third example, in a literacy lesson in Jeanne's class, groups of learners were given phonics games. These consisted of a board, dice, and words to be spelt correctly in order to move around the board. The games were ability graded. The task was coded as integrated (learners worked together in groups) and differentiated (the games were ability graded) **[4]**.

In the final example, shown in Extract 5A, learners in Babalwa's class were asked to copy out number patterns from the board. The task was coded homogenous (the teacher worked with the whole class) and uniform (all learners did the same task) **[1]**.

University of Cape Town

5.3.2 Instructional form: agents

Each of the tasks was coded in terms of the classroom organization. The results are shown in Table 5.5 below.

Table 5.5: The classroom organization for the tasks – by teacher & social class context

	Social class context	Middle-class context n= 104				Working-class context n=65			
	Teacher	Fiona n=19	Jeanne N=19	Anne n=37	Kate n=29	Palesa N=18	Babalwa N=18	Nomsa n=15	Yonela n=14
Classroom organization	Total homogenous by teacher	15 (79%)	15 (79%)	19 (51%)	19 (66%)	18 (100%)	18 (100%)	11 (73%)	14 (100%)
	Total % homogenous by class context	65%				94%			
	Total integrated	1 (5%)	1 (5%)	2 (5%)	0 (0%)	0 (0%)	0 (0%)	3 (20%)	0 (0%)
	Total % integrated by class context	4%				5%			
	Total specialized	3 (16%)	4 (21%)	16 (43%)	10 (34%)	0 (0%)	0 (0%)	1 (7%)	0 (0%)
	Total % specialized by class context	31%				1%			

The table shows that a homogenous classroom organization was overwhelmingly prevalent in the tasks in the working-class context, where, for 94% of the tasks set by all the teachers, the whole class was required to work together. The teachers in this context seldom interacted with individuals or groups. Only on one occasion, in Nomsa's class, was a specialized

organizational grouping in evidence, when the teacher asked seven learners to stand up in front of the class and read, and she interacted with each learner individually. Other than this, most activities were homogenous, and there were few integrated activities (5%). There was little variation across teachers, aside from the fact that Nomsa used an integrated grouping 20% of the time.

In the middle-class context there was greater variation in the classroom organization. The organization for 31% of the tasks was specialized, where the teacher worked with individuals and groups. This was especially the case at Arbor, where 43% of tasks in Anne's class and 34% of the tasks in Kate's class took the form of a specialized classroom organization. Although still substantial in comparison to the working-class context, there was less differentiation in the organizational unit at Rhodes than at Arbor. A homogenous classroom organization applied in 79% of the tasks in both Fiona and Jeanne's classrooms. This was partly attributable to test writing, which did not occur at Arbor but which was quite prevalent at Rhodes at that time of the year. There was also a strong emphasis on competition in the Rhodes context, where public reporting of test results and comparative remarks on performances was common. It appeared that students at Rhodes were set up for isolated, competitive, individualised work, whereas at Arbor there was a stronger focus on getting all learners to work well at a certain base level and then grading the learners up from there, requiring a specialized classroom organization[6].

At both schools, however, there was strong individual monitoring of learner performance. Hence most reading and mathematics at Arbor was done in small groups, where each learner had an individual opportunity to make a knowledge display. This was not the case at Rhodes for mathematics, but it was for reading. At Rhodes, students' performances in mathematics were publicly displayed by reporting test results in front of the whole class. Across both contexts the organisational unit was very seldom integrated. In other words, very little group-

[6] Although the category of race is not a focus in this thesis, there is an interesting difference between Rhodes and Arbor regarding learners of different races in the classrooms. At Arbor, weaker framing and stronger differentiation would appear to have resulted in the invocation of race as a category in evaluation and repair work. Accordingly there was often reference to 'second language speakers', and one found groups of Black learners going to 'enrichment'. Within groupings in the classroom there was some evidence of racial division. This was different to the case at Rhodes. Here race was seldom evident as a category of differentiation. It would appear that the very uniform social class location of students acted as a leveller. In the case of Arbor, where there was more diversity in terms of student social class origin, race at times became a factor in the categorizing and treatment of students.

work or co-operative learning formed part of the pedagogical repertoire of any of the teachers.

5.3.3 Instructional form: content differentiation

Each of the tasks was coded in terms of the differentiation of tasks. The question asked was whether all learners received the same content (uniform), or whether the content was differentiated. The table below summarizes the coding of the data.

Table 5.6: Content differentiation in the instructional form of the tasks

	Social class context	Middle-class context n= 104				Working-class context n=65			
	Teachers	Fiona n=19	Jeanne N=19	Anne n=37	Kate n=29	Palesa n=18	Babalwa n=18	Nomsa N=15	Yonela n=14
Content – differentiation	Total uniform	14 (74%)	11 (58%)	14 (38%)	13 (45%)	18 (100%)	18 (100%)	15 (100%)	14 (100%)
	Total % uniform by class context	50%				100%			
	Total differentiated	5 (26%)	8 (42%)	23 (62%)	16 (55%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
	Total % differentiated by class context	50%				0%			

In the working-class context there was no differentiation between learners in the construction of tasks. All learners worked on the same tasks at the same time. In the middle-class context half of the tasks were differentiated and half were uniform. There was also a difference in the kind of work done in relation to different aspects of the subject areas. In the middle-class context, in relation to phonics and writing, the organizational unit was homogenous, and there was no differentiation, whereas, with higher-concept learning in maths and reading, there was a high level of differentiation and specialization of the organizational unit.

So, for example, in Fiona's class, the nineteen learners were divided into four ability groups for reading. Each group had different readers, and the focus of the work in the different groups changed with the ability level. For the lowest level the focus was on the phonological – pronunciation and fluency – and at the highest level there was extensive discussion around the semantic aspects of the text. In the working-class context, demarcations within subject areas were blurred (i.e. in literacy there were no clear distinctions between reading, phonics, writing, etc.), and there was no differentiation of tasks with respect to ability in either literacy or numeracy.

University of Cape Town

the analysis. Where appropriate, differences were indicated. In the following chapter the subjects are treated separately. Table 5.7 below summarizes the construction of the modalities thus far. In order to display the data in terms of the social class context, the classification and framing values between the different teachers within social class contexts have in some cases been aggregated.

Table 5.7: Summary of the structuring of pedagogic discourse in the two social class contexts

			Working-class context	**Middle-class context**
1. Classification and framing of pedagogic discourse	Sequence & selection		F^{++}	F^{++}
	Pacing		F^{++}	F^{-}
	Evaluative rules		F^{--}	F^{+}
	Hierarchical rules		F^{+}	F^{-}
	Discourses	Inter-disc (subjects)	C^{-}	C^{++}
		Inter-disc (school/everyday)	C^{--}	C^{+}
	Spaces	Internal	C^{+}	C^{--}
		External	C^{--}	C^{++}
	Agents		C^{--}	C^{++}
2. Instructional form	Content		Undifferentiated (uniform)	Differentiated & uniform
	Classroom organization		Communalized / homogenous	Communalized / homogenous & individualized/specialized

University of Cape Town

The purpose in this and the following chapter is to describe different pedagogic modalities in the different social class contexts. Here I have focused on the *structuring* of the pedagogic practice. I have shown how the potential for the specialization of voice of learners was established through particular classification and framing values, and through a pedagogy which individualized students. In the following chapter I focus more closely on the content. In Bernstein's terms, this chapter has concentrated on the *relay,* and in Chapter 6 what is *relayed* is considered.

Chapter 6 – Pedagogic modalities II: instructional strategies and knowledge domains

6.1 Introduction

This chapter continues the discussion of pedagogic modalities from Chapter 5. Again the interest is in the potential specializing of the learners' voice with respect to school knowledge, and the kinds of meanings made available in the classroom. In order to extend the discussion of classification and framing and instructional form, the strategies deployed by the teacher in the pedagogy, and the content of the knowledge introduced, are considered in detail. The analysis shows how the teachers' strategies function in relation to the fields of mathematics and literacy, and the movement from the local to the general. The focus is on context-independent and context-dependent meanings as they manifested in the tasks that learners were required to do.

This analysis draws on Dowling's (1998) concepts of domains (public and esoteric) and distributing strategies (localizing, specializing, fragmenting and generalizing). The discussion of classification in Chapter 5 is deepened by identifying what it is that is weakly or strongly classified, and the organization of knowledge in the different classrooms is accounted for. In particular the relation between everyday and school knowledge is foregrounded.

If pedagogy involves the specializing of consciousness, then the teacher is positioned in a particular way in relation to the child (which I examined in Chapter 5) and also to a field of knowledge or discipline (here, that of school mathematics and literacy). In the latter case the interest is in where the authority for the teacher's practice lies, how she is positioned in relation to the discipline. Thus I look at what strategies are deployed by the teachers in relation to the different domains – public or esoteric. Firstly, I look at this in relation to discrete tasks, and consider specializing and localizing strategies. Secondly, generalizing and fragmenting strategies characterize the relation between tasks across the three days, or across 'pedagogic assemblies'.

University of Cape Town

Finally, having considered what strategies are entailed in the pedagogy, the rules for selection are considered, and an analysis is undertaken of how the everyday is recruited in the two contexts, and the ways in which this recruitment supports the development of context-independent meanings in the classroom.

6.2 Instructional strategies for individual tasks: localizing and specializing

The first stage of the analysis of instructional strategies looks at all tasks across all teachers' lessons. Two coding networks were developed to analyze the tasks of all the numeracy and literacy lessons. Separate coding networks were developed for the two subjects, as empirical instances of localizing and specializing strategies embodied in the tasks varied substantially across the subjects.

6.2.1 Instructional strategies: literacy

Each of the literacy tasks was coded in terms of the categories localizing and specializing. These strategies were identified in the tasks that the teachers set and the requirements of the learners. Each task was analyzed using the network introduced in Chapter 3. In what follows I show how the network was derived in interaction with the data, and the results from the coding of the data using this network are presented.

The first distinction for literacy is made between localizing and specializing strategies. In order to recognize whether a task represents a localizing or specializing strategy, the question is asked as to whether the task can be completed with or without access to specialized knowledge. In other words, does the strategy distribute a public domain, or esoteric domain message? So, localizing tasks are those which the learners are able to do without deploying the specialized knowledge of literacy. The 'literacy element' or concept is absent. These tasks incorporate knowledge that is familiar and local, and meanings that are generally particularistic, concrete and context-dependent. Specializing tasks, on the other hand, refer to a particular literacy element or concept, to an esoteric domain message. Tasks incorporating specializing strategies are rule-based or rule governed; tasks which are characterized as localizing are spontaneous or mundane.

University of Cape Town

At the Grade 3 level, tasks which incorporated localizing strategies often resembled 'play' or games. They generally required learners to do things that they enjoyed, and which they knew how to do (recite a well-known verse, colour in a picture). They did not incorporate knowledge that the learners were not familiar with, and were not designed to produce a cognitive shift (although they may indeed have produced this unintentionally). Localizing strategies are concerned with horizontal discourse rather than the vertical discourse of the subject of literacy.

Localizing strategies require the restatement or reproduction of that which is already known. Specializing strategies require that the learners apply knowledge in a novel way, practice a concept or skill in relation to particular contexts, or rehearse a new concept.

The initial categories, localizing and specializing strategies, were disaggregated to take account of different forms of these strategies. Below I give examples of the different types of localizing and specializing strategies incorporated in the network, and exemplify them through extracts from the data.

6.2.1.1 Localizing strategies

The following examples of localizing strategies show the development of the coding network and how the data was coded (or, how the instance of a localizing strategy was recognized in the data and how the coding was realized). Four different types of localizing strategies were identified: ritual, mechanical, personal and nominal.

The first example is taken from an oral lesson in Palesa's class.

Extract 6A: Palesa literacy

The teacher sits at her desk.	
Teacher:	Now it is story time. Who volunteers to tell their story?
Three learners tell stories around a variety of topics. One of the stories is as follows:	
Learner:	There was Dingi and Nontiliza, Dingi's mom and Dingi's daddy. They asked Nontiliza to cook cabbage. They then went to a shebeen. At night Nontiliza said they must eat the cabbage. Dingi also said he wants to taste the cabbage. When they heard their parents coming back, Dingi went outside to hide behind a pile of wood. Nontiliza hid behind a chamber pot ['iPoty']. His father went to pee. Dingi said, 'No daddy you are peeing on

University of Cape Town

	me'. Nontiliza's mom went to wee. Nontiliza said 'No mama don't wee on me.' 'Dingi who ate the cabbage?' the parents asked. Dingi said 'Nontiliza ate the cabbage'. 'Nontiliza, who ate the cabbage?' the parents asked. Nontiliza said Dingi ate the cabbage. Dingi got a hiding, ran towards the river and jumped in. The leguaan said 'Here's a feast, lets eat him!' The crab said 'No, let's make him king of the river.' Nontiliza was then asked to go and fetch water from the river. She went and filled her bucket with water. Then she started singing' Dingo, Dingo, my mama's child'.
After the fifth learner has finished his story the teacher stops the learners.	
Teacher:	Listen, stand up, push your chair in and close your mouth. I wish I was an octopus
The whole class then recites in unison the poem, 'I wish I was an octopus', which they all know well. They recite each line twice and once they have finished the teacher asks them to recite the poem again. They recite it again, and the teacher then instructs them to recite another well-known verse. They do this twice.	

There were two tasks in this lesson: the telling of stories, and the reciting of verses. Both represent localizing strategies. In the first task learners produced spontaneous texts (the stories) where the principles for their generation were not required. The tales were very short and told quickly, and generally did not conform to conventional narrative form. In most of the stories, the logical development of narrative could not be discerned. Palesa offered no comment on the stories, and the stories ranged in content and sense. The stories also appeared to draw on a range of resources from the students' everyday lives. In the story in Extract 6A, the learner moved from everyday activities, such as eating, to fable-type constructions – 'the crab said 'No, let's make him king of the river''. The selections were spontaneous and not bound by any obvious specialized rules of literacy, making the coherence of the story difficult to retrieve.

In the second task learners reproduced well-known texts (the verses). The learners were familiar with the texts and the exercise was mundane, not requiring the exercise of any particular rule relating to literacy. Both these tasks constitute a localizing strategy that I have termed *ritual* – a procedure regularly followed which appears to have communalizing purposes rather than pedagogic ones.

Likewise, mimicry also represents a localizing-ritual strategy, and was a common strategy deployed by the teachers in the classroom. The following call and response pattern in Babalwa's class is typical of many South African primary schools[1]:

[1] Prinsloo & Stein (2004), in a study of literacy learning in pre-schools, predict the outcome of this type of learning from pre-school: 'It is also likely that the children's skills in recall and reciting word-for-word, developed at pre-school level, will stand them in good stead, and will be enhanced when they encounter the rote learning and list-learning strategies that characterise most learning in non-elite schools in South Africa' (Prinsloo & Stein, 2004:14).

University of Cape Town

Extract 6B: Babalwa literacy

Speaker	Utterance
Teacher:	Do you agree with him? He says the same thing as Simvuyile. I am expecting those who are not talking to talk. Let's talk people. In summer it is very hot. It is what?
Learners:	It is very hot.
Teacher:	How is summer?
Learners:	It is very hot.
Teacher:	How is summer?
Learners:	It is very hot.
Teacher:	How is summer?
Learners:	It is very hot.
Teacher:	I am waking up all those who are sleeping and not talking. You must talk so that you can keep things where?
Learners:	In your mind.

The extent to which this pattern of exchange of meanings was entrenched is evident in particular in the last two sentences of the exchange. The learners were familiar with the first part of the exchange – 'so that you can keep things where' – and automatically responded, 'In your mind'.

Mimicry was also a feature of localizing tasks with respect to reading. This was seen particularly in instances where learners repeated words and phrases from a text after the teacher, and were not required to read themselves. In the working-class context it was observed and reported that several of the learners were in fact unable to read. Again, this kind of reading activity did not necessarily require the application of a rule or procedure for the production of a text.

Another example of localizing-ritual found in reading activities was identified when learners sat and listened to the teacher read a story. These instances were found in Anne and Kate's classes in particular. The tasks – listening to the teacher read – were coded as localizing-ritual, as the learners were not in these instances required to produce texts based on any specialized literacy knowledge or set of rules, but listened to the teacher tell a story.

The second type of localizing strategy, localizing-mechanical strategies, was apparent when learners were required to reproduce, imitate or copy the exact text of the teacher or other resource. In these instances the evaluative rules were implicit or absent, and very little or no specialized knowledge for the particular task was required. In several of the literacy lessons learners were required to copy off the board, colour in, draw or copy from the textbook without doing any kind of operation beyond this. For example, in Nomsa's class, groups of learners were

University of Cape Town

required to draw an animal from the textbook. Most of the learners traced the animal. Drawing and colouring-in functioned as time-filling devices in a number of classrooms, or as reward mechanisms. For example, in a lesson in Fiona's classroom, her response to learners asking if they could colour in was: 'Once you have finished all the questions you may colour in the picture. But not before. Questions first'.

The third strategy, localizing-personal, was evidenced in the Extract 5D, shown earlier on page 120 from Nomsa's class, where learners were required to describe a pig. It was evident in this extract that learners' answers were spontaneous, consisting of particularistic, local meanings, and were not strictly regulated by any obvious rule generating their description, nor the mode of description. This was apparent in the switch from physical description to the eating habits of the pig. The teacher did not comment on the truth-value of the learners' answers. Any response appeared to be acceptable. This is an example of a localizing-personal strategy. The same strategy was evident in the following exchange between the teacher and learners in Palesa's class:

Extract 6C: Palesa literacy

Teacher:	Is it good for children to eat sweets? Xolisa?
Xolisa:	No Miss. It is not good.
Teacher:	Why is it not good for children to eat sweets?
Learner:	It causes tooth decay.
Teacher:	Why is it important for growing children to sleep? Say what you think.
Learner:	So they can grow well.
Teacher:	Now what kinds of food do we have to eat to keep our bodies healthy? Ncumisa?
Ncumisa:	Fruit.
Teacher:	Yes, fruit. And what else?
Learner:	Bread.
Teacher:	Yes, bread. What kind of bread?
Learners:	Brown bread.
Teacher:	And what else Nicholas?
Nicholas:	Veg.
Teacher:	What is veg in Xhosa?
Learners:	Imifino.
Teacher:	Imifino. Nonthuthuzelo?
Nonthuthuzelo:	Cake.
Teacher:	Nonthuthuzelo says cake.
Learners:	[mutter] No.
Teacher:	Yes we can eat cake. Little bits, but not more than the ones we mentioned.

In this example Palesa, like Nomsa, elicited from the learners their personal opinion and their particularistic knowledge. There was no particular principle or rule governing the learners'

University of Cape Town

responses beyond their own personal experience and knowledge, gained within their local context. It was also difficult to discern a learning trajectory, or what learning this discussion might lead to, as it was followed by an entirely different topic, and not returned to in the subsequent days of observation.

Finally, localizing-nominal was the most common strategy found in the analysis of the tasks in the working-class context. This strategy consisted of the teacher and learners naming things – usually in relation to a theme. The following extract comes from Babalwa's class, where learners are going through different shapes of leaves shown in the textbook.

Extract 6D: Babalwa literacy

Learners:	Big and pricking leaves.
Teacher:	These are oak tree leaves. You can never touch them because they are pricking.
Continue.	
Learners:	Featherlike leaves.
Teacher:	There are pricking leaves from the oak tree, but there is no oak tree here so I can't show you. Next one.
Learners:	Long leaves.
Teacher:	Long leaves.
Learner:	Long and thin leaves.
Learners:	Those shaped like heart.
Teacher:	It says there are heart-shaped leaves. Now we saw the top leaves, now let's look at the bottom ones.
Learners:	Ipayina [pineapple tree].
Teacher:	Ipayina.
Learners:	Ipayina.
Teacher:	It's a pine tree.
Learners:	Peach tree leaves.
Teacher:	Peach tree leaves.
Learners:	Isundu [Palm].
Teacher:	We don't have a lot of these trees around in Harare. When we are going to go to a forest and see all the kinds of trees and leaves. You will see them. There are many kinds of trees. We could talk about them the whole day. Palm, and it's got palm leaves.

There were no discernible literacy strategies evident in this exchange and others like it. This lack was also evident in Babalwa's statement 'There are many kinds of trees. We could talk about them the whole day'. A clear pedagogic trajectory from these kinds of exchanges was not retrievable; rather the pedagogic process consisted of building up a series of words and images in relation to a theme. The localizing strategies for literacy are presented diagrammatically as:

University of Cape Town

responses beyond their own personal experience and knowledge, gained within their local context. It was also difficult to discern a learning trajectory, or what learning this discussion might lead to, as it was followed by an entirely different topic, and not returned to in the subsequent days of observation.

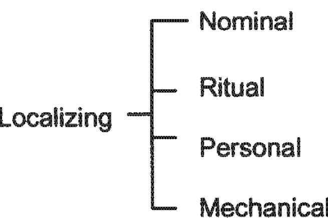
Finally, localizing-nominal was the most common strategy found in the analysis of the tasks in the working-class context. This strategy consisted of the teacher and learners naming things – usually in relation to a theme. The following extract comes from Babalwa's class, where learners are going through different shapes of leaves shown in the textbook.

Extract 6D: Babalwa literacy

Learners:	Big and pricking leaves.
Teacher:	These are oak tree leaves. You can never touch them because they are pricking.
Continue.	
Learners:	Featherlike leaves.
Teacher:	There are pricking leaves from the oak tree, but there is no oak tree here so I can't show you. Next one.
Learners:	Long leaves.
Teacher:	Long leaves.
Learner:	Long and thin leaves.
Learners:	Those shaped like heart.
Teacher:	It says there are heart-shaped leaves. Now we saw the top leaves, now let's look at the bottom ones.
Learners:	Ipayina [pineapple tree].
Teacher:	Ipayina.
Learners:	Ipayina.
Teacher:	It's a pine tree.
Learners:	Peach tree leaves.
Teacher:	Peach tree leaves.
Learners:	Isundu [Palm].
Teacher:	We don't have a lot of these trees around in Harare. When we are going to go to a forest and see all the kinds of trees and leaves. You will see them. There are many kinds of trees. We could talk about them the whole day. Palm, and it's got palm leaves.

University of Cape Town

There were no discernible literacy strategies evident in this exchange and others like it. This lack was also evident in Babalwa's statement 'There are many kinds of trees. We could talk about them the whole day'. A clear pedagogic trajectory from these kinds of exchanges was not retrievable; rather the pedagogic process consisted of building up a series of words and images in relation to a theme. The localizing strategies for literacy are presented diagrammatically as:



Overall, the localizing strategies presented here approximate what mothers do with their children in early pedagogic and socialization activities, e.g. read to the child, help the child name things, recite rhymes. They are not empty of pedagogic content or potential but, in relation to Grade 3 learning, they do not specialize voice, they do not explicitly appeal to the esoteric domain and they do not require specialized performances on the part of the learner. Rather, they represent a form of initial, segmental pedagogy, aspects of which one may find in the home.

6.2.1.2 Specializing strategies

Specializing strategies, as was suggested above, contain an esoteric domain message. They require the learner to use literacy knowledge in order to complete a task. I distinguish here between two forms of specializing strategy – reproduction of text, and production of text. The difference lies in how the learners put the specialized knowledge to use: are they required to engage in knowledge (or new knowledge) in order to generate texts that they have not seen before, or are they engaged in the reproduction of texts, or practice work? I term the two strategies simple and complex, and define them more closely below.

A specializing-simple strategy consists of carrying out a procedure that does not require reasoning or the novel application of knowledge or concepts. For example, it may include copying cursive letters off the board, or writing out a 'memory sentence', the device described earlier that was used at Arbor for the learning of a particular phoneme. In Anne's class, for example, learners copied out a sentence containing the phoneme 'aw' – 'The awkward hawk saw the boy dawdle past the field of straw'. In this case the learners did not have to apply a concept, but the task was connected to a particular literacy concept, or esoteric domain message. Another example of specializing-simple would be a spelling task in Fiona's class.

University of Cape Town

Extract 6E: Fiona literacy

Learners shade in spelling words for the week from a list in their spelling books. The words all start with the letters 'k' and 'l'. In pairs learners ask each other spelling words from the list preceding these new words, i.e. words they have learnt in the past. One learner writes the words on a small white board. The other learner marks the words and the learners then swap roles.

The learners were required to practice and reproduce a list of words. Had they been required to write several of these words in a sentence, that would have constituted a specializing-complex strategy – a novel application of the knowledge. The task did still constitute a specializing strategy, however, because of the esoteric domain message of spelling. The words were selected on the basis of their beginning with a particular letter, and being challenging for a Grade 3 learner to spell until they had been learnt.

Specializing-complex requires that learners engage in the novel applications of rules, or that learners display their reasoning, synthesis and/or evaluation of knowledge. In the following example the teacher aids learners to interpret text in a small reading group.

Extract 6F: Jeanne literacy

Teacher:	Before we carry on reading, look at the picture. Can you see the bird?
Learners:	Yes.
Teacher:	And look at the building. Do we have buildings like that in Cape Town?
Learner:	No. But that building is destroyed.
Teacher:	Ja. And look at page 43, at that picture. Do we wear clothes like that today?
Learners:	No.
Teacher:	So do you think this is a story about a long, long, long ago?
Learners:	Yes.
Teacher:	So carry on Candi.

Small reading groups, such as the one represented in Extract 6F, generally included discussions around the narrative and the meanings of words. In this case, using graphophonic cues, the discussion was around the location in time and space of the story. In these groups learners were required to synthesize the narrative, interpret the meaning and define words.

In writing, specializing-complex included all writing activities which required that learners generate their own texts. Examples included writing paragraphs on a topic, or writing sentences to illustrate the definitions of words. In oral work, specializing-complex entailed giving

University of Cape Town

rationales, justifications or explanations for responses. An example, drawn from Anne's class, shows the following exchange:

Extract 6G: Anne literacy

Teacher:	Sorry, I need a sentence for startle.
Learner:	Brandon startled me.
Teacher:	Brandon startled me doesn't actually tell me what it means. I walked down the passage and Brandon came into the room and startled me. Something you weren't expecting.
Learner:	Like scared, surprised or scared.
Teacher:	Yes.

As Ensor (1999:79) points out, specializing and localizing strategies are strategies rather than states or achievements. They point to the nature of the transmission in relation to the domain of practice and the functioning of the discourse, but do not tell us about the accomplishments of the strategy, that is, what is produced in the acquirer. An example of this comes from Palesa's classroom.

University of Cape Town

Extract 6H: Palesa literacy

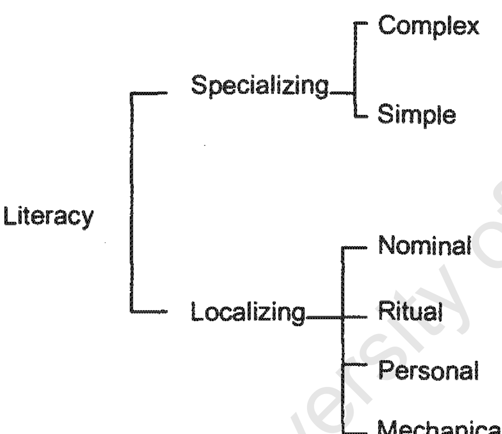
The teacher takes the learners outside. On a tree outside she points out the different parts of a tree that they had been discussing inside. She then moves from plant to plant asking learners to describe the leaves. They do so reluctantly. At the sixth plant the teacher has the following exchange with the learners:	
Teacher:	You don't seem to know. How are these leaves? How are they shaped?
Learner:	They are hard and thin.
Teacher:	[at the next plant] How are these leaves?
Learner:	They are soft.
Teacher:	Soft as what?
The teacher pinches a learner who is making a noise. They move to the next plant	
Teacher:	How are these?
Learner:	They are rough and piercing.
Teacher:	Okay, we saw different trees and their leaves. How are they different? Aviwe?
Aviwe:	Others are rough, hard and long.
Nicholas:	Others are soft.
Michael:	Some are short.
Olwethu:	Some are small.
Shedrek:	Thin.
Teacher:	Others are thick and big. Now we are going to class. I'll give you a piece of paper. I want you to write something about leaves. Put your finger on your mouth and go back to the classroom in a line.
The learners go back to class and the teacher tells them that she wants them to write a poem about their favourite leaf in the shape of a leaf. She writes a few adjectives up on the board. Learners are unclear about what to do. Most do not produce anything resembling a poem but rather draw and colour in a leaf and then write the adjectives given on the board either on the page or over the leaf.	

In this instance the task would be categorized as specialized-complex. This is because the teacher set the task up in such a way as to expose learners to a literary genre (the poem), and to poetic

devices – adjectives and similes. This attempt was evident in her question to the learner: 'Soft as what?', and the writing of adjectives on the board. However, the evaluative rules were very weak, such that the learners were not able to recognize and realize the legitimate text. In general weak evaluative rules were associated with localizing strategies. The above extract represents an exception, however, and in the coding of the task the construction of the task represents a specializing strategy, even though the learners did not master the realization rule, nor possibly the recognition rule.

The complete network that was used for the coding of the data is show below:

Figure 6.1: Network for the analysis of literacy tasks



University of Cape Town

All 103 literacy tasks for all eight teachers were coded using this network. A breakdown of the number of tasks per teacher was given in Chapter 5. Table 6.1 below shows the results of the coding of all the literacy tasks for all the teachers.

Table: 6.1: Number and percentage of specializing and localizing strategies for literacy for the eight teachers

	Specializing strategies			Localizing strategies				
	Complex	Simple	Total	Nominal	Personal	Ritual	Mechanical	Total
Anne	14	5	**19** (90%)	0	0	2	0	**2** (10%)
Kate	12	5	**17** (94%)	0	0	1	0	**1** (6%)
Fiona	5	1	**6** (87%)	0	0	0	1	**1** (13%)
Jeanne	8	4	**12** (100%)	0	0	0	0	**0** (0%)
Yonela	3	0	**3** (30%)	1	3	1	2	**7** (70%)
Nomsa	2	2	**4** (33%)	2	5	0	1	**8** (67%)
Babalwa	0	1	**1** (9%)	5	0	3	2	**10** (91%)
Palesa	2	0	**2** (17%)	2	4	3	1	**10** (83%)

It is evident from the table that there was not a great difference between the middle-class teachers in terms of the distribution of strategies. Their pedagogy consisted overwhelmingly of specializing strategies, and complex specializing strategies predominate. Only four localizing strategies were coded for the middle-class teachers, and these included reading to learners (localizing-ritual) and colouring-in (localizing-mechanical).

In the working-class context there were greater differences between the teachers. More specializing strategies were found at Uxolo than at Lwazi, and in Babalwa's class, in particular, only one specializing-simple strategy was coded. Localizing-nominal was the dominant strategy in her classroom. About a third of the strategies in Nomsa and Yonela's pedagogy constituted specializing strategies. The table below summarizes the strategies found across the two social class contexts.

Table: 6.2: Number and percentage of specializing and localizing strategies for literacy for the two social class contexts

	Specializing strategies			Localizing strategies				
	Complex	Simple	Total	Nominal	Personal	Ritual	Mechanical	Total
Middle-class context	39	15	**54** (93%)	0	0	3	1	**4** (7%)
Working-Class context	7	3	**10** (22%)	10	12	7	6	**35** (78%)

In the middle-class context 93% of the tasks constituted specializing strategies, as opposed to 22% in the working-class context. Localizing-nominal and localizing-personal dominated the

University of Cape Town

pedagogy in the working-class context. Local, particularistic meanings were privileged and list-learning activities predominated. These results have significant implications for the ways in which students are inducted into the specialized code of schooling, or an elaborated orientation. In the middle-class context, in literacy, learners largely engaged in tasks with an esoteric domain message, and their voice was being specialized with respect to school knowledge. In the working-class context, 78% of the tasks that the learners were required to engage in referred to public domain meanings. They had little exposure to the specialized knowledge of literacy. The knowledge that they were exposed to, and were required to produce, was personalized, localized and related to their everyday categories and experiences. A restricted code orientation prevailed in the classrooms in the working-class classrooms – a weak potential for the specialization of learners' voice with respect to the vertical knowledge of schooling. In the next section, the instructional strategies for individual tasks are considered for the learning of numeracy.

6.2.2 Instructional strategies: numeracy

The numeracy coding network also distinguishes between specializing and localizing strategies. However, the distinctions within these categories are different. Because of the stronger classification of mathematics as a school subject, with specialized language, notation and set of operations, most of the tasks incorporated an aspect of mathematical knowledge. In an analysis of the data here, the treatment of the conceptual knowledge is more pertinent than whether the conceptual dimension is evident, as was the case in literacy.

6.2.2.1 Specializing strategies

Specializing strategies concern the relation between the task requirements and the esoteric domain. With specializing strategies, the message produced by the task is relatively context-independent and involves the articulation of an esoteric domain message in relation to a specific topic. In developing the network for the coding of the numeracy tasks, two forms of specializing strategies were identified: principling and proceduralizing. Specializing-principling strategies entail a rule-based or rule-governed performance on the part of the learner, where novel applications of knowledge, operations or skills are required, or in oral work, reasonings,

University of Cape Town

justifications or explanations. Here the understandings, competences or reasoning behind the mathematics are required for the construction/production of legitimate texts for evaluation.

With specializing-proceduralizing strategies, the focus is on the procedure required for the construction/production of legitimate texts for evaluation. These strategies entail that learners practise a concept or perform an operation without necessarily engaging in the principles for the generation of texts. In Chapter 3, Dowling's definition was used to explain proceduralizing in relation to mathematics as 'exchanging instructions for definitions' (Dowling, 1998:146), and reducing the level of abstraction of knowledge. Specializing-proceduralizing strategies are often visible in tasks that merely provide learners with a set of instructions to carry out; where a trajectory may be discerned, but more general principles are not made explicit and are unlikely to emerge at a later stage. An example of the specializing-proceduralizing strategy from Nomsa's class is presented below. The teacher was teaching the learners 'half past' as part of a series of lessons on telling the time.

Extract 6I: Nomsa numeracy

Teacher:	When the arm is on the right side we say past. Now, on your watches show me half past. It doesn't matter which hour. One minute.
The teacher walks around looking at what learners are doing	
Teacher:	Listen, listen. When it's half past six for example the short arm is no longer at six. It has moved a little bit. Show us half past two Luyanda.
Luyanda goes to the front where there is a large clock on the board and shows half past two	
Luyanda:	The short arm has moved a little bit from two and the long arm is pointing at six.
Teacher:	[indicating to a learner] Next.
Learner:	Half past five. The short arm has moved a little bit from five and the long arm is pointing at six.
Learner:	Half past four. The short arm has moved a little bit from four and the long arm is pointing at six.
Teacher:	Okay. They say the long arm has moved a little bit from four. Take out your maths books.
Eight learners are standing. Some are handing out books	
Teacher:	Listen, you are going to draw me two watches that show ...?

The learners were not given an explanation as to why the hour hand moves away from the hour digit, or by how much. It was evident here, and later, how the learners started to take on the procedure in a chant-like fashion, repeating *precisely* the wording of the student before. The teacher did not modify the learners' responses, but affirmed the developing chant. Because learners had not been given access to the reasoning behind the movement of the hour hand, no trajectory towards a principled understanding was discernible, and the task was coded as

University of Cape Town

procedural. It was not surprising, therefore, to find in a lesson, two days later, the following exchange:

Extract 6J: Nomsa numeracy

Luyanda:	The time is quarter past nine. The long arm is at three and the short one is at nine.
Learner:	The time is quarter past six. The long arm is at three and the short one is at six.
Learner:	The time is quarter past eight. The long arm is at three and the short one is at six.
Learner:	The time is quarter past seven. The long arm is at three and the short one has moved a little bit from seven.
Teacher:	Is she correct when she says that the short one has moved a little bit from seven?
Learners:	No Miss.
Learner:	The time is quarter past five. The short one has moved a little bit from five and the long arm is at three.
Teacher:	Right.

Again the chant-like speech of the learners persisted, until it was disrupted by one learner who modified the response. The teacher did not explicitly affirm the change, but it was taken up by the learners. The point is that 'a little bit' was not quantified, and it is questionable whether the learners understood what it was that they were showing. It was not evident that the learners knew what the short arm and the long arm referred to. Nonetheless, in a very procedural way, they were possibly learning to tell the time.

The following example of a specializing-principling strategy is taken from Anne's class, where learners were working in a small group with the teacher:

Extract 6K: Anne numeracy

Teacher:	I'm thinking of doubles, and I've got all the numbers here between one and twenty. Can you double the numbers between one and twenty? Because if you can do that you can do any doubling. Let's start off together. What's double five?
T shows cards with the numbers on as she goes along.	
Learners:	Ten.
Teacher:	And what's double sixteen?
Learners:	Thirty-two.
Teacher:	How did you work that out so quickly?
Learner:	Because ten plus ten equals to twenty, and six plus six equals twelve, so then I add the ten on to twenty and that's thirty, and then the two.
Teacher:	Add the two.
Learner:	And then I get thirty-two.
Teacher:	Good. [Teacher holds up a card with '20' on it] Who wants to do this one alone?
Learner:	Forty.
Teacher:	And this one alone? [Teacher holds up a card with '12' on it]
Learner:	Twenty-four.
Teacher:	And next? [Teacher holds up a card with '10' on it] By yourself Candi.
Learner:	Twenty.
Teacher holds up a card with '11' on it	

University of Cape Town

Learner:	Twenty-two.
Teacher holds up a card with '13' on it	
Teacher:	[after learner pauses] What are you doing in your head? What is thirteen? Break it up for me. Nawaaz do you know? It's a ten and a ...
Learner:	Three.
Teacher:	Three. And what's double ten?
Learner:	Twenty
Teacher:	And what's double three?

The teacher commenced the activity with an index to the means of the activity – '...double the numbers between one and twenty. Because if you can do that you can do any doubling'. She then allowed each member of the group to practice doubling, at the same time checking that each learner was able to carry out the operation. The teacher asked one of the learners to articulate his reasoning – 'What are you doing in your head?' She provided him with a series of steps, using decomposition of number, to derive the solution.

In other classes, particularly in Rhodes, learners were instructed to 'show their working'. Although these kinds of activities may seem to turn the understandings, competences or reasoning behind the mathematics (principled) into a set of procedures, learners' rehearsal of operations and skills were clearly aimed at the establishment of a mathematical understanding, a base from which more advanced conceptual work could be done. This was seen in particular in the explanations of how to solve word problems in Jeanne and Fiona's classes, where learners were required to first write down what it was they were looking for (for example, dresses, balls, sweets), and then to derive the mathematical statement from the wording (for example, 18 + 29). They were then trained to solve the statement through decomposition of the numbers, and to show all their working-out. In this case, this would probably have been 10 + 20 = 30; 8 + 9 = 17; 30 + 17 = 47. The careful and systematic series of steps for working-out which were evident here did not necessarily make the mathematical reasoning behind the problem explicit, although it did provide a form or outline which made the potential for the acquisition of a principled understanding more likely.

6.2.2.2 Localising strategies

In considering localizing strategies contained in the numeracy tasks, the network also differentiates between two forms – mathematical and non-mathematical. In relation to the first,

University of Cape Town

In relation to the task, it would have been more helpful to the learners had the teacher showed them grouping rather than multiplication in the first instance. Because she focused on multiplication, she was unable to extract a rule for the learners to apply in the task, apart from possibly trial-and-error, but this was not made explicit. In her second attempt at an explanation, rather than give an account of how the two dimensions might have been derived, she restated her first account: the three 'stands for rows', and the 'four stands for the number of trees in the row'. Instructions for the task became emptied of mathematical content, and the connections between the task and the esoteric domain became attenuated. The task was classified as localizing-mathematical.

The localizing strategy illustrated above contains mathematical content, and is different to that of tasks such as colouring-in or chanting, where there is no mathematical content visible. In this way the distinction is made between localizing-mathematical and localizing-non-mathematical. Localizing-mathematical displays mathematical content, but the principles and procedures for completing the task are absent. Localizing-non-mathematical incorporates tasks which are devoid of mathematical content, such as chanting, singing or colouring-in, which may occur as part of the mathematics lesson. This was evident in a lesson from Babalwa's class where, for a large part of the lesson, learners recited the title and wording of a word problem after the teacher.

University of Cape Town

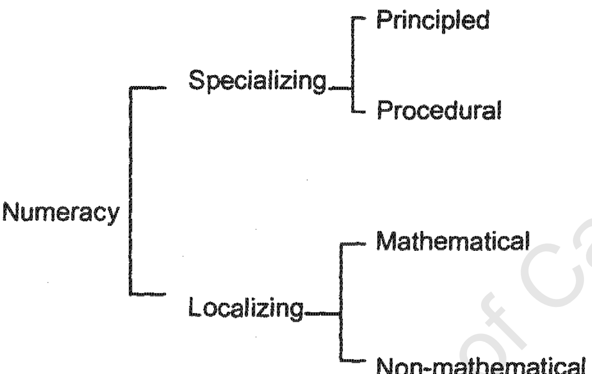
Extract 6M: Babalwa numeracy

Teacher:	Listen, on page sixty-three, how a tree lives and grows. It says that … what does it say people? How a tree lives and grows. What does it say?
Learners:	How a tree lives and grows.
Teacher:	What does it say?
Learners:	How a tree lives and grows.
Teacher:	What does it say?
Learners:	How a tree lives and grows
Teacher:	Umthi uphula njani ukhube nyani. Say it in Xhosa.
Learners:	Umthi uphula njani ukhube nyani
Teacher:	Say it again in English, how a tree lives and grows.
Learners:	How a tree lives and grows.
Teacher:	There are those who are not talking. I don't hear you. How a tree lives and grows.
Learners:	How a tree lives and grows.
Teacher:	I don't hear some. How a tree lives and grows.
Learners:	How a tree lives and grows.
Teacher:	I don't hear you Thondo. How a tree lives and grows.
Learners:	How a tree lives and grows.

And so on. The purpose in this extract was possibly to help learners read comprehensively through the question. However, for at least fifteen minutes of the hour-long lesson this was the sole activity of the learners. Learners were also not given an opportunity to actually *read* the text of the problem, but rather engaged in the *ritual*-type call and response activity described earlier in relation to literacy strategies. No mathematical content was visible or transmitted.

The final network used for coding the mathematics tasks is shown below:

Figure 6.2: Network for the analysis of mathematics tasks



University of Cape Town

A total of 60 numeracy lessons for the eight teachers was coded using the network show above. Again a task was delineated as an activity based around a single goal or theme. The number of mathematics tasks varied widely across the different classrooms, in particular between the middle-class classrooms and the working-class classrooms. The number of numeracy tasks identified for each teacher is shown in Table 6.3 below. The tasks obviously differ in length, and while some may contain a number of items for learners to work through, others may be a single operation. This is not reflected in the coding. What the table does show, rather, is the number of different activities and topics which the learners were exposed to.

In the middle-class context the dominant strategy was that of specializing-proceduralizing (59% of the total tasks in this context), and specializing-principling strategies were common (39% of the total number of tasks amongst the teachers here). Only one localizing strategy in the middle-class context was identified – in Jeanne's class, where learners coloured in a picture in a mathematics test. In the working-class context there was an equal number of localizing strategies and specializing-proceduralizing strategies. Within the localizing category, the dominant strategy was localizing-mathematical. Although the tasks 'looked like' mathematics, the explanation and execution of these tasks contained no observable procedures or principles.

The predominance of proceduralizing strategies across both groups is perhaps not surprising. At the time of year (the third term), the rehearsal of operations, concepts and skills learnt earlier in the year would generally be expected. Also, given the learners' intellectual maturity, one could argue that proceduralizing forms a natural part of the learning process at this point. Not being able to grasp enough of the field to understand the operation of principles, learners at least gain access to the parts, and the rules and principles can then be read retrospectively. More procedurally oriented *practice* of concepts and operations would possibly, at a later point, provide a kind of conduit to the esoteric domain and the more general principles of number and mathematics.

Table 6.5 shows what strategies constitute the majority of the numeracy tasks in the different settings. Of the total number of tasks in the working-class setting, ten (50%) of the tasks were characterized as specializing strategies. In the middle-class setting on the other hand, of the 47 tasks coded, 98% represented specializing strategies. Further, in the middle-class context, eighteen (30%) of the strategies were coded as principling strategies. These strategies were not evident in the working-class context. As in literacy, the esoteric domain message in the middle-class class context prevailed over public domain meanings. The potential for the specialization of learners' voice with respect to knowledge of number and mathematics was strong in the middle-class context and much weaker in the working-class context.

University of Cape Town

6.2.3 Discussion: instructional strategies, localizing and specializing

Table 6.6 summarizes the discussion thus far. The instructional strategies of localizing and specializing for numeracy and literacy tasks are taken together, and expressed as a percentage of the total number of strategies in the tasks set by teachers in the particular social class school contexts.

Table 6.6: Percentage of tasks incorporating different instructional strategies in the two social class contexts for literacy and numeracy

	Specializing Strategies	Localizing Strategies
Middle-class class	95%	5%
Working-class	31%	69%

University of Cape Town

In the middle-class context the dominant strategy was that of specializing, where the message was more abstract and the relation to the esoteric domain clear. Thus the means to recognize and realize context-independent meanings for middle-class learners in these classrooms was enhanced through the instructional strategies deployed by the teacher. In the working-class context almost two-thirds of the instructional strategies were localizing. Learners in these classrooms were predominantly exposed to a form of segmental pedagogy, in which relations to the public domain were prioritized and context-dependent meanings prevailed. The potential for learners in this context to recognize and realize an elaborated code was not supported by the instructional strategies identified here.

6.3 Instructional strategies for pedagogic assemblies: generalizing and fragmenting

In categorizing the tasks as localizing and specializing I looked at each of the 169 individual tasks as discrete units. The second stage of the analysis of instructional strategies involves analyzing the tasks *across* the three days of observation, and considering the relations between these tasks. The interest is in whether the pedagogic assemblies of the teachers (a series of tasks

across a number of days) represented generalizing or fragmenting strategies. Thus, what *connected* the tasks to each other, and what was foregrounded in the pedagogy, is considered. The question posed to the data is whether the pedagogic assembly was generated by an esoteric domain message (generalizing), or a public domain message (fragmenting). The unit of analysis here, then, is the pedagogic assembly. Literacy and numeracy pedagogic assemblies are treated separately.

6.3.1 Literacy

For each teacher a number of pedagogic assemblies was constructed for literacy. The pedagogic assemblies were constructed according to different literacy learning categories derived from the data, so that all tasks could be captured under one of the categories – for example writing, oral or phonics. In Figure 6.3 and 6.4 below I take examples of literacy pedagogic assemblies in Kate and Palesa's classes and examine the literacy tasks across the three days of observation. There are two limitations to this analysis. One is that it was possible to look at the assemblies across three days only, although patterns of instruction and their generating principles were evident in that short period. The other limitation is that of space, which is a constraint on presenting all the assemblies of all the teachers. The assemblies shown are, however, representative of literacy learning in the two different social class contexts, and the full set of pedagogic assemblies for all teachers are presented in Appendix G.

University of Cape Town

Generalising

Figure 6.3: Literacy pedagogic assembly: Kate

	Reading		Handwriting		Writing		Phonics and spelling
1	Learners read from graded readers independently.	6	Learners write words with 'f' in cursive.	7	Learners write a few paragraphs recording news from their weekend.	9	Learners read through memory sentence with 'ow' phoneme.
2	Learners read from graded readers independently.			8	Learners write a paragraph on 'my special power'.	10	Learners offer words to indicate oral differences of the phoneme 'ow' (ie. 'cow' and 'blow'). The teacher writes the words in columns and the learners read through them.
3	Learners read in small ability groups with teacher. Discuss meaning of text.					11	Learners write a sentence and draw a picture for eight words with the 'ow' phoneme.
4	Teacher reads to learners while they sit and listen on the mat.					12	Learners copy out the memory sentence.
5	Learners read from graded readers independently.					13	Learners do a phonics activity card to do with the 'ow' phoneme.
						14	Learners write out the memory sentence.
						15	Learners think of and say as many ow words as they are able.
						16	Learners read through the memory sentence, stamping on the phonic 'ow'. They discuss word meaning and punctuation of the sentence with the teacher.
						17	Learners read out and discuss 24 words with the 'ow' phoneme in them, and then sort them into two columns according to their sound.
						18	Learners write six sentences from the ow (as in snow) column.

University of Cape Town

In the middle-class context teachers established coherence through the elaboration of particular concepts/operations over the course of a number of days. Reading and phonics dominated literacy lessons, and were treated as discrete areas for study (i.e. strong intra-discursive classification). Elaboration and consolidation of concepts and operations occurred largely through practice, and learners worked through a substantial number of examples in order to master a concept. In the example given above from Kate's class in phonics, the learners were mastering the 'ow' phoneme. Over the course of three days ten different tasks were set in relation to this concept.

Fragmenting

Figure 6.4: Literacy pedagogic assembly: Palesa

	Reading		Oral		Writing
1	Learners listen to the teacher read a passage about healthy foods.	3	Learners answer a few questions about food.	10	Learners write four sentences about the parts of a tree.
2	Learners listen to the teacher read a story about a 'wishing tree'. She talks about the moral of the story.	4	Learners listen to the teacher talk about climate. They respond to several questions about where they would prefer to live.	11	Learners draw a 'wishing tree' and write a sentence about what they would wish for.
		5	Teacher-led discussion with learners about what products are derived from trees	12	Learners write a poem about a leaf
		6	Teacher-led discussion about parts and functions of trees		
		7	Learners tell short folk tales about a topic of their choosing		
		8	Learners recite well-known verses		
		9	Teacher-led discussion about trees and leaves. Learners name different leaves with the teacher		

Oral work dominated in the literacy pedagogy across all working-class classrooms. Very little or no reading by learners was observed, and very little writing. There were no extended writing tasks. Most tasks related to a particular theme – trees and leaves at Lwazi, and animals at Uxolo. In Figure 6.4, the example taken from Palesa's class, the pedagogy predominantly consists of a series of oral activities around the theme of trees. Tasks on various days were discrete and related only to each other in terms of thematic content. There was no obvious differentiation of different aspects of literacy learning – like phonics – from other aspects. As was the case with the other teachers in the working-class context, literacy learning was dominated by oral, teacher-led discussion. The pedagogic assembly was generated by a public domain message; the pedagogy was fragmented. Seven of the eleven tasks in the pedagogic assembly were oral.

Discussion: literacy learning

In the middle-class context learning mainly consisted of extensive opportunities for practice of particular concepts across days. The phonics pedagogic assembly of Kate was similar to that of Anne's. Their pedagogic assemblies show repetitive exercises, with a range of tasks structured around a single concept. In the foregrounding of the conceptual in the pedagogic assemblies of the middle-class teachers, it is possible to conclude that the pedagogic assembly was generated by esoteric domain principles. In reading activities learners in the middle-class context read

University of Cape Town

consistently through graded and assigned readers. They did this on their own, in pairs, and in groups mediated by the teacher. Learners read the same books from one day to the next until they were completed, and they exchanged or changed their readers.

In the working-class context coherence was established through the selection and elaboration of a theme. In the example given above from Palesa's class, the theme was trees/leaves, the same theme as that in Babalwa's lessons. In Yonela and Nomsa's lessons animals dominated the learning content. In all the classrooms the selection of contents for the tasks consisted largely of selections that related to that particular theme. It is evident from the figure above (and Appendix G) that oral activities dominated in literacy teaching. These oral lessons consisted mainly of a discussion, led by the teacher, around the chosen theme, questions posed to the learners on that theme and listing vocabulary related to the topic.

Reading activities in the working-class context consisted mainly of the teacher reading to the class, or the class reading out a passage together. Readers were not seen or used in any of the classes, and only on one occasions did learners read individually, aloud or to themselves. There was also a paucity of writing activities, no extended writing, and phonics as a separate area of learning was not discernible. In the working-class context, in general, learners were given tasks that related to the particular content (theme) and generally not to a specific concept. The pedagogic assembly was generated by public domain principles.

From an examination of the pedagogic assemblies we can say that the working-class context learners were learning to name the world, and the middle-class context learners were learning to categorize the world. In the former context it is unlikely that learners acquired a way of organizing knowledge and experience. What was displayed in the pedagogy was a long process of listing words and ideas within a particular theme. It was the content that was emphasized, usually to the exclusion of conceptual learning or conceptual engagement.

University of Cape Town

6.3.2 Numeracy

Pedagogic assemblies for numeracy were constructed in a slightly different way to those constructed for literacy. At the time of data collection, the third term of the year, one would not expect to see the teaching of concepts. The focus of teaching is likely to be on the practice of operations already learnt, and, looking across days, it is less likely that we would find a focus on a particular concept, although this did occur in one case (that of Nomsa, teaching time). Thus, in considering the numeracy pedagogic assemblies, the focus was on the extent to which learners were given the opportunity to engage with numbers and concepts, that is, the extent of practice, and the level of that engagement, or, conceptual challenge. Space constraints allow me to show only two contrasting assemblies.

Figures 6.5 and 6.6 show the number and type of operation that learners were required to do across the three days of observation in Palesa and Fiona's classes. Each of these assemblies is representative of the social class contexts from which they are drawn. The assembly from Fiona's class was very similar to that of Anne, Kate and Jeanne, in terms of the number of items covered across the days, and the level of conceptual engagement. In Anne and Kate's classes there was greater differentiation between learners in terms of content. Palesa's assembly is very like that of Nomsa, Yonela and Babalwa in terms of the range of contents covered and the number of items. The full pedagogic assemblies for mathematics for Nomsa, Yonela and Babalwa are shown in Appendix H[2].

University of Cape Town

[2] The complexity of representing the extensive number of items in the middle-class contexts, across a range of ability groups within the classes, precluded showing these assemblies in the Appendix. In number of items, and conceptual level, they were very similar to that of Fiona's which is shown in full.

Figure 6.6: Numeracy pedagogic assembly: Fiona

Day	No.	Activity
Day 1		Learners shown a new method for division. Use method to do
	1	45 / 7
		Learners call out solutions and mark a maths test from previous day. Solutions are explained by teacher.
	2	78 – (16 +11 +32) = ___
	3	___ + (7x6) + (6x3) = 4
	4	(5x5) + (90÷10) = ___
	5	(8x9) + (88÷11) = ___
	6	91 = (10x10) - ___
	7	148 = 239 - ___
	8	(16 – 4) x ___ = 96
	9	(6x4) + 3 = ___
		Learners write a mathematics test containing the following items
	10	___, ___, 210, 205, ___, ___
	11	625, 650, ___, ___, ___, ___
	12	___ + 28 = 100
		200 – (2 x 12) =
	13	(½ of 16) + (½ of 38) =
	14	R1 – 67c =
	15	3 cups = ___ ml
	16	(8 X 3) + (8 X 5) =
	17	(100 / 4) + 20 = ___
	18	1 ½ hours = mins
	19	(½ of 718) – (1/4 of 408) =
	20	256 + (24 x 13) =
	21	134 + 289 + 356 =
	22	(182 x 2) / 6 =
	23	On Saturday 8 friends help the teachers to paint the curtain for Charlie and the Chocolate Factory. They work equally hard and they are given R120 to share. How much does each one get?
	24	What do the costumes for the concert cost if the Gr. R costumes cost R112. the Gr. 1 costumes cost R154, the Gr.2 costumes cost R68 less than the Gr.1 costumes and the Gr.3 costumes cost R187?
	25	The lighting for the Carousel of Letters will cost R274. The lighting for Yebo Africa cost R548. What is the difference in price?
Day 3		Learners are given the following problems to complete:
	53	A train journey takes 4 hours. The journey ends at 12 o'clock. At what time did it start?
	54	A mini-bus carries 11 people. A car carries 5 people. The church hires 2 mini-buses. It asks its members to bring cars to take 57 people on an outing. How many cars do they need?
	55	It costs R530 to hire a caravan for 1 week. If 5 friends share the costs equally, what will each person pay?
	56	There are 36 people on a bus. One third of them get off. How many people are left on the bus?

Day	No.	Activity
Day 2		Learners do the following problems in their notebooks
	26	(8 x 3)+ 20 =
	27	(190 + 10) x 0 =
	28	(100 / 4) x 10 =
	29	½ of 596
	30	(45 / 5) – 9 =
	31	(44 x 10) + 6 =
	32	(115 – 8) x 2 =
	33	½ of 323 =
	34	(1/2 of 28) + ½
	35	(127 + 12) + 7 =
	36	(108 – 20) / 2 =
	37	½ of 748 =
	38	Write in digits five hundred and ten
	39	Write in digits three hundred and fourteen
	40	Write in digits one hundred and five
	41	What is the difference between 385 and 511?
	42	What must I add to 156 to get 400?
	43	There are 9 pins in a box. How many in 13 boxes?
	44	304 / 8 =
	45	408 – 199 =
	46	135 x 6 =
		Learners are given a single number. In columns they are required to express its value; state whether it is odd or even; give the number preceding; the number following; divide the number by 2; state 10 more; 10 less; add 25 to the number; and multiply the number by two. The learners do this for the following numbers
	47	75
	48	38
	49	40
	50	36
	51	52
	52	69

In all four middle-class classrooms learners had mathematics activity books which were used in managing the different pace at which they worked. When students had finished work, they were instructed to do various tasks in these activity books. The extent of work, and the concentration

on more conceptually challenging operations, were a feature of mathematics teaching in all four of the classrooms in the middle-class school contexts. Further, in the middle-class classrooms, revision of work from the previous day, or marking of work, was observed.

6.3.3 Discussion: the rules for combination in literacy and numeracy pedagogic assemblies

In the middle-class context activities and concepts were carried from one day to the next. Either activities were completed from previous days, or the teaching of a particular concept or operation continued. This differed from what happened in the working-class context, apart from two instances in mathematics in Nomsa's class and in Babalwa's class. In Babalwa's class the teacher revisited a number-building diagram from the previous day. In Nomsa's class the teacher taught the concept of time over the course of the three days. In all other classes there was very little or no reference to what was learned before, or what would be learned in future, apart from the fact that the thematic emphasis was the same. The actual learning trajectory was implicit or fragmented, and thus not retrievable from the three days of observation.

The rules for combination were accordingly very different in the two different social class contexts. In literacy, the learning tasks in the working-class context required that learners collectively reproduce a sequence of naming and labeling tasks. They did not engage in the reflexive deployment of meanings in any other way. There was little space for developing meta-awareness of how words sound, mean, and are put together, or, in mathematics, how the number system generates rules that can repeatedly produce predictable results. Learning tasks in the middle-class context required learners apply operations, procedures and concepts in a way that was highly visible to the teacher and peers, and was very repetitive. The teachers helped learners to identify patterns, 'tricks' and rules. The extent of the work covered, and the opportunity for learners to master particular parts of the curriculum, created the potential to understand the field later on. This was seen particularly in Fiona's mathematics pedagogic assembly, shown above.

In the next section the third stage in the analysis is shown, concerning the rules for selection. Again, the interest is in the relation between everyday knowledge and school knowledge in

University of Cape Town

addressing the question of the movement from the local to the general, the particular to the more abstract.

6.4. Instructional strategies for selection – everyday knowledge and school knowledge

In Chapter 5 the classification values for the inter-discursive relation between school knowledge and everyday knowledge were established. In that chapter each of the teacher's lessons was coded, and the resulting classification value for the middle-class context was a very strong classification of school knowledge (C^{++}), and for the working-class context, a weak boundary between school knowledge and everyday knowledge (C^{--}). In this section I explore, in further detail, the way in which the everyday was recruited, and to what purpose. In relation to educational knowledge, the teachers' rules for selection are considered. It was evident from an initial engagement with the data that the predominance of everyday knowledge in the working-class settings was significant. It also became apparent that there was relatively little recruitment of the everyday in the middle-class settings.

University of Cape Town

The relationship between school knowledge and everyday knowledge is central to my research concern because it is through school knowledge, where abstraction and categorical thinking reside, that elaborated codes are supported or developed. Bernstein argues that 'the codes of education consist of elaborated orientations to meanings because of the indirect relation of these meanings to a specific material base' (Bernstein, 1990:32), or, '[i]n a sense, educational knowledge is uncommonsense knowledge. It is knowledge freed from the particular, the local …' (Bernstein, 1971:215).

The discussion of the relation between everyday knowledge and school knowledge in Chapter 3 indicated the importance of everyday knowledge as an entry into school knowledge (a 'key portal to school knowledge'). In this section I consider how the everyday was recruited in the two contexts and the ways in which it supported the development of context-independent meanings in the classroom. As we saw above in the rules of combination in the working-class context, it is often the everyday (embodied in a theme) that informs the construction of a pedagogic assembly. Veel (1999) suggests that the ideal relationship between school and

everyday knowledge is a movement back and forth between the two, but with the esoteric domain determining the selection and expression of knowledge. A theme, or everyday knowledge that determines selection, represents a potential inversion of this in that it is the public domain, which determines the selection and expression of knowledge.

In what follows, an extract from a mathematics lesson and an extract from a literacy lesson from the two contexts is presented to exemplify the classification relations between discourses. The examples show how the everyday is recruited in each subject in the different contexts. The focus in the discussion is on whether the principles regulating the constitution of the instructional discourse lie in the everyday, (a recontextualization regulated by theme or everyday principles), or lie in a concept, (a recontextualization regulated by the discipline).

6.4.1 The relation between everyday knowledge and school knowledge in mathematics

To show how the everyday is recruited in the different settings, two extended examples from mathematics in Babalwa and Fiona's classes are given below.

Extract 6N: Babalwa numeracy

Babalwa has selected a word problem for a numeracy lesson on the basis of a pre-determined theme - trees. The first part of the lesson consists of the chanting of the wording of the word problem, exemplified in the following:

Teacher:	Listen, on page sixty-three, how a tree lives and grows. It says that ... what does it say people? How a tree lives and grows. What does it say?
Learners:	How a tree lives and grows.
Teacher:	What does it say?
Learners:	How a tree lives and grows.
Teacher:	What does it say?
Learners:	How a tree lives and grows.
Teacher:	Umthi uphula njani ukhube nyani. Say it in Xhosa.
Learners:	Umthi uphula njani ukhube nyani.
Teacher:	Say it again in English, how a tree lives and grows.
Learners:	How a tree lives and grows.
Teacher:	There are those who are not talking. I don't hear you. How a tree lives and grows.
Learners:	How a tree lives and grows.
Teacher:	I don't hear some, how a tree lives and grows
Learners:	how a tree lives and grows.
Teacher:	I don't hear you Thondo. How a tree lives and grows.

And so on. In a similar way the teacher and learners work their way through the word problem 'Pulani has about two eighty-nine trees on her farm. Write the number of trees to the nearest hundred'. Later in the lesson the teacher introduces the question. It would appear she 'stumbles' on the question, not having anticipated it:

University of Cape Town

Teacher: That's right. You must listen to others before you say it. Hey! That's a lot of trees. Two eighty-nine is a lot of trees. It's like a whole day! [The teacher draws two trees on the board] Do they all look the same?

Learners: No.

Teacher: Yes it's different kinds of trees. There are trees shaped like an umbrella, like a circle. And what else did we say trees are shaped like?

Learner: Like a circle.

Teacher: The writer says that Pulani has all those kinds of trees. They fill her farm. Now he says, 'Write the numbers of trees to the nearest hundred'. That's the question.

The teacher writes a number – 79 – on the board for learners to calculate 'the nearest hundred'. When learners are unable to solve the example, the teacher presents them with a rule, which the learners take up in a chant:

Teacher: I say to you if the number is over fifty then it's hundred, if it's over hundred then it's two hundred, if it's over three hundred ...

Learners: [chant] Then it's four hundred, if it's over four hundred then it's five hundred.

The teacher writes up six numbers on the board that the learners call out from the textbook and she asks them to write the numbers 'to the nearest hundred'. It becomes clear that the learners are unclear how to proceed. The teacher asks Xolisa whether a learner is correct in rounding off 114 to 200, and Xolisa responds that it is incorrect. The teacher then offers the learners a revised rule:

Teacher: You haven't started writing. I want the nearest hundred. Write. I said to you if it is over fifty the nearest hundred, it goes to hundred. If it is below fifty it doesn't go to hundred. If it is above hundred and fifty something it goes to two hundred. If it is below hundred and fifty something then it doesn't go. Do you understand? Same as if it's above two hundred and something. If it is two hundred and fifty something and above it goes to three hundred, if it doesn't go above two hundred and fifty something, then it doesn't go to three hundred. It remains two hundred, ne? Do you understand? We are going to explain it again tomorrow.

Finally the bell rings and the lesson is terminated. Learners do not return to this exercise later, or on the following day. The learners have not successfully completed the problems, but have copied out the word problem and the numbers from the board.

The decision around what to teach was determined by the theme – trees. The teacher, by her own account, paged through the textbook and recognized the theme in the textbook iconically, and proceeded to work through the text with the learners. Twenty-four minutes of the 35-minute lesson were spent working through the wording of the problem, chanting phrases from the problem and discussing trees. The focus of the lesson became trees, and the theme was foregrounded in the extensive repetition and chanting of the word problem and in a short discussion of trees. The semantic resources for the lesson lay in the theme, and the object of the lesson was the theme and not the mathematical knowledge. This became apparent as the teacher began to talk about the trees, and then moved beyond the text in, 'The writer says that Pulani has all those kinds of trees. They fill her farm'. Also beyond the text, and the mathematical purpose, were the teacher's descriptions of the shapes of trees (which were not represented in the textbook). Conceptual understanding was thus firmly subordinated to the theme, and the meaning of the lesson lay in non-disciplinary knowledge.

Teacher: That's right. You must listen to others before you say it. Hey! That's a lot of trees. Two eighty-nine is a lot of trees. It's like a whole day! [The teacher draws two trees on the board] Do they all look the same?

Learners: No.

Teacher: Yes it's different kinds of trees. There are trees shaped like an umbrella, like a circle. And what else did we say trees are shaped like?

Learner: Like a circle.

Teacher: The writer says that Pulani has all those kinds of trees. They fill her farm. Now he says, 'Write the numbers of trees to the nearest hundred'. That's the question.

The teacher writes a number – 79 – on the board for learners to calculate 'the nearest hundred'. When learners are unable to solve the example, the teacher presents them with a rule, which the learners take up in a chant:

Teacher: I say to you if the number is over fifty then it's hundred, if it's over hundred then it's two hundred, if it's over three hundred ...

Learners: [chant] Then it's four hundred, if it's over four hundred then it's five hundred.

The teacher writes up six numbers on the board that the learners call out from the textbook and she asks them to write the numbers 'to the nearest hundred'. It becomes clear that the learners are unclear how to proceed. The teacher asks Xolisa whether a learner is correct in rounding off 114 to 200, and Xolisa responds that it is incorrect. The teacher then offers the learners a revised rule:

Teacher: You haven't started writing. I want the nearest hundred. Write. I said to you if it is over fifty the nearest hundred, it goes to hundred. If it is below fifty it doesn't go to hundred. If it is above hundred and fifty something it goes to two hundred. If it is below hundred and fifty something then it doesn't go. Do you understand? Same as if it's above two hundred and something. If it is two hundred and fifty something and above it goes to three hundred, if it doesn't go above two hundred and fifty something, then it doesn't go to three hundred. It remains two hundred, ne? Do you understand? We are going to explain it again tomorrow.

Finally the bell rings and the lesson is terminated. Learners do not return to this exercise later, or on the following day. The learners have not successfully completed the problems, but have copied out the word problem and the numbers from the board.

The decision around what to teach was determined by the theme – trees. The teacher, by her own account, paged through the textbook and recognized the theme in the textbook iconically, and proceeded to work through the text with the learners. Twenty-four minutes of the 35-minute lesson were spent working through the wording of the problem, chanting phrases from the problem and discussing trees. The focus of the lesson became trees, and the theme was foregrounded in the extensive repetition and chanting of the word problem and in a short discussion of trees. The semantic resources for the lesson lay in the theme, and the object of the lesson was the theme and not the mathematical knowledge. This became apparent as the teacher began to talk about the trees, and then moved beyond the text in, 'The writer says that Pulani has all those kinds of trees. They fill her farm'. Also beyond the text, and the mathematical purpose, were the teacher's descriptions of the shapes of trees (which were not represented in the textbook). Conceptual understanding was thus firmly subordinated to the theme, and the meaning of the lesson lay in non-disciplinary knowledge.

University of Cape Town

Further, Babalwa did not use the terminology 'rounding off' at all in the lesson, but used the expression of the word problem, 'to the nearest hundred'. When she did broach the conceptual knowledge it was obvious that she did not have a grasp of the necessary conceptual aspects to explain the concept. When she did attempt to present the learners with a rule, it was erroneous.

When the teacher attempted to revise the rule, it is notable in the restatement that, apart from the information given by Xolisa, she was still unable to formulate the rule. Xolisa informed the teacher that if the number was above 150, it became 200. In her formulation the teacher stated 'If it is above 150 something it goes to 200. If it is below 150 something then it doesn't go.' She demonstrated no concept of rounding up and rounding down. Whereas the learners repeated the previous introduction of the word problem many times, these rules were repeated once and, in the second case of their formulation, the rules were not repeated at all.

The learners' chorus response was a form of affirmation of what the teacher introduced and was a means to developing a communal text. There was extremely weak classification between school and everyday knowledge, such that the school knowledge and conceptual dimensions of the learning were completely subordinated to the theme. Everyday knowledge was recruited in order to elaborate the theme rather than the concept. However, with respect to the theme, this was strongly classified – the theme could not be violated.

Extract 6O: Fiona numeracy

The teacher takes a group of learners, who have not understood a word problem from a test, on the mat. She briefly gives the learners a word problem of the same type:

Teacher:	I'm going to give you, alright, let's make it a jar of sweeties. And in this jar of sweeties I have got twenty Sparkles [a type of sweet]. Only twenty Sparkles, allright? So altogether how many Sparkles are there? Um. But some of these Sparkles are red, and some of these Sparkles are green, right?
Learner:	Ms Tyler [Fiona], this is the um, [inaudible] we are doing.
Teacher:	That's exactly like your pens. So, some of the Sparkles are red, and some of the Sparkles are green, but altogether there are twenty Sparkles.
Learner:	Twenty pens.
Teacher:	Right. So when you take the Sparkles out of the jar, you find that there are FOUR MORE red Sparkles. You don't have to write that, four more red. So there are only twenty Sparkles. FOUR MORE are red than green. Now I'm asking you, how many are red therefore?

The learners offer solutions (incorrect) until the teacher says they are 'just guessing'. One of the learner,s who solved the problem successfully, then offers to show her working on the board. She does this, and the teacher offers the following explanation:

Teacher:	Now what is the secret? You first all minus them all. But once you've minused it you've got to add on again. No, you first minus the more part, then what's left, you've got minus

	the four more, now you've got sixteen left, so you take your sixteen and you share it, you divide it and you get your eight. Now you've got eight red and you've got eight red, and how much is that. Oh green sorry so this is red and this is green. How much have you got?
Learners:	Sixteen.
Teacher:	Sixteen. Now the four that you've minused, add to the red ones. That gives you twelve and those are green.
The teacher then tells the learners to do a problem that is written on the board – a word problem of a similar type to the one given previously. The learners sit and solve the problem on their small white boards.	
Teacher:	Have you got it? Let's see now. Right Linda. How many blue ones have you got? Right?
Learner:	Thirty-five.
Teacher:	Thirty-five. You've got thirty-five blue ones and you've got twenty-seven yellow ones. How many more blue ones than yellow ones?
Learner:	Eight.
Teacher:	Eight. Do you understand?
Learners:	Yes.
Teacher:	It's eight. And what do those two together equal?
Learner:	Sixty-two.
Teacher:	Sixty-two. But now what is the secret? You first …
Teacher & Learners:	Minus the more.
Learner:	Then divide.
Teacher:	And, and you keep it.
Learner:	Then divide.
Teacher:	Uh huh. First listen. First you minus. Keep it aside, then you share and then you put it with the ones that have the more, alright? /…/ Now girls. This one. It's going to be less than, but you do it the same way, right. You always do this method alright?

University of Cape Town

The extract exemplifies a different approach to the everyday as it is contained within a contextual problem. Firstly, the selection of the knowledge (the problem) was based on the teaching of a particular type or form of contextual problem. The teacher went through the wording very quickly and dispensed with the everyday meaning to focus on the mathematical problem-solving procedure. One learner attempted to draw the discussion back to the link between the wording and the method by referring to 'pens', which formed the context for a prior problem, but the teacher did not elaborate on this:

Learner:	Ms Tyler, this is the um, [inaudible] we are doing.
Teacher:	That's exactly like your pens. So some of the Sparkles are red, and some of the Sparkles are green but altogether there are twenty Sparkles.
Learner:	Twenty pens.
Teacher:	Right, so when you take the Sparkles out of the jar…

As the discussion proceeded, there was eventually no mention of the 'Sparkles', but only of the mathematical procedure:

Teacher:	You first of all minus them all. But once you've minused it, you've got to add on again. No you first minus the more part, then what's left, you've got minus the four more, now you've got sixteen left, so you take your sixteen and you share it, you divide it and you get your eight.

The everyday was dispensed with, and the focus was on the procedure for solving a certain word-problem type. There was a strong classification of the school knowledge as it was closed off from the everyday knowledge of the word problem. The teacher aimed to make explicit the embedded structure of the problem, and to show a technique for solving it. From the teacher's approach an understanding of the requirements of the particular problem is unlikely to result from an intuitive understanding of the everyday sense of the problem. Rather, it is likely to result from recognition of a certain 'type', requiring a certain method for solving. The teaching in this instance was extremely procedural, and the final statement of the procedure was devoid of any reference which linked the everyday and the mathematical:

Teacher:	Sixty-two. But now what is the secret. You first?
Teacher & Learners:	Minus the more.
Learner:	Then divide.
Teacher:	And... and you keep it.
Learner:	Then divide.
Teacher:	Uh huh. First listen. First you minus. Keep it aside, then you share and then you put it with the ones that have the more, alright? /.../ Now girls. This one. It's going to be less than but you do it the same way, right? You always do this method, alright?

In this example the everyday was firmly subordinated to the mathematical, and the mathematical knowledge was taught as a set of procedures, which were made very explicit.

The analysis of Babalwa's and Fiona's lessons presented above aligns with the analysis of localizing and specializing strategies in mathematics tasks in section 6.2.2 above. There, proceduralizing dominated in the middle-class context, and in the working-class context there was an emptying out of mathematical content in the localizing strategies. These strategies are coupled with different classification relations shown here – a strong classification of school knowledge in the middle-class context and a weak classification between school and everyday knowledge in the working-class context.

University of Cape Town

6.4.2 The relation between everyday knowledge and school knowledge in literacy

In literacy the distinction between everyday knowledge and school knowledge was, in some ways, difficult to determine. This was partly because the conceptual aspect, or literary element, is contained in everyday knowledge, and the content and skills are generally drawn from horizontal discourse, or everyday life. Literacy learning does not consist of the explicit specialized operations and terms of mathematics. Stated differently, the vehicle for literacy teaching is often the everyday. For example, Jeanne introduced the everyday topic, 'My unusual pet' for a writing task. However, the task was vertical and required a set of specialized understandings and operations, such as writing a set of paragraphs that tell about the unusual pet, and focusing on the accurate structuring of sentences, replete with correct punctuation, grammar and appropriate choice of words.

Solsken (1993) identifies the contrast between work and play-based orientations to literacy pedagogy. What potentially happens in literacy pedagogy is that the 'play' or everyday aspect obscures the work aspect, and the theme or game becomes the object rather than the *carrier* for a particular learning incident (or esoteric domain message). The literacy element is thus eschewed. Moss (2002:551) explains that, in these cases, the teacher does not do the 'hidden work' of the vertical discourse.

In the tasks analyzed it was at times difficult to discern, within the communication in literacy lessons, what the knowledge object was, and how it related to the content that was introduced. However, it was still possible to identify skills within literacy which made it a specialized field, and to discern whether the literacy teaching was generated by esoteric domain or public domain principles.

In the analysis of specializing and localizing strategies above, it was shown that literacy learning in the working-class context consisted largely of the nominal, in oral form, whereas, in the middle-class context, all the teachers addressed the phonological, semantic and syntactic aspects of literacy, with a focus on reading and writing. To explore the relation between everyday and school knowledge here, two literacy lessons are used as examples. These are drawn from Yonela

University of Cape Town

and Fiona's classes and both deal with the teaching of comprehension. The first step is to examine the texts selected for the comprehension, after which the nature of the discussion is considered. The analysis shows that, with respect to the everyday, the discourse was weakly classified in the working-class context and strongly classified in the middle-class context. In the former, everyday knowledge determined the rules for selection in relation to learning and, in the latter, learning was generated by an esoteric domain message/s.

6.4.2.1 Working-class context

The selection of the text in Yonela's class is consistent with the theme that pervades most of the teaching at Uxolo - animals. The text of the comprehension is shown below. This text is typical of the kinds of texts selected across all four classrooms in the working-class context. The texts pertained to the everyday and remained within the local, particular knowledge of the learners. There was very little that was specialized about the language, nor was the content unfamiliar to the learners. Meanings were local, close and familiar. The teacher had photocopied the particular text from a textbook. In the original a picture of a number of animals illustrates the passage. Emphasis in the passage is mine.

There are many domestic animals. They are kept in the expectation that they will be of help in some of the things at home. Other people don't like animals for the reason only they know. Some animals are meant to be farmed in the rural areas only because the law doesn't allow for them to be farmed in town areas. Animals that are kept anywhere are cats and dogs. A dog is important because it looks after the home when people are sleeping and it makes the home respectable. Cats are also very important because they kill rats and mice and are a nuisance because they dig holes in houses that makes water to get into the house. Rats also eat mielies.
A cat is not scared of a snake. When it sees a snake it kills it and then takes it home and plays with it at home. This makes some people hate cats.
Cows, horses, sheep, goats and donkeys are farmed in the rural areas, they all have their uses. Cows are used for ploughing and they give us milk and meat. Boys in rural areas whistle at them as they look after them.
We can't forget pigs because they are also important at home. There are also wild pigs that eat snakes. By the way, pigs are also not scared of snakes.
Questions:

1. Which animals do you see in the picture?
2. What is the use of a) cats and b) dogs?
3. List things that we get from the following: a) cows, b) sheep, c) goats
4. How are pigs useful in the forests?

There is a significant amount of colloquial language in the passage, for example: 'By the way, pigs are also not scared of snakes'. Some of the passage is also parenthetical, or represents a non-sequitur, such as, 'Other people don't like animals for the reason only they know', and 'Animals

University of Cape Town

that are kept anywhere are cats and dogs'. Questions 1 and 3 do not require interpretation from the text, and, in part, do not refer to the text at all.

The lesson began with a reading of the text by the teacher. After the initial reading, the teacher went through the text line by line, and the learners repeated these lines after her. The teacher explained some of the words that she thought would not be familiar to the learners. A lengthy conversation followed which moved from the rural areas and the animals found there, to homes, which animals are found in homes in the rural areas, the uses of a wide range of animals, and finally to Xhosa rituals. The nature of the conversation is illustrated by the following extract in which the class was discussing what is derived from the 'fur of a cow'.

Extract 6P: Yonela literacy

Teacher:	There are many things you get. Some say purses, gloves, hats. Now, in church, how do they use leather? In our churches how do people use cow fur?
Learner:	To make a pam pam [leather pouch filled with fur used when singing].
Learner:	It is used to make drums.
Teacher:	Who's gonna play drums for us.
Learner:	Can we play drums on our desks?
Teacher:	No, I just want you to sing a song that you sing with a drum. Who goes to a church where they play drums? Vicky, show us. Stand up and sing with a drum [Vicky doesn't move]. You don't remember? Who else goes to church? Athini? Luleka, show us how you play drums in the church. Take the pencil case and pretend it's a drum. Use it.
Luleka sings a Zionist church song and uses a pencil case as a drum.	
Teacher:	Sing louder. Okay, my child you want to make me cry. You've got a nice voice Luleka. Let's clap for her. Thank you sisi.
Luleka returns to her seat. The teacher asks for another learner who wants to sing with drums. Athini volunteers. T asks her to sit next to Luleka. She sings softly.	
Teacher:	Sing louder.
At first Athini is very shy. She sings, but softly.	
Teacher:	Louder.
Teacher:	Okay, let's clap for her. Yes, we can see people who go to church. Some of you don't go to church.
Learner:	Miss, we don't hit drums in our churches.
Teacher:	Okay. On Monday we are going to sing church songs. You must go to church on Sunday so you can sing for us on Monday. Fur was also used a long time ago to cover people's bodies.

University of Cape Town

The religious orientation of the way in which Yonela recruited the everyday was characteristic of her practice. In the course of a lesson she regularly digressed to insert religious, moral or cultural teachings. In the comprehension passage above, one of the questions asks 'List things that we get from the following: a) cows, b) sheep, c) goats'. The relevant passage in the comprehension passage reads: 'Cows, horses, sheep, goats and donkeys are farmed in the rural areas, they all

have their uses. Cows are used for ploughing and they give us milk and meat. Boys in rural areas whistle at them as they look after them'. The conversation quoted above did not refer back to the text, but rather digressed into the everyday world of the teacher and learners. It was not clear how the above interaction contributed to learners' ability to approach this particular question as it related to the comprehension passage. Furthermore, there was nothing in the comprehension passage that referred to the use of sheep and goats. Perhaps, then, the direction of the communication was consistent with that of the structuring of the comprehension, namely, that the answers to the questions were not necessarily retrievable from the text itself, or through an interpretation of the text, but could be drawn from everyday experience, such as attending church, in this instance.

It is evident that the text became a platform for a discussion that centred largely around everyday knowledge. The teaching of comprehension skills – reading and deriving meaning from the text, and using this understanding to interpret particular questions – was submerged in a discussion of the learners and teachers' own understandings, and again, naming of the world around a particular theme – animals. The text itself, and the attendant questions, did not provide ready access to conceptual learning either.

6.4.2.2 Middle-class context

The following comprehension passage was given to learners in Fiona's class:

The Magic Trunk
It was a curious trunk. When the lock was pressed close the trunk would fly. The merchant's son crouched down inside, pressed the lock, and lo! Up flew the trunk through the chimney into the clouds, on and on, higher and higher. The lower part was cracked, which rather frightened him, for if it had broken in two, he would have had a nasty fall.
However, it descended safely, and he found himself in Turkey. He hid the trunk under a heap of dry leaves in a wood, and walked into the next town. He could do so very well for, among the Turks, everybody goes about clad as he was, in dressing-gown and slippers. He met a nurse carrying a little child in her arms. 'Hark ye, Turkish nurse,' quoth he. 'What palace is that with high windows close by the town?' 'The king's daughter dwells there,' replied the nurse.
1. What was so strange about the trunk?
2. Who was inside the trunk: (a) a road sweeper; (b) the son of a merchant; (c) a space traveller?
3. What happened when he pressed the lock?
4. ...

There were ten comprehension questions in total. The lesson started with the learners reading the text in pairs. From the start the questions were interpretive, as the teacher asked learners to

University of Cape Town

consider whether the text was a 'modern text, an old text, or a very old text'. A conversation focusing on learners' reasons for their selection followed. The meanings of words and phrases from the passage, such as 'Hark ye', and 'quoth', were discussed, and the passage was contextualized. Later the teacher showed the learners where Turkey was on a map. In the selection of the passage, learners confronted content that was 'far' and unfamiliar to them.

In the discussion of the questions, the focus was both on deriving meaning from the text and on the appropriate procedures for answering questions:

Extract 6Q: Fiona literacy

After reading the comprehension text, the teacher briefly goes through each of the ten comprehension questions. The following exchange takes place for questions number 3 and 4.	
Teacher:	What happened when he pressed the lock? Yes?
Learner:	The trunk flew.
Teacher:	The trunk flew. Right. Number four. Or, would fly. Alright, how would you know that all this began inside a room.
Learner:	I would say, um, we will never know because they don't say.
Teacher:	No. Amy.
Learner:	Because they were, um, there was a chimney.
Teacher:	Right, now let's take her sentence. She started with?
Learner:	Because.
Teacher:	Because. So you just leave off the 'because' and you say there was a ...
Learners:	Chimney.
Teacher:	A chimney that the trunk flew through. Right, number six no, five.

The text appeared to have been selected so that learners engaged with language unfamiliar to them. The ten questions involved both factual recall and interpretive and inferential questions. The discussion focused strictly on the text and questions and the procedures for answering the questions. Four activities were derived from the text to further learners' language use, and four short activities, on collective nouns, vocabulary, synonyms and narrative ordering, followed the comprehension questions. Both through the selection of the resource, and the nature of the discussion led by the teacher, there was a stronger classification of school knowledge in this context. The discussion was strictly tied to the text, and the conceptual focus of all the activities was explicit.

University of Cape Town

6.4.3 Discussion: rules for selection in mathematics and literacy

The rules for selection in the working-class context are generated by a public domain message. In the mathematics lessons there is a subordination of concepts to a theme, and in the literacy learning the literacy element is obscured by the vehicle for the literacy learning – again thematic content. The emphasis on play, on telling stories and oral work, further relegates the classroom discourse to that of the everyday.

In the middle-class context there is a strong classification of school knowledge. The rules for selection are derived from the esoteric domain, and in both mathematics and literacy it is generally explicit what the esoteric domain message is. As shown in the numeracy example from Fiona's class, the relationship between everyday and school knowledge is not fully utilized for learning purposes. In the sense of providing a 'portal' to conceptual learning, everyday knowledge is subordinated to school knowledge, and is, in some cases, dispensed with rather than exploited.

6.5 Conclusion: the vertical and horizontal pedagogic modality

This chapter has shown the results of the analysis of the pedagogical practices of the eight teachers. Through an analysis of the tasks and lessons, different instructional strategies deployed by the teachers in the different social class contexts were identified. Certain orientations to classifying experience and creating meaning that are privileged in the classrooms in the different social class contexts emerge from the analysis.

Two modalities are derived from the analyses in this chapter and Chapter 5. I refer to the modality that emerges from the working-class context as a horizontal modality and that from the middle-class context as a vertical modality. The vertical modality presents greater opportunity than the horizontal modality for the transmission of context-independent meanings and the specialization of learners' voice. The three dimensions that have been addressed in the analysis are discussed for each modality.

University of Cape Town

The horizontal modality

The horizontal pedagogical modality emerges from the working-class school context. The first dimension of the pedagogic modality pertains to the classification and framing arrangements of the pedagogic discourse. This is characterized by strong framing over sequence, selection and pace, and very weak framing over the evaluative rules. The teacher generally does not draw out the knowledge principles in exposition, and very little (sometimes no) attempt is made to make the requirements for the legitimate production of a text available to learners. The hierarchical rules are strong, the teacher has control over the order, character and manner of the conduct of learners in the relation between teacher and learner. The classification of agents is weak. In the horizontal modality there is a weak potential for the specialization of learners' voice with respect to the reproduction of knowledge.

The second dimension, instructional form, refers to the classroom organization and differentiation between agents and contents. Here the learners are communalized in the instructional practice of the teacher, and instructional knowledge is undifferentiated. In other words, all pupils are treated as the same.

Thirdly, for the instructional strategies for individual tasks, each of the tasks is characterized in terms of localizing and specializing strategies. The predominant strategy in the horizontal modality is that of localizing, as the tasks refer to public domain principles and/or knowledge. The tasks incorporate knowledge that is familiar and particularistic, and meanings that are concrete and context-bound.

The tasks are also considered as pedagogic assemblies, that is, as series of tasks across the three days. The rules for combination in these pedagogic assemblies are characterized as fragmented. The rules for combination are generated by a public domain message (horizontal discourse in theme-based learning).

University of Cape Town

Finally, in the instructional strategies for the rules of selection, the relation between everyday knowledge and school knowledge is probed further. In the horizontal modality we find the subordinating of school knowledge to everyday knowledge.

The vertical modality

The vertical modality emerges from the middle-class context. In the vertical modality, oriented more towards an elaborated code, strong framing over sequence and selection is found. Framing over pacing is weaker, and there is strong framing over the evaluative rules. The hierarchical rules are weaker, and the classification of agents is strong.

In the instructional form, learners are individualized in the instructional practice of the teacher, and instructional knowledge is differentiated. Learners are treated as different, with different learning competences and requirements.

In the instructional strategies for individual tasks the predominant strategy is that of specializing, where the tasks are generated by esoteric domain principles and/or knowledge. The rules for combination of the 'pedagogic assemblies' are characterized as generalizing: the assembly is constituted by the elaboration of a particular concept or procedure.

In the relation between everyday knowledge and school knowledge, school knowledge is strongly classified. In literacy, everyday knowledge functions as a 'carrier' for literacy concepts and tasks, and, in both subjects, the conceptual aspects are explicit and extensively rehearsed. The two modalities are summarized in the table below:

University of Cape Town

The horizontal modality

The horizontal pedagogical modality emerges from the working-class school context. The first dimension of the pedagogic modality pertains to the classification and framing arrangements of the pedagogic discourse. This is characterized by strong framing over sequence, selection and pace, and very weak framing over the evaluative rules. The teacher generally does not draw out the knowledge principles in exposition, and very little (sometimes no) attempt is made to make the requirements for the legitimate production of a text available to learners. The hierarchical rules are strong, the teacher has control over the order, character and manner of the conduct of learners in the relation between teacher and learner. The classification of agents is weak. In the horizontal modality there is a weak potential for the specialization of learners' voice with respect to the reproduction of knowledge.

The second dimension, instructional form, refers to the classroom organization and differentiation between agents and contents. Here the learners are communalized in the instructional practice of the teacher, and instructional knowledge is undifferentiated. In other words, all pupils are treated as the same.

Thirdly, for the instructional strategies for individual tasks, each of the tasks is characterized in terms of localizing and specializing strategies. The predominant strategy in the horizontal modality is that of localizing, as the tasks refer to public domain principles and/or knowledge. The tasks incorporate knowledge that is familiar and particularistic, and meanings that are concrete and context-bound.

The tasks are also considered as pedagogic assemblies, that is, as series of tasks across the three days. The rules for combination in these pedagogic assemblies are characterized as fragmented. The rules for combination are generated by a public domain message (horizontal discourse in theme-based learning).

University of Cape Town

Finally, in the instructional strategies for the rules of selection, the relation between everyday knowledge and school knowledge is probed further. In the horizontal modality we find the subordinating of school knowledge to everyday knowledge.

The vertical modality

The vertical modality emerges from the middle-class context. In the vertical modality, oriented more towards an elaborated code, strong framing over sequence and selection is found. Framing over pacing is weaker, and there is strong framing over the evaluative rules. The hierarchical rules are weaker, and the classification of agents is strong.

In the instructional form, learners are individualized in the instructional practice of the teacher, and instructional knowledge is differentiated. Learners are treated as different, with different learning competences and requirements.

In the instructional strategies for individual tasks the predominant strategy is that of specializing, where the tasks are generated by esoteric domain principles and/or knowledge. The rules for combination of the 'pedagogic assemblies' are characterized as generalizing: the assembly is constituted by the elaboration of a particular concept or procedure.

In the relation between everyday knowledge and school knowledge, school knowledge is strongly classified. In literacy, everyday knowledge functions as a 'carrier' for literacy concepts and tasks, and, in both subjects, the conceptual aspects are explicit and extensively rehearsed. The two modalities are summarized in the table below:

University of Cape Town

Table 6.7: Pedagogic modalities

			Horizontal modality	Vertical modality
1. Classification and framing of pedagogic discourse	Sequence & selection		F^{++}	F^{++}
	Pacing		F^{++}	F^{-}
	Evaluative rules		F^{--}	F^{+}
	Hierarchical rules		F^{+}	F^{-}
	Discourses	Inter-disc (subjects)	C^{-}	C^{++}
		Inter-disc (school/everyday)	C^{--}	C^{+}
	Spaces	Internal	C^{+}	C^{--}
		External	C^{--}	C^{++}
	Agents		C^{--}	C^{++}
2. Instructional form	Content		Undifferentiated (uniform)	Differentiated & uniform
	Classroom organization		Communalized / homogenous	Communalized / homogenous & individualized/specialized
3. Instructional strategies	Individual tasks		Localizing	Specializing
	Pedagogic assemblies		Fragmenting	Generalizing
	Selection		Public domain (C^{--})	Esoteric domain (C^{++})

University of Cape Town

In the analysis I have shown that, in the working-class context, through the horizontal modality, there is a weak potential for the specialization of learners' voice with respect to the reproduction of school knowledge. The knowledge introduced is local and familiar, and the evaluative rules are weak or absent. In the middle-class context the potential for the specializing of voice with respect to the reproduction of knowledge is facilitated largely through the extensive rehearsal of procedures and operations which refer to the esoteric domain, or specialized knowledge of mathematics and literacy.

In the preceding analysis of the two pedagogic modalities, the focus has been on transmission. I have shown what *potential* exists in the classrooms for the specialization of learners' voice and the acquisition of an elaborated code. In the next chapter I consider evidence for what learners have acquired in the two social class contexts: how their voice has, in fact, been specialized.

Chapter 7: The specialization of student voice with respect to the school code

7.1 Introduction

In the previous two chapters I established different pedagogic modalities in the two different social class contexts in which the teachers worked. In that analysis I was concerned with transmission practices. In this chapter I present the analysis of two tasks that were conducted with students. Through an analysis of students' performance in these tasks it is possible to consider the pedagogy as either an interrupter or amplifier of the community code that all learners enter the classroom with, or as an amplifier of an elaborated code, which middle-class children are more likely to bring with them to the school from the home. In relation to the macro-relay of the reproduction of difference, I attempt here to establish a relationship between social class, pedagogic modalities and the specialization of students' voice.

The central interest in relation to the student tasks is whether, in approaching the activities, learners invoke more context-independent ways of organising knowledge, or whether more concrete, context-dependent meanings are privileged by the learners. In short, I am looking at students' mastery of the recognition and realization rule in producing the legitimate text in terms of the school code. Recognition and realization rules were defined in Chapter 3 thus:

> Recognition rules create the means of distinguishing between and so *recognizing* the speciality that constitutes a context, and realization rules regulate the creation and production of specialized relationships internal to that context. At the level of the subject, differences in code entail differences in recognition and realization rules (Bernstein, 1990:15, emphasis in the original)

The two tasks were administered to 80 learners, ten from each of the eight teachers' classes. The first task is a general coding experiment, and I look at the categories students use to sort phenomena – employing context-independent meanings (exhibiting an elaborated code), or context-dependent meanings (a more restricted orientation). The second task considers learners' engagement with mathematics, and the interest is in the extent to which learners deploy more localized or specialized strategies for the solving of mathematical tasks. Here I

University of Cape Town

Chapter 7: The specialization of student voice with respect to the school code

7.1 Introduction

In the previous two chapters I established different pedagogic modalities in the two different social class contexts in which the teachers worked. In that analysis I was concerned with transmission practices. In this chapter I present the analysis of two tasks that were conducted with students. Through an analysis of students' performance in these tasks it is possible to consider the pedagogy as either an interrupter or amplifier of the community code that all learners enter the classroom with, or as an amplifier of an elaborated code, which middle-class children are more likely to bring with them to the school from the home. In relation to the macro-relay of the reproduction of difference, I attempt here to establish a relationship between social class, pedagogic modalities and the specialization of students' voice.

The central interest in relation to the student tasks is whether, in approaching the activities, learners invoke more context-independent ways of organising knowledge, or whether more concrete, context-dependent meanings are privileged by the learners. In short, I am looking at students' mastery of the recognition and realization rule in producing the legitimate text in terms of the school code. Recognition and realization rules were defined in Chapter 3 thus:

> Recognition rules create the means of distinguishing between and so *recognizing* the speciality that constitutes a context, and realization rules regulate the creation and production of specialized relationships internal to that context. At the level of the subject, differences in code entail differences in recognition and realization rules (Bernstein, 1990:15, emphasis in the original)

The two tasks were administered to 80 learners, ten from each of the eight teachers' classes. The first task is a general coding experiment, and I look at the categories students use to sort phenomena – employing context-independent meanings (exhibiting an elaborated code), or context-dependent meanings (a more restricted orientation). The second task considers learners' engagement with mathematics, and the interest is in the extent to which learners deploy more localized or specialized strategies for the solving of mathematical tasks. Here I

University of Cape Town

Table 6.7: Pedagogic modalities

			Horizontal modality	Vertical modality
1. Classification and framing of pedagogic discourse	Sequence & selection		F^{++}	F^{++}
	Pacing		F^{++}	F^{-}
	Evaluative rules		F^{--}	F^{+}
	Hierarchical rules		F^{+}	F^{-}
	Discourses	Inter-disc (subjects)	C^{-}	C^{++}
		Inter-disc (school/everyday)	C^{--}	C^{+}
	Spaces	Internal	C^{+}	C^{--}
		External	C^{--}	C^{++}
	Agents		C^{--}	C^{++}
2. Instructional form	Content		Undifferentiated (uniform)	Differentiated & uniform
	Classroom organization		Communalized / homogenous	Communalized / homogenous & individualized/specialized
3. Instructional strategies	Individual tasks		Localizing	Specializing
	Pedagogic assemblies		Fragmenting	Generalizing
	Selection		Public domain (C^{--})	Esoteric domain (C^{++})

University of Cape Town

In the analysis I have shown that, in the working-class context, through the horizontal modality, there is a weak potential for the specialization of learners' voice with respect to the reproduction of school knowledge. The knowledge introduced is local and familiar, and the evaluative rules are weak or absent. In the middle-class context the potential for the specializing of voice with respect to the reproduction of knowledge is facilitated largely through the extensive rehearsal of procedures and operations which refer to the esoteric domain, or specialized knowledge of mathematics and literacy.

In the preceding analysis of the two pedagogic modalities, the focus has been on transmission. I have shown what *potential* exists in the classrooms for the specialization of learners' voice and the acquisition of an elaborated code. In the next chapter I consider evidence for what learners have acquired in the two social class contexts: how their voice has, in fact, been specialized.

Chapter 7: The specialization of student voice with respect to the school code

7.1 Introduction

In the previous two chapters I established different pedagogic modalities in the two different social class contexts in which the teachers worked. In that analysis I was concerned with transmission practices. In this chapter I present the analysis of two tasks that were conducted with students. Through an analysis of students' performance in these tasks it is possible to consider the pedagogy as either an interrupter or amplifier of the community code that all learners enter the classroom with, or as an amplifier of an elaborated code, which middle-class children are more likely to bring with them to the school from the home. In relation to the macro-relay of the reproduction of difference, I attempt here to establish a relationship between social class, pedagogic modalities and the specialization of students' voice.

University of Cape Town

The central interest in relation to the student tasks is whether, in approaching the activities, learners invoke more context-independent ways of organising knowledge, or whether more concrete, context-dependent meanings are privileged by the learners. In short, I am looking at students' mastery of the recognition and realization rule in producing the legitimate text in terms of the school code. Recognition and realization rules were defined in Chapter 3 thus:

> Recognition rules create the means of distinguishing between and so *recognizing* the speciality that constitutes a context, and realization rules regulate the creation and production of specialized relationships internal to that context. At the level of the subject, differences in code entail differences in recognition and realization rules (Bernstein, 1990:15, emphasis in the original)

The two tasks were administered to 80 learners, ten from each of the eight teachers' classes. The first task is a general coding experiment, and I look at the categories students use to sort phenomena – employing context-independent meanings (exhibiting an elaborated code), or context-dependent meanings (a more restricted orientation). The second task considers learners' engagement with mathematics, and the interest is in the extent to which learners deploy more localized or specialized strategies for the solving of mathematical tasks. Here I

am also interested in whether learners are beginning to recognize a field (of mathematics), evidenced through a consideration of their mastery of the recognition and realization rules for Grade 3 mathematics.

7.2 General coding task

The task used to explore the students' general coding orientation is an adaptation of the experiment designed by Bernstein and Adlam, and analysed by Holland (1981), described in detail in Chapter 2. The purpose of the experiment was to explore the way in which children of different social class backgrounds classify and talk about a particular area of their experience; how learners recognize a context (in this case, the school setting of the experiment), and what kinds of meanings they realize, or produce. 80 students from the eight teachers' classes were presented with 20 pictures of food items on cards.. The cards included colour photographs of the following foodstuffs: butter, cheese, boiled egg, fried egg, milk, potatoes, crisps, peas, cabbage, butternut, onion, bread, biscuits, cake, rice, mielie meal (ground maize), spaghetti, chicken, lamb chop, fish, boerewors (spiced sausage), bacon. The foodstuffs were selected on the basis of their falling into general categories (animal products, vegetables, dairy and cereal) and on the basis of learners' familiarity with all the foodstuffs, established in the pilot study. Prior to grouping, students were asked to identify any of the foods they did not recognize. The students were asked to group the pictures in any way they wished, and in as many or as few groups as they wanted to. They did not have to use all of the pictures.

University of Cape Town

The students were asked to explain their choice of groupings, and then to group the pictures again, in a different way. Again the criteria for their groupings were solicited and recorded. Finally, students were shown groupings and asked to offer suggestions as to why the pictures might have been grouped in that way.

The results of the experiment were coded according to the following scheme, again adapted from Holland's analysis:

- General principles: The context-independent category. Here students' categorisations referred to the 'transituational properties' (Holland, 1981:5) of the items. These could

refer to the constituents of a grouping, for example butter and cheese – they are both made of milk; a general food category – meat, vegetables, carbohydrates; or an explicit reference to the origin of the foodstuff, for example, 'They both come from a cow'.

- Everyday use: This context-dependent category included categorizations that referred to the everyday life of learners and to context-dependent, practical or personalized groupings. These included groupings based on their direct experience – such as, 'We cook those at home on Sundays', to personal likes and dislikes, and to forming meals or dishes, for example, 'You mix those together to make a soup'.

- Food attributes: Context-dependent category, where reference is made to the taste or texture of the food, or the effects of eating the food: 'They're all fattening', 'They're all healthy foods'.

- Perceptual[1]: Context-dependent category, where colour, shape or some visual aspect of the food is used for the grouping, for example, 'They're both green.', 'They're all round'.

- Ambiguous / implicit: a context-dependent category where it was not clear why items were grouped together. Students would make statements like, 'They go together.' or 'They're the same'. Also categorised here was where the student was not able to provide any reasoning for the grouping, as in, 'I don't know.'.

7.2.1 Results

In presenting the results I do not differentiate between students of different teachers but present the results for the middle-class and working-class sample of students as a whole. No significant differences were found between the students of different teachers *within* the

[1] It could be argued that the categories 'food attributes' and 'perceptual' are in fact context-independent in that they categorise a class. However, in this case they describe general properties shared by the members of the class, whereas the context-independent category indicates properties and lists the members. So for example, the list peas, cabbage, bread roll generates the category 'round', whereas the category 'animal products' generates the list 'chop, bacon, chicken'. Although the distinction is slightly blurred, it is retained. However, the perceptual and attributes categories are closer to context-independent meanings that that of everyday use.

University of Cape Town

working-class and middle-class contexts. Where exceptions do arise, these will be indicated. In the first instance the data was coded according to whether students *used* a particular category. Every student that used a category at least once was counted once. Secondly, the data was coded according to *focus*. The category used in 50% or more instances by the student was taken to be the focus category. No focus indicates that no category attained 50%, or two categories scored exactly 50% each.

Sorting task 1

In the first sorting the expectation was that the student recognized that the experiment was taking place in a school context, and accordingly deployed context-independent criteria to sort the pictures of food. The following groupings and categorizations are examples of criteria given by students in the sample for groupings which were coded as context-independent:

Grouping: milk, cheese, butter. 'They all come from a cow'.
Grouping: bread, biscuits. 'They are both made from wheat'.
Grouping: bacon, chop, chicken, boerewors. 'These all come from living creatures'.
Grouping: Rice, maize meal. 'They're all starch'.
Grouping: cheese, milk, butter. 'Dairy products'.

The categories 'meat' and 'vegetable' were also commonly attached to groupings of foodstuffs of these types. Examples of the everyday use category, and common groupings and statements relating to context-dependent categorizations are shown below:

Grouping: peas, rice, cabbage, butternut, chop. 'You cook these for one meal'.
Grouping: butter, bread, egg. 'I eat them in the morning'.
Grouping: onion, chicken, chop. 'Onion makes meat not smell'.
Grouping: spaghetti, chop, bacon. 'I like them'.
Grouping: rice, sausage, peas, butternut. 'Maybe you are going to have visitors then you can cook these for them'.
Grouping: cabbage, onion, spaghetti, rice. 'My granny eats them'.

University of Cape Town

In the examples above, the students' reasons for their groupings all clearly refer directly to their everyday, particularistic experience.

The second aspect that I was interested in was the *focus* of the learner's groupings, that is, whether or not more than 50% of the groups that the students made had context-independent or context-dependent categories as the focus of their groupings. In the following I show the groupings and categorizations of one middle-class child and one working-class child in the first sorting. In this example, the working-class student took the main context-dependent category, everyday use, as his primary category, referring to his practical experiences of food. The focus of the middle-class child was context-independent categories.

Table 7.1: Sorting by one working-class and one middle-class child, and the code assigned

	Foodstuffs in group	Reason for grouping	Coding
Working-class student	Cabbage, peas, butternut	'I like them.'	Everyday use
	Onion, chop, maize meal	'I normally eat them.'	Everyday use
	Fried egg, boerewors, butter	'I eat them often.'	Everyday use
	Peas, potato, chop	'You can mix them together.'	Everyday use
			Focus: Context-dependent
Middle-class student	chop, bacon, boerewors	'All meat.'	General principles
	Chips, cake, biscuits	'All unhealthy.'	Attributes
	Rice, flour, spaghetti, butter	'All stuff that comes in packets. You have to take stuff off to find the food.'	Perceptual
	Butternut, cabbage, potatoes, peas	'Vegetables.'	General principles
	Milk, cheese, butter	'Dairy.'	General principles
			Focus: Context-independent

The working-class child deploys a context-dependent categorization in all four groupings. In the case of the middle-class child, context-independent meanings prevail, with one attribute categorization used, and one perceptual. Because general principles for categorizing were deployed in three of the five groupings, the focus was coded as context-independent.

In two further cases in the working-class context an interesting phenomenon arose. Learners sorted according to the context-independent category, putting together chop, chicken, bacon,

University of Cape Town

boerewors, and cabbage, potato, onion and butternut, but gave as their reasoning that these foods were found together in the supermarket. Thus, groupings which initially had the semblance of context-independent principles, were in fact derived from the students' localized, everyday activity of visiting the supermarket.

The results for all learners for *focus* and *use* of a category are shown in the table below[2]:

Table 7.2: First sorting task: students spontaneous grouping - use

		Number and % of students using the categories			
	Category	Middle-class no.	Middle-Class %	Working-class no.	Working-class %
Context-independent	General principles	34	80%	6	15%
Context-dependent	Everyday use	18	47%	36	90%
	Attributes	25	66%	5	13%
	Perceptual	4	11%	0	0
	Ambiguous / implicit	11	29%	9	23%

University of Cape Town

Table 7.2 shows how many students actually *used* a category (at least once), and also how many students *focused* on a particular category. With respect to use, only six working-class students actually used the context-independent category. 34 of the middle-class students, on the other hand, used the context-independent category in at least one of their first groupings.

[2] The middle-class sample is comprised of two less individuals than the working-class sample as two middle-class learners were excluded from the sample. The experiment took place in the holy month of Ramadaan, when Moslems, including these two learners, fast from sunrise to sunset. In the food sorting task, these learners were unable to sort except in terms of elaborate descriptions of meals. Even in the third recognition tasks the learners were not able to change their contextualization. Because these two were extreme outliers, and performed similarly to the other students on the mathematics task, they were excluded from the sample. It seems that the slight weakening of classification in the sorting task allowed fro the intrusion of a key aspect of the learners' everyday relationship to food, which became prioritized. The nature of the descriptions of the two learners was also very similar – very detailed descriptions of meals. A typical example is the grouping of cheese, spaghetti, bacon and milk, to which the learner says: 'You can make a nice, creamy cheesy sauce which you can pour over the spaghetti, and then you can chop the meat into small cubes and fry gently, and add it to the sauce and spaghetti to make a delicious meal'.

Table 7.3: First sorting task: students spontaneous grouping - focus

		Number and % of students focusing on the categories			
	Category	Middle-class no. (n=38)	Middle-Class %	Working-class no. (n=40)	Working-class %
Context-independent	General principles	30	79%	3	8%
Context-dependent	Everyday use	2	5%	32	80%
	Attributes	2	5%	1	2%
	Perceptual	0	0	1	3%
	Ambiguous / implicit	1	3%	3	7%
	No focus	3	8%	0	0

Table 7.3 shows the *focus* of the learners' groupings, i.e. whether or not more than 50% of the students' groupings were of a particular type. In terms of focus, it is evident that the majority of middle-class students (79%) had context-independent categories as the focus of their sorting. Of the working-class students only three students (or 8%) had context-independent categories as the focus of their groupings. Working-class students predominantly take the main context-dependent category, everyday use, as their primary category, referring to their personal, practical experiences of food.

University of Cape Town

Sorting task 2

In the second sorting students were asked to group the pictures again, in any way they wished, but differently to their previous groupings.

Table 7.4: Second sorting task: students spontaneous grouping - use

		Number and % of students using the categories			
	Category	Middle-class no.	Middle-Class %	Working-class no.	Working-class %
Context-independent (n=38)	General principles	20	52%	1	3%
Context-dependent	Everyday use	24	63%	36	90%
	Attributes	11	29%	3	8%
	Perceptual	6	16%	1	3%
	Ambiguous / implicit	11	29%	10	25%

Table 7.4 shows that in the second sorting 24 of the middle-class students referred to the context-dependent category everyday use at least once, thus switching codes from the first

grouping. A number of students still employed general principles for their sorting, and the majority of these learners were in Anne's class (seven of the ten students).

Table 7.5: Second sorting task: students spontaneous grouping – focus

		Number and % of students focusing on the categories			
	Category	Middle-class no. (n=38)	Middle-Class %	Working-class no. (n=40)	Working-class %
Context-independent	General principles	10	26%	1	2%
Context-dependent	Everyday use	19	50%	33	83%
	Attributes	3	8%	0	0
	Perceptual	3	8%	1	2%
	Ambiguous / implicit	1	3%	3	8%
	No focus	2	5%	2	5%

In the second sorting, 73% of the middle-class learners' *focus* was on context-dependent categories in their groupings. The working-class students maintain the same coding orientation in their sorting – that is, only one of the working class learners referred to context-independent categories, and the majority (98%) still have the context-dependent categories as their focus in organizing the pictures.

After the two sorting tasks, the middle-class students demonstrate mastery over two sorting principles – those that refer to general principles and those that refer to everyday experience. The middle-class learners also deploy the attribute categorization more than the working-class learners do, this categorization being closer to a context-independent categorization. For the middle-class learners, elaborated codes (or context-independent meanings) were privileged over more particularistic, personalized meanings. The working-class students sort in a similar way for both tasks, according to context-dependent categorizations. The vast majority of the working-class students realize a single code – restricted.

Sorting task 3

In the final sorting task the learners were shown groupings assembled by the researcher. The intention was to assess whether the students had access to recognition rules for context-independent categorizations (especially in the case of the working-class students, who

University of Cape Town

predominantly did not have access to realization rules). Students were shown four groupings of the foodstuffs, which suggested context-independent sorting principles. The groups of foodstuffs shown at the third stage were:

- potatoes, cabbage, butternut, onions (suggesting the categorization 'vegetable'),
- chop, boerewors, fish, chicken, (suggesting the categorization 'animal product'),
- milk butter, cheese (suggesting the categorization 'dairy'), and
- rice, spaghetti and bread (suggesting the categorization 'cereal').

In each case the researcher asked the student why they thought the pictures had been grouped together. In the coding, students were counted as having the recognition rule if, in response to the groupings shown, they produced three or more of the context-independent categories listed .

Table 7.6: Third sorting task: students response to researcher's grouping

	Students using 3 or more context-independent categories	Students using less than 3 context-independent categories
Middle class (n=38)	34	4
Working-class (n=40)	5	35

Table 7.6 shows that the majority of middle-class students (89%) were able to recognize the context-independent groupings. Some of their categorizations were slightly different, but they still conformed to the general principles criteria for sorting. For example, for the rice-spaghetti-bread grouping, two learners gave 'carbohydrates' as their categorization. For the working-class students, only five learners (13%) recognized the context-independent categorisations. Some of the responses of the working-class learners who did not have the recognition rules for the researchers' groupings are given below:

Table 7.7: A sample of working-class students' responses to researcher's groupings (third sorting task)

Researcher's grouping	**Students' responses**	**Code**
potatoes, cabbage, butternut, onions	Because I eat them often.	Everyday use
chop, boerewors, fish, chicken	You mix sausage with chop and fish with chicken and you serve them on one plate.	Everyday use
Rice, spaghetti and bread	I like them.	Everyday use

University of Cape Town

It is interesting to note that, in the first and third example, even though the groupings were those of the researcher, the students referred to personalized meanings, their own experience, as if those meanings would make sense to someone who did not share their particular context. This goes to the heart of the elaborated/restricted distinction – the competence to be intelligible to someone outside of the immediate, the particular, or to transcend the local context.

7.2.2 Discussion: general coding task

In the three tasks of the experiment, in terms of the *focus* of the groupings, 88% of the middle-class students realized context-independent categories in the first sorting, and 89% recognized context-independent categories in the third sorting. In the second sorting 72% of the students shifted their categorization from context-independent categorizations to context-dependent ones. For the working-class students, 7% of the students realized context-independent categories in the first sorting, and 12% recognized context-independent categories in the third sorting. In the second sorting learners did not shift their categorizing, but sorted with the same context-dependent meanings as the first sorting. The final results are summarized below:

Table 7.8: Percentages of learners deploying context-independent and context-dependent categorizations in the three sorting tasks

	Context-independent categorization			Context-dependent categorization		
	Sort 1	Sort 2	Sort 3	Sort 1	Sort 2	Sort 3
Working-class	7%	3%	12%	93%	97%	88%
Middle class	88%	28%	89%	12%	72%	11%

Table 7.8 shows the different orientations to meaning amongst the sample of 78 learners. Students from the working-class setting operated with context-dependent meanings; the way in which they organized experience was based on their everyday, concrete experience. The middle-class learners initially deployed context-independent categories, which they construed as appropriate to the task. When asked to sort the cards again, they shifted their categorizing and deployed more context-dependent categorizations[3]. The working-class students, on the other hand, retained the same principles for their first and second sorting, and those were

[3] Holland (1981) points out that it is possible that in changing their sorting criteria, the students either respond directly to the researcher's request, or given the educational/interview setting, they interpret the request as indicating that their first grouping was not appropriate, or 'wrong'.

primarily context-dependent. Middle-class students were able to both realize and recognize context-independent categorizations; working-class students realized predominantly context-dependent categorizations, and were mostly unable to recognize context-independent meanings.

Given the class backgrounds of the learners, there is a strong possibility that the students had entered the schooling system with different orientations to meaning which had been developed in the home. What I am concerned to show is that *these orientations, in the case of the working-class students, appeared not to be interrupted by the schooling process.* A community code, or restricted code, persisted, despite three years exposure to schooling.

In the previous chapter I showed that what was made available in the working-class classrooms consisted mainly of localized, context-dependent meanings, and I suggest a relationship between the horizontal pedagogic modality and the working-class learners' classifying practices shown here. The pedagogy did not interrupt the restricted code with which the working-class students entered the school. In fact, it could be argued that the horizontal pedagogic modality amplifies the coding orientation of the learner.

In the next section of this chapter I look more closely at learners' recognition and realization with respect to the specific instructional discourse, in this case mathematics, and see how this aligns with the emerging interpretations presented here. The mathematics task makes overt the relation between the specializing of the student's voice with respect to the school code and the pedagogic modality to which they have been exposed.

7.3 Specific instructional task: mathematics task

A specific instructional task related to mathematics at the Grade 3 level was designed in order to elicit both solutions to mathematics problems and to reveal the processes by which learners approached these problems. I wanted to investigate learners' mastery of the recognition and realization rules with respect to a particular school knowledge-based task. I was also interested in the way in which learners exercised their pedagogic judgement in deploying specific strategies for the solving of the tasks, thus providing some clue as to learners'

University of Cape Town

specialization of voice with respect to school knowledge. The analysis is again presented in terms of the two social class categories of learners, middle-class and working-class.

7.3.1 The task

The task was individually administered to the same learners as the previous task, and all 80 students from the eight teachers' classes were included in the analysis. The researcher read each of the questions aloud, and detailed observation notes recorded the way in which individual learners solved each of the problems. There were no time limits set for the completion of the task, and the time taken by learners ranged between approximately three minutes to 38 minutes.

The task consisted of thirteen mathematics problems, incorporating items from three main content areas in the Grade 3 mathematics curriculum, namely counting and ordering, calculations and solving problems. The first four items were constructed to determine learners' general number sense, and consisted of counting, ordering and comparing tasks. The next three items consisted of straight (decontextualized) calculations, involving the addition and subtraction of two and three digit numbers, with carrying. The last six items consisted of contextual problems incorporating all four operations, with two of the problems involving the same calculation as those for the straight calculations. All test items are shown in Figure 7.1 below. The layout for the actual task was different. It was spread over four pages and allowed space for learners to work out and write their solutions – see Appendix F.

University of Cape Town

Figure 7.1: The mathematical task

1. Which number is bigger? 113 or 131
2. Write these numbers from smallest to biggest
   18 8 38 28
3. Count forwards in 3s. What number comes next?
   63 66 69 ___
4. What number is 20 more than 32?
5. 15 + 17 =
6. 214 + 12 =
7. 54 – 17 =
8. There are 54 dresses in a shop. Some are sold. There are 17 dresses left. How many dresses were sold?
9. Benny has 15 rand. Lali has 17 rand. How much do they have together?
10. Miriam has 6 sweets. She has 9 sweets fewer than Sipho. How many sweets does Sipho have?
11. Tessa has 8 balls. If she buys 11 more balls she will have the same number as Linda. How many balls does Linda have?
12. In a hall there are 5 rows of chairs. There are 6 chairs in each row. How many chairs are there in the hall altogether?
13. There are 3 friends. They must share 7 biscuits equally. How much must each friend get?

The ‘outcomes’, as broadly specified by the formal curriculum, that are incorporated in this task are represented in the table below. ‘Contextual’ refers to word problems, and ‘non-contextual’ to straight calculations or computation.

Table 7.9: Curriculum concepts covered in the mathematical task

1	Comparing whole numbers to at least 3 digit numbers	Non-contextual	Question 1
2	Ordering whole numbers	Non-contextual	Question 2
3	Counting	Non-contextual	Question 3 Question 4
4	Addition of involving 2 digit numbers	Non-contextual	Question 5
5	Addition involving 3 digit numbers	Non-contextual	Question 6
6	Subtraction of 2 digits and 2 digits	Non-contextual	Question 7
7	Calculations, using appropriate symbols to solve problems involving addition and subtraction	Contextual	Question 8 Question 9 Question 10 Question 11
8	Calculations, using appropriate symbols to solve problems involving multiplication	Contextual	Question 12
9	Solving problems that involve sharing and grouping that lead to solutions that also include unitary and non-unitary fractions (e.g. ¼, ¾)	Contextual	Question 13

7.3.2 Learner productions: overview of solutions

Table 7.10 shows the learners’ solutions or realizations and the range of results for each teacher.

Table 7.10: Results from the mathematics task

		Number of learners													
	Number of correct items	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	Class average
Vertical pedagogic modality	Anne								1		1	3	4	1	86%
	Kate					1				3		1	1		82%
	Fiona								1	2	2	3	1	1	80%
	Jeanne										2	1		3	91%
Horizontal pedagogic modality	Yonela		2		1	2		2	1	3					48%
	Nomsa	1	3		1			1	2	1	1				41%
	Babalwa	2		2		2	1	2							32%
	Palesa	1	1		2	1	2	1		1	1				42%

From Table 7.10 above it is possible to discern substantial differences between the middle-class schools and working-class schools in their achievement in the tests. All except one of the 40 learners in the middle-class sample were able to solve the majority (eight or more) of the problems accurately. In the working-class context sixteen learners (40%) were able to solve more than half the problems accurately. The differences between individual teachers

University of Cape Town

within the social class contexts were less marked. The averages for the classes ranged from 32% to 48% in the working-class context, and 80% to 91% in the middle-class context. The table also shows that the range in achievement levels for the task was far greater in the working-class context. In addition, 25% of the working-class sample (ten students) was not able to do more than two of the thirteen test items[4].

7.3.3 Learner productions: strategies and recognition and realization rules

Here I am interested in how learners recognized problems and their requirements (recognition rules), and how they produced solutions, and the nature of those solutions (realization rules). There was a wide range of ways in which learners approached the problems in the different social class groupings. The methods employed ranged from quick mental calculations through separation of numbers into tens and units in columns, decomposition of numbers so that the calculation could largely be done mentally, the deployment of more concrete methods such as drawing small lines or discs on a separate page as counters, and counting on fingers. In solving the six word problems, the first two word problems required a replication of two of the straight calculations from the first section of the task. There was some interest in seeing whether learners identified the similarity of the operations, or whether the working-out was repeated. In what follows, some of the patterns that emerged in the two social class settings are identified.

The previous chapter identified specializing strategies and localizing strategies deployed by the teachers for mathematics and literacy. In a similar way, it is possible to say that learners make pedagogic judgements when approaching the mathematics problems, and display

[4] Although the number of items in the task administered for the research was small, it is instructive to compare these results to the Western Cape Province's standardised testing results, which were obtained from each school for 2003. Although the sample for this provincial testing was drawn from all Grade 3 classes in the school, and the test itself is not unproblematic, the results do give some indication of the general achievement levels of the grade in the four schools:

Table 7.11 Results WCED Grade 3 standardised test, 2003

% of learners achieving at a ...	Rhodes	Arbor	Lwazi	Uxolo
Grade 1 level	100%	100%	71%	96%
Grade 2 level	100%	100%	12%	37%
Grade 3 level	97,5%	100%	5%	10%
Grade 4 level	85%	80%	0%	0%

The table above shows that the majority of students in Grade 3 at Lwazi and Uxolo are only performing at the Grade 1 level, and a small proportion are able to perform at the Grade 3 level (5% and 10% at the respective schools). At Arbor and Rhodes the majority of learners are able to perform at the Grade 3, and Grade 4 levels.

particular strategies. Specializing strategies were evident in students' deployment of specialized mathematical principles and operations. Some students deployed more concrete operations in solving problems, and some demonstrated localizing strategies, which did not relate to mathematics at all. The discussion begins by examining localizing and specializing strategies evident in how the learners solved problems in the working-class context, followed by an analysis of students' mastery of the recognition and realization rules of Grade 3 mathematics. The same analysis is carried out in relation to the middle-class learners.

7.3.3.1 The working-class context

Specializing strategies

Across the working-class classrooms, the strategies used by the learners for solving the problems consisted predominantly of drawing small counters in the form of lines on a page and using these for counting. Two examples are given below of this strategy, used for Question 6 (214 + 12), the first from Babalwa's class, and the second from Palesa's class.

University of Cape Town

Figure 7.2: Student's drawing of counters for Question 6: 214+12

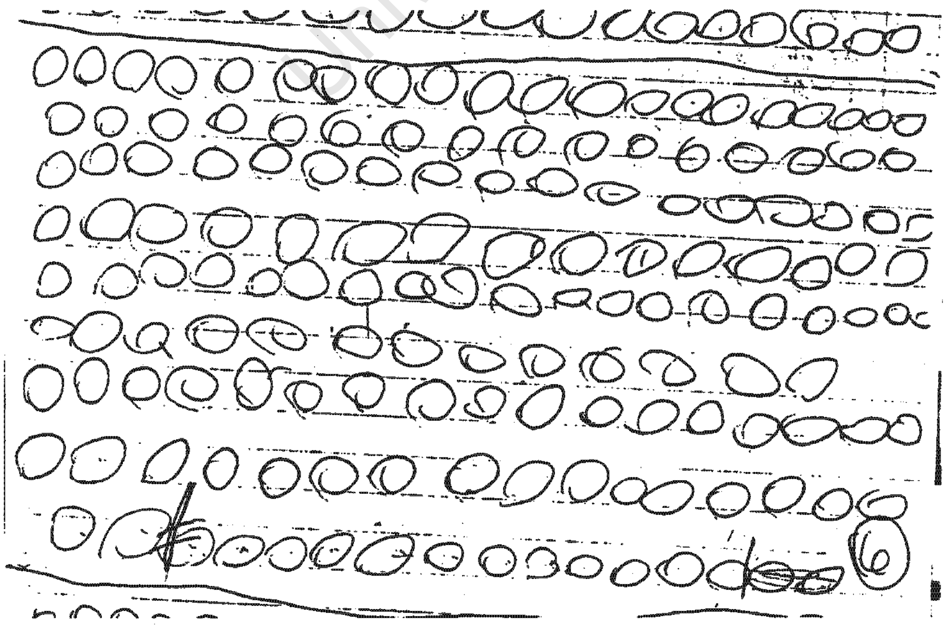
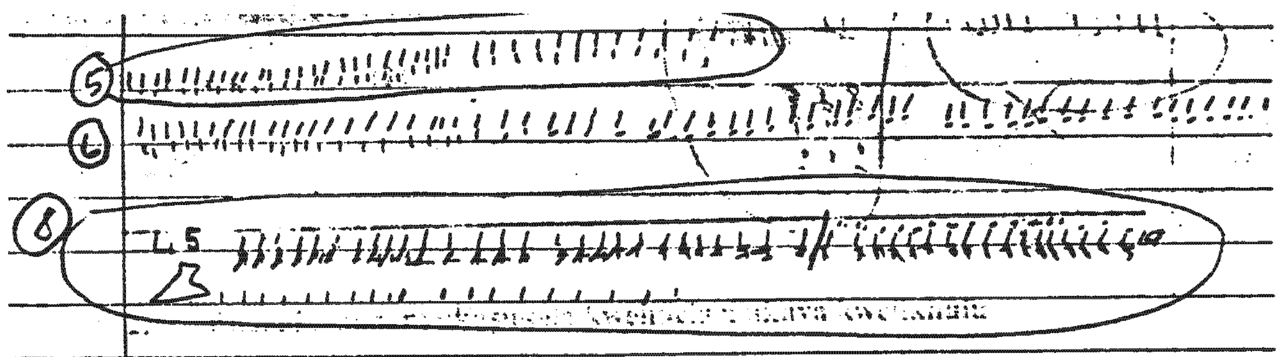


Figure 7.3: Student's drawing of counters for Question 6: 214+12



In both Figure 7.2 and Figure 7.3 it is clear that the learners were not able to represent 214. In Figure 7.2 the student drew 135 discs, and then an additional 12. The answer given by the learner for this question was 114. In the second example, Figure 7.3, 59 counters were drawn, and the answer given for this question was 21412. Abandoning the attempt to count, the student 'added' the numbers by writing the 214 next to the 12 as a solution.

As a consequence of this very concrete method of solving the problems, many of the student errors were counting errors, as learners attempted to calculate, for example, 214 + 12 by drawing 214 small lines, then 12 small lines and then counting the *total* number of lines. The time taken to do this was also extremely lengthy. However, these errors were not just a matter of not accurately counting all the lines, but learners were also clearly unable to deal with three digit numbers. It is instructive to look at the range of answers given by all the working-class students for this question across the four classrooms (the correct answer is in bold):

University of Cape Town

Table 7.12: Range of solutions given for Question 6 (214 + 12) in the four working-class classrooms

Babalwa:	**236**	**236**	145	145	2003	4005	306	28	30	335
Palesa:	**236**	**236**	**236**	**236**	Aduz	21412	113	9114	1000	28
Nomsa:	**236**	**236**	**236**	**236**	49	225	-	227	215	226
Yonela:	**236**	**236**	126	228	136	38	43	252	224	360

In total, 26 different erroneous solutions are given across the four classrooms. In the list of Palesa's students, a learner, writing the word 'Aduz' had attempted to write 'andiyazi', meaning 'I don't know'. The single specializing strategy in evidence – that of adding with drawn counters – coupled with a weak ability to count, was insufficient for most learners to produce the correct answer. It was observed, in Babalwa's classroom in particular, that many

of the students (nine of the ten students, in relation to different problems in the task) had difficulty counting, and one was not able to count at all. In counting, making the transition between 9 and 10, 29 and 30, 39 and 40, and so forth, was particularly difficult for several of the learners. It seems that learners had access to the most rudimentary of counting schemes – numbers from 1 to 10 – but did not have a confident grasp of numbers involving two and three digits.

This wide variation in answers, and the difficulty in discerning the source of the error, can be taken as an indicator for very weak specification of the evaluative rules. The students' general lack of number sense and sense of a reasonable answer were also evidenced in some of the other solutions given by learners. For example, in response to Question 10, 'Miriam has 6 sweets. She has 9 sweets fewer than Sipho. How many sweets does Sipho have?', one learner in Babalwa's class gave 20030 as a solution, and another 32c.

Other than the drawing of counters, some learners attempted mental calculations, and for the contextual division question (Question 13) several learners drew a small diagram for sharing. In general, however, the sole specializing strategy that learners deployed was that of a very rudimentary form of counting.

Localizing strategies

I showed above that it was not always possible to identify what error the student was making. It was common for learners to make no attempt to solve the problem, but merely to write a solution down instantly, or say a number aloud and look for affirmation from the researcher[5]. In some cases these suggestions from the learners appear to be completely arbitrary. For example, a learner from Nomsa's class, in the contextual problems, stated an answer verbally immediately after each question was read aloud, and after no response from the researcher, wrote the (seemingly arbitrary) number down.

In other cases the learners appeared to have selected one of the numbers from the question and then offered this as an answer. This was found across all four working-class classrooms. One explanation for this could be that the students appealed to the researcher (authority

[5] Xolisa Guzula, the Xhosa speaker who assisted with the research, did not show any reaction to these statements, but merely pointed to the test sheet.

University of Cape Town

figure) in attempting to solve the problem, and not to mathematics (the field). This appeal could be an outcome of the 'guessing' exchanges between teachers and learners in some of the classes seen in the analysis of the pedagogy, where learners offered any number as a response until such time as the correct answer was offered and affirmed by the teacher.

Another explanation for learners not attempting to solve the problem, and writing down one of the numbers from the question as a solution, could have been an expectation on the part of the learners that the answer was displayed somewhere. This could have been a result of a pedagogy which predominantly required that learners copy from the board once solutions had already been jointly produced. This was certainly evident in the analysis of the instructional strategies categorized as localizing-mathematical, where tasks contained mathematics, but the requirements did not refer to any mathematical principles, procedures or operations. Here, learners possibly understood the appropriate strategy to be that of copying down – a localizing strategy.

Another localizing strategy discernable in the judgements that learners made refers to the practice of writing out answers in words. One, 'aduz' is shown above. In another instance, in response to Question 10 – 'Miriam has 6 sweets. She has 9 sweets fewer than Sipho. How many sweets does Sipho have?' a learner wrote 'Usipho has many sweets'. In response to Question 11 – 'Tessa has 8 balls. If she buys 11 more balls she will have the same number as Linda. How many balls does Linda have?' another learner wrote, 'Linda's balls are many'. In these examples it seems that either the context was not recognized as mathematics, or it was extremely weakly classified, and the learners had not mastered the recognition rule. Again a localizing strategy was deployed – no specialized knowledge of mathematics was referenced.

Recognition and realization rules in the working-class context

The questions and the number of students out of 40 who were and were not able to solve the thirteen mathematics problems are indicated in Table 7.13 below. Further, for the contextual problems, I indicate whether the error was that of recognition or realization. If the learners have access to recognition rules, they are able to identify the required operation. Therefore an error of recognition means that the learner was unable to recognize the required operation (for example, added instead of multiplying in Question 12). The error is an error of realization if the learner has access to the recognition rule but is unable to do the calculation accurately (for

University of Cape Town

example, an error of counting or place value). For the first seven non-contextual questions, possession of recognition and realization rules is not considered, as these questions required mainly mental calculations. It was not always possible to assess mastery of the recognition rule through observation in these cases.

Table 7.13: Error analysis: working-class context

	Question	Number of learners correct n=40 (and % of total)	Number of learners incorrect n=40 (and % of total)	Error of recognition (and % of incorrect responses)	Error of realization (and % of incorrect responses)
1	Which number is bigger? 113 or 131	26 (65%)	14 (35%)		
2	Write these numbers from smallest to biggest 18 8 38 28	20 (50%)	20 (50%)		
3	Count forwards in 3s. What number comes next? 63 66 69 ___	13 (33%)	27 (67%)		
4	What number is 20 more than 32?	1 (3%)	39 (97%)		
5	15 + 17 =	29 (72%)	11 (28%)		
6	214 + 12 =	12 (30%)	28 (70%)		
7	54 – 17 =	14 (35%)	26 (65%)		
8	There are 54 dresses in a shop. Some are sold. There are 17 dresses left. How many dresses were sold?	21 (53%)	19 (47%)	10 (53%)	9 (47%)
9	Benny has 15 rand. Lali has 17 rand. How much do they have together?	23 (58%)	17 (42%)	9 (53%)	8 (47%)
10	Miriam has 6 sweets. She has 9 sweets fewer than Sipho. How many sweets does Sipho have?	13 (33%)	27 (67%)	24 (89%)	3 (11%)
11	Tessa has 8 balls. If she buys 11 more balls she will have the same number as Linda. How many balls does Linda have?	23 (58%)	17 (42%)	13 (76%)	4 (24%)
12	In a hall there are 5 rows of chairs. There are 6 chairs in each row. How many chairs are there in the hall altogether?	13 (33%)	27 (67%)	22 (81%)	5 (19%)
13	There are 3 friends. They must share 7 biscuits equally. How much must each friend get?	4 (10%)	36 (90%)	8 (22%)	28 (78%)

University of Cape Town

The table shows that, in the contextual problems, more learners were able to identify and do the simpler subtraction and addition problems (Questions 8, 9 and 11), than the less familiar 'fewer than' form in Question 10. With multiplication (Question 12), learners were less successful in recognizing the requirements of the problem. Most learners added the 5 and the 6, and eighteen of the 27 incorrect answers for this problem were given as '11'. In the case of the division problem in Question 13, most errors were related to calculation. In other words, most of the learners were able to recognize this as a division (or sharing) problem, but were unable to calculate the remainder.

For Question 7 (54-17) the vast majority of learners attempted to add the two numbers, although most were unable to do so accurately. This misrecognition was probably a result of the two preceding calculations having been addition ones. It is interesting to note that this same calculation (54-17) was recognized and realized by far more learners (21) in its contextual form than in the form of a straight calculation.

Question 4 – 'What number is 20 more than 32?' – was the most problematic for the learners. It could be that they simply had never encountered this kind of question, or that they read the question as which number is more: 20 or 32?' Only one learner gave the correct solution, the vast majority giving 32 as an answer. In Question 10 the most common incorrect answer was 9, a number displayed in the question. Finally, in Question 2, the most common error was for learners simply to copy down the numbers in the same order. The latter raises two questions. Firstly, how many opportunities had learners been given for ordering? Secondly, how was this done? If the process was an oral one, with the correct answer first being derived and then written on the board for learners to copy into their books, then there is a logical explanation for this common error, as explained above in relation to localizing strategies.

It is clear from Table 7.13 and from this discussion that many of the errors resulted both from a problem of recognition (of the correct operation, and, in three cases, the correct context, where learners begin to write words instead of numbers), and realization. For the contextual questions, 86 (60%) of the errors were due to a lack of recognition rules and 57 (40%) were related to mastery of the realization rule for solving the problem. Further, learners in the working-class context were seen to use mostly a single specializing strategy, which involved a very concrete method for solving – that of counting using drawn counters. Question 6 (214 +12) in particular highlighted the limitations of this concrete method for learners, and their lack of access to alternative methods for solving the problem accurately. There were also a number of occasions when learners attempted to use this method inappropriately. For example, four learners drew counters for Question 1 ('Which number is bigger – 131 or 113'). Localizing strategies were evidenced in the way many of the learners addressed problems, as mathematical knowledge did not feature in their attempts at solving the problems.

University of Cape Town

7.3.3.2 The middle-class context

Specializing strategies

In general, the methods used for calculation in the middle-class context consisted of quick mental calculations for the first four answers, and decomposition of numbers for the rest. What was remarkable about some of the work, especially that of Jeanne and Fiona's learners, was the uniformity with which problems were approached and solved. An example is given below for four learners' solutions to Question 8.

Figure 7.4: Four student productions Question 8: Jeanne

dresses: 54 - 17 = 37
54 - 10 = 44
44 - 7 = 37

dresses: 54 - 17 = 37
54 - 10 = 44
44 - 7 = 37

dresses: 54 - 17 = 37
54 - 10 = 44
44 - 7 = 37

dresses: 54 - 17 = 37
54 - 10 = 44
44 - 7 = 37

University of Cape Town

The uniformity of the setting out and solving of problems shown above is typical of almost all the solutions to problems produced by the learners. Some learners did do mental calculations in a number of cases, but for the rest, writing the mathematical statement for the contextual problem and then solving the problem using decomposition was the most prevalent strategy for calculating solutions. This uniformity raises an interesting issue in relation to the pedagogic discourse predominant in the two settings. In the working-class setting the class was treated as a homogenous group, and yet there are a wide range of differences in their productions. The opposite case appears to be true in the middle-class setting. The class was treated as a collection of individuals, and education, it would appear, is about the development of their individual career trajectories. There was, however, a notable uniformity in their productions.

Learner productions from Anne and Kate's classes differed somewhat from this strict uniformity of method. Firstly, a greater range of specializing strategies was deployed by the

learners than in the other classes, and learners drew on different techniques to solve different problems. These included counting on fingers, drawing counters, writing out multiplication tables, decomposition, addition in columns, a diagram for the division problem and mental calculations. Secondly, there were far more instances of the recognition of the similarity of questions 5 and 7, and 8 and 9 which required the same operations, presented in non-contextual and contextual form (in total, eight instances of recognition from five different learners). Learners from these two classes also talked aloud more, and articulated their reasoning, for example 'so that must be …', 'Two and a half times three is seven and a half. It must be smaller than that. Aha, gotcha.' These kinds of statements, and the range of methods used, suggested an approach that involved more conceptual thought than the automatic deployment of a procedure. It also appeared that learners wrote mathematical statements for the contextual problems when they were uncertain, and not as a matter of course.

The middle-class learners did not deploy localizing strategies in solving the problems. All learners attempted to solve all problems by using some mathematical strategy, which in most cases consisted of the application of a well-versed procedure.

University of Cape Town

Recognition and realization rules in the middle-class context

Table 7.14: Error analysis: middle-class context

	Question	Number of learners correct n=40 (and % of total)	Number of learners incorrect n=40 (and % of total)	Error of recognition (and % of incorrect responses)	Error of realization (and % of incorrect responses)
1	Which number is bigger? 113 or 131	40 (100%)	0 (0%)		
2	Write these numbers from smallest to biggest 18 8 38 28	37 (93%)	3 (3%)		
3	Count forwards in 3s. What number comes next? 63 66 69 ___	36 (90%)	4 (10%)		
4	What number is 20 more than 32?	35 (88%)	5 (12%)		
5	15 + 17 =	36 (90%)	4 (10%)		
6	214 + 12 =	36 (90%)	4 (10%)		
7	54 – 17 =	30 (75%)	10 (25%)		
8	There are 54 dresses in a shop. Some are sold. There are 17 dresses left. How many dresses were sold?	29 (72%)	11 (28%)	0 (0%)	11 (100%)
9	Benny has 15 rand. Lali has 17 rand. How much do they have together?	37 (93%)	3 (3%)	0 (0%)	3 (100%)
10	Miriam has 6 sweets. She has 9 sweets fewer than Sipho. How many sweets does Sipho have?	26 (65%)	14 (35%)	9 (64%)	5 (36%)
11	Tessa has 8 balls. If she buys 11 more balls she will have the same number as Linda. How many balls does Linda have?	36 (90%)	4 (10%)	4 (100%)	0 (0%)
12	In a hall there are 5 rows of chairs. There are 6 chairs in each row. How many chairs are there in the hall altogether?	38 (95%)	2 (5%)	1 (50%)	1 (50%)
13	There are 3 friends. They must share 7 biscuits equally. How much must each friend get?	24 (60%)	16 (40%)	1 (6%)	15 (94%)

University of Cape Town

The most frequent errors were found in Question 13, and related to difficulty in determining the remainder accurately, and Question 10, where learners had difficulty in recognizing the operation that was required. In general, there were similarities in the incorrect answers given by learners, and it was relatively clear what gave rise to these errors. Of the total number of errors, 15 (30%) were attributable to recognition error, and 35 (70%) to realization error, a significant difference to the working-class context where 40% of error was attributable to lack of realization rules and 60% to the absence of recognition rules.

There were differences between the learners in different classes in terms of the strategies used for solving problems. At Rhodes there was a uniformity of method and solution, at Arbor there was less uniformity in method, especially in Anne's class, but uniformity in solutions.

7.4 Discussion: the specialization of students' voice

If it is accepted that the school is concerned with the transmission of context-independent meanings, then it is clear from the sorting experiment that the middle-class students were able to recognize and realize such meanings at the appropriate level. The working-class students, on the other hand, operate in the main with context-dependent meanings. Irrespective of whether the learners entered schooling with different orientations, it is clear that, in the working-class context, the pedagogy had not interrupted a generally restricted coding orientation.

Further, in considering how learners approach the mathematics task, in the middle-class setting we see students who were beginning to recognize a field of practice (mathematics, a number system) with a grammar and rules. In general learners had acquired the recognition and realization rules, and were able to make pedagogic judgements which referred to mathematics in their deployment of strategies for addressing the task. In their selection of the appropriate method or procedure for a particular problem, learners appealledappealed to the field of mathematics in their approach.

In the working-class setting the converse is apparent. Learners had little grasp of the recognition and realization rules. The appeal to the researcher for affirmation of arbitrary answers was a clear indication that, for the learners, the authority for what they did resided with the teacher, and not with an emerging understanding of the field of mathematics. (This is similar to the distinction in the analysis of the teachers' pedagogy, between whether the evaluative rules were transmitted on the basis of assertion or an appeal to a specialized discourse.)

Through a consideration of the students' approach to the solving of mathematical problems, their ability to deploy specializing strategies, and to realize context-independent meanings, significant differences in the extent to which students' voice has been specialized in the different social class contexts emerge. The weak and strong specialization of learners' voice as presented in this chapter was predicted in the discussion of the classification and framing of pedagogic discourse in Section 5.2.4, where two very different modes of being a student

University of Cape Town

emerged. This differential specialization of voice aligns with the two different pedagogic modalities, defined as horizontal and vertical.

Table 7.15: The specialization of student voice and pedagogic modalities in the two social class contexts

	Social class of student	
	Middle class	*Working class*
Voice of students	***Strongly specialized***	***Weakly specialized***
Pedagogic modality in social class school context	***Vertical (C+/F-)***	***Horizontal (C-/F+)***

Table 7.15 above shows clearly how there is little interruption of the students' coding orientation, which was probably brought from the home. In the working-class setting, working-class students were exposed to a horizontal pedagogic modality and their voice was weakly specialized. In the middle-class setting, middle-class students were exposed to a vertical pedagogic modality and their voice was strongly specialized. The question emerges as to why this was the case. The next chapter considers the role of the teacher in the process of the reproduction of social class differences in relation to the students' mastery of the school code.

University of Cape Town

7.5 Conclusion

The chapter presented the analysis of two tasks conducted with students in the two social class contexts. The purpose of the tasks was to examine the extent to which the students' voices had been specialized with respect to a school code after three years of schooling. It was found that, in the working-class context, there was a weak specialization of students' voice and in the middle-class context a stronger specialization of voice with respect to school knowledge.

With respect to the working-class students' single restricted orientation to meaning and the middle-class students' privileging of an elaborated code, I do not assert that these particular orientations were necessarily derived from the schooling experiences of the learners. They most likely arose in the home. The analysis does provide evidence, however, that the horizontal pedagogic modality was not operating as an 'interrupter' of the codes that the

working-class students most probably brought from the home – that is, a restricted or community code. In the case of the middle-class students, elaborated coding orientations are either reproduced or supported by the vertical modality of the classroom.

A description of the macro-relay, and the connections between social class, pedagogy and the specialization of voice, has been established in the foregoing three chapters. In the next chapter a possible reason as to *why* social class differences are reproduced in this way is considered. In an attempt to address the question I consider the positioning of the teachers with respect to their own social class backgrounds and their pedagogical dispositions as they relate to learners, learning and knowledge.

University of Cape Town

Chapter 8: The teachers' positioning: social class and professional dispositions

8.1 Introduction

The preceding chapters presented an analysis of the differences in the social class contexts selected for this study, of the pedagogic modalities derived from the classroom practices of the teachers, and of the outcomes for students, in terms of the specialization of their voice with respect to the school code. The macro-relay in the reproduction of social class differences was thus described, and a relationship between social class, pedagogy and the specialization of voice was established.

This chapter reports on the second part of the study. It addresses the question of *why* differences are reproduced by focusing on the teacher as a key sub-relay in the reproduction of social class differences through pedagogy. In this part of the analysis a particular explanation as to why different pedagogic forms are found in the different social class schooling contexts is explored. A *tentative* relation between the teachers' own social class backgrounds (which varies between the different social class schooling contexts), their strategic dispositions and the forms of solidarity in the schools is set up, offering some insight into how different pedagogic modalities come to predominate in certain schools and have particular outcomes for the specialization of student voice in those schools.

Whereas the first part of the study was strongly analytical, this part is exploratory. Moving into uncharted territory, the analysis extrapolates some of the theory conventionally applied to learners and considers the implications for teachers. Although consistent with the theoretical frame developed in the preceding chapters, the method adopted here departs from the preceding analyses, and employs a purely qualitative and speculative approach. Further, because in the analysis the interview data is sampled rather than treated as a full set, the claims are weaker, and without the evidential strength of the previous analyses.

Chapter 8: The teachers' positioning: social class and professional dispositions

8.1 Introduction

The preceding chapters presented an analysis of the differences in the social class contexts selected for this study, of the pedagogic modalities derived from the classroom practices of the teachers, and of the outcomes for students, in terms of the specialization of their voice with respect to the school code. The macro-relay in the reproduction of social class differences was thus described, and a relationship between social class, pedagogy and the specialization of voice was established.

This chapter reports on the second part of the study. It addresses the question of *why* differences are reproduced by focusing on the teacher as a key sub-relay in the reproduction of social class differences through pedagogy. In this part of the analysis a particular explanation as to why different pedagogic forms are found in the different social class schooling contexts is explored. A *tentative* relation between the teachers' own social class backgrounds (which varies between the different social class schooling contexts), their strategic dispositions and the forms of solidarity in the schools is set up, offering some insight into how different pedagogic modalities come to predominate in certain schools and have particular outcomes for the specialization of student voice in those schools.

Whereas the first part of the study was strongly analytical, this part is exploratory. Moving into uncharted territory, the analysis extrapolates some of the theory conventionally applied to learners and considers the implications for teachers. Although consistent with the theoretical frame developed in the preceding chapters, the method adopted here departs from the preceding analyses, and employs a purely qualitative and speculative approach. Further, because in the analysis the interview data is sampled rather than treated as a full set, the claims are weaker, and without the evidential strength of the previous analyses.

University of Cape Town

That said, the importance of opening up what has largely remained a silence in the literature is asserted – namely the social class background of teachers and its potential implications for teachers' strategic dispositions and pedagogic practice.

The chapter begins by considering the teachers' social class positioning, and the argument is made that the teachers in the different social class school settings occupy different social class positions. The chapter then looks at the teachers' professional orientations, or strategic dispositions, and the way in which the instructional and regulative dimensions of pedagogic practice, and the construction of instructional knowledge, is articulated by the teachers. Finally the school context is considered in terms of the specialization of time and the division of labour in the school. I conclude the chapter by considering the ways in which teachers' social class positioning and professional dispositions relate to each other, in the context of a particular schooling context, and the implications of these for pedagogy and the specializing of student voice.

8.2 Teachers' social class position

8.2.1 Teachers' social class background

In describing the social class background of the teachers, the same occupational social class categories introduced for students in Chapter 4 are used[1]. I also consider parental education levels in the analysis.

Three of the teachers in the working-class setting, Babalwa, Yonela and Palesa, all come from working-class backgrounds. The occupations of four of their parents can be classed as marginal working class (MWC), which includes domestic work and manual labour. Nomsa's social class background was more ambivalent. Her mother was employed in semi-professional work (nursing) and her father, who worked as a doorman at a hotel, would be

[1] The scale, introduced in Chapter 4 is taken from Seekings (2003), and includes the following categories:
1. Upper class: managers and professionals (**UC**)
2. Semi-professional class: teachers and nurses (**SPC**)
3. Intermediate class: routine white collar, skilled and supervisory (**IC**)
4. Core working class: semi-skilled and unskilled workers (**CWC**)
5. Marginal working class: farm and domestic workers (**MWC**)
6. Unemployed (**UM**)
7. Other (**O**)

University of Cape Town

classified as Core Working Class (CWC) according to the scales introduced in Chapter 7. The education levels of the parents of the teachers in the working-class setting were similar, and none had completed high school. Neither of Yonela's parents attended high school, and her mother had no schooling. The highest education level and occupations of the teachers' parents are shown in Table 8.1 below:

Table 8.1: Teachers' parental occupation and education levels: working-class schools

Teacher	Mother's education	Father's education	Mother's occupation	Father's occupation
Yonela	None	Grade 3	MWC Domestic worker	CWC Driver
Nomsa	Std 8 Nursing diploma	Std 8	SPC Nurse	CWC Doorman
Babalwa	Std 8	Std 6	MWC Child minder	MWC Labourer
Palesa	Std 6	Std 6	MWC Domestic worker	CWC Labourer (railways)

The social class backgrounds of the teachers in the middle-class setting were markedly different from those presented above. The highest education and occupation levels of the parents of Anne, Fiona, Jeanne and Kate are summarized in the table below:

Table 8.2: Teachers' parental occupation and education levels: middle-class schools

Teacher	Mother's education	Father's education	Mother's occupation	Father's occupation
Anne	MBCHB	Diploma in engineering	UC Doctor	UC Manager Siemens
Kate	Matric Secretarial	Bcomm	IC School secretary	UC Financial consultant
Fiona	Matric Secretarial training	Beng	IC Secretarial for government	UC Engineer
Jeanne	BA	Bcomm	UC College lecturer	UC Business owner

In the middle-class setting the teachers all came from a middle-class background, where their fathers were engaged in professional work. Kate and Fiona's mothers were in secretarial work, and, Jeanne's mother was in the education field. Anne's mother was a medical doctor. Of the eight parents, all had completed secondary school, and five had attained a university qualification. Taking parental education qualifications and occupational levels as indicators of social class background, Anne, Kate, Fiona and Jeanne all come from an unambivalently middle-class background, and Yonela, Nomsa, Babalwa and Palesa from working-class backgrounds.

University of Cape Town

8.2.2 Teachers' educational levels

The teachers in all the schools received at least part of their schooling and teacher training under the differentiated system of apartheid education described in Chapter 1. Under this system, different racially defined institutions were associated with very different schooling experiences for students of different races. Differentiated curricula were also developed. A 'core' curriculum was developed by the White department of education and this was adapted by the other departments. Essentially, for Black learners, this amounted to a watering-down of the core curriculum (Galant, 2002). It was largely accepted that these curricula were produced to perpetuate inequalities in the country and to uphold the tenets of Christian National Education (CNE), and it has been repeatedly argued that the purpose of education for Black learners was education for domestication (Galant, 2002; Kallaway, 1984).

'Bantu' education, as it was known, and Afrikaans schooling, were underscored by an educational philosophy known as 'fundamental pedagogics'. This was an authoritarian pedagogical philosophy, where the child was regarded as ignorant and undisciplined, in need of guidance from the teacher, whose authority was derived from the God of the Dutch Reformed Church (Ensor, 1999). It also promulgated a pedagogy devoid of analysis and critique (Taylor & Vinjevold, 1999). White education was characterised by a more progressive approach in some English schools. White schools were extremely well-resourced, with low pupil:teacher ratios, and adequate physical and cognitive resources. Black schools, on the other hand, were generally poorly resourced, often lacking in basic facilities such as classrooms, toilets and running water. Cognitive resources were extremely poor, per capita spending was low, most teachers were under- or unqualified, and there was a dearth of textbooks in these schools.

In the study's sample, all the teachers, apart from Kate and Jeanne, completed school before 1985. Palesa, Nomsa, Babalwa, Yonela, Anne and Fiona all received their schooling under the differentiated apartheid education system. The teachers in the middle-class context attended House of Assembly (HoA) schools, which fell under the 'white' education departments. Kate and Jeanne both attended former HoA schools. All the teachers in the working-class setting received their schooling under the Department of Education and Training, (DET), which regulated education for Black students. On the basis of the nature of the different schooling types described above, it was possible to make assumptions about the

University of Cape Town

schooling experience of the teachers. The teachers in the working-class setting experienced a restricted curriculum, in schools that were under-resourced. The teachers in the middle-class context experienced curricula devised for the White population. The racial and social class make-up of these schools generally coincided, as explained in Chapter 1.

At the tertiary level the quality of, and orientation to, practice available to different race groups in teacher training colleges and universities differed significantly under the apartheid system. The teachers in the working-class setting all received their initial training in the 1980s. Anne trained in the 1970s, Fiona in the 1960s, and Jeanne and Kate in the 1990s. In the 1980s Black teacher training institutions broadly followed the schooling of the Afrikaans and DET system, with a focus once again on CNE and its attendant philosophy of fundamental pedagogics (Enslin, 1984). Hofmeyer (1993), Chisholm (1993) and Enslin (1990) report on the devastating effects of fundamental pedagogics on teachers' thinking and practice. Freer (1993) also comments that, in many of these colleges, the courses offered 'were repetitions of the three final years of an impoverished secondary programme. Commonly, students have used school textbooks and enjoyed little that could be identified as challenging or insightful' (p. 36).

University of Cape Town

Particularly in the 1980s, Black teacher training colleges were understaffed and the college lecturers seriously underqualified (Hartshorne, 1992). Students entering teaching had very low schooling results. Hartshorne shows that in 1988, for example, 93% of the successful senior certificate group had 'F' aggregates (i.e. 33-39% of the total aggregate mark). This was the main pool from which student teachers were recruited (Hartshorne, 1992:249). The quality of training received in Black colleges, as a result of these various factors, was severely compromised. All the teachers in the working-class setting received their initial teacher training at Good Hope College, a teacher training institute in Khayelitsha in Cape Town, originally established for the training of Black teachers, and in the 1980s, consistent in its structure with the description above.

Ensor (1999) documents that it was only at the four White English universities, and in colleges linked to these institutions, that 'this dominant discourse [of Christian National

Education] was challenged, and alternative offerings became possible'[2]. All four teachers in the middle-class setting received their initial training in institutions falling into this category. All eight of the teachers' tertiary education, training and qualifications are summarised in the table below.

Table 8.3: Teachers' tertiary qualifications: institution, qualification and level

Teacher	Institution	Qualification	Certificate / Diploma / Degree
Anne	Natal Training College	Natal Teachers Senior diploma	Diploma
	Natal Training College	Higher Natal Education Diploma	Diploma
Kate	Cape Town College	Higher Diploma in Education	Diploma
Fiona	Rhodes University	Primary Teachers Certificate	Certificate
	Rhodes University	Primary High	Certificate
	UNISA	Bachelor of Arts	Degree
Jeanne	Rhodes	Bachelor of Primary Education	Degree
Yonela	Good Hope College	Junior Primary Teachers Diploma	Diploma
	University of Pretoria	FDE	Diploma
	University of Pretoria	Bachelor of Education (current)	Degree
Nomsa	Good Hope College	Senior Primary Teachers Certificate	Certificate
	UNISA	Bachelor of Education (current)	Degree
Babalwa	Bensonsvale (Herschel, EC)	Primary Teachers Certificate	Certificate
	Good Hope College	Junior Primary Teachers Diploma	Diploma
	Bellville college	Junior Primary 3 (current)	Certificate
Palesa	Good Hope College	Junior Primary Teachers Diploma	Diploma
	Kuils River College	Higher Diploma in Education	Diploma
	UWC	Bachelor of Education	Degree

Table 8.3 shows that, quantitatively, the teachers in the working-class setting had a greater number of qualifications (eleven) than the teachers in the middle-class setting (seven). Two of the teachers in the middle-class context had degrees as opposed to three of the teachers in the working-class setting. Three of the teachers in the working-class context were studying at the time, and in general had undergone more additional training than the middle-class teachers. This on-going training reflects the current emphasis in the Department of Education on the upgrading of teachers' qualifications.

However, the discussion of teacher training above shows that the training of the middle-class teachers and the teachers in the working-class setting has, in general, taken place in different kinds of institutions. The middle-class teachers' training has been in colleges and universities originally established for White pre-service training, and the teachers in the working-class setting had received most of their training in formerly Black institutions, or institutions located within or near working-class communities (for example, Kuils River, Good Hope

[2] Ensor (1999) offers a description of these alternatives in relation to mathematics teacher education, sketching out different positions from the radical populist position to the liberal progressive view.

University of Cape Town

College, Bellville College). It is possible, therefore, to broadly categorise the teachers' educational experience as stratified.

From the description of the teachers' schooling and training given above, it is apparent that there was a consistency in the type of education that the teachers *within* the different social class contexts had been exposed to. Given the broad characterization of South African schooling and teacher training types, it can be concluded that the two sets of teachers in the sample had been exposed to very different types of knowledge and socialization into pedagogic practice. However, I have also shown how all the teachers had undergone a programme of specialization for the teaching profession, and were, formally, fully qualified to teach.

8.2.3 The material and social conditions of the teachers' lives

Yonela, Babalwa, Nomsa and Palesa are representative of a form of class mobility that is very common in South Africa. These teachers emerged from working-class backgrounds, where in instances parents were domestic workers and labourers, and they had, in some respects, via teaching, entered the middle-class. Because of the rapid change in the South African economy, it is not uncommon for children to occupy very different occupational levels to those of their parents and grandparents (Seekings, 2003:42). It was, however, central to this study to consider the material conditions of the teachers at the time in order to investigate more closely this transfer of the teachers from one social class location to another. What are the actual shifts in the teachers' particular lived experience? In order to address this question, I consider the material conditions and social relations of the teachers' lives.

8.2.3.1 Family structure, dependents and the disbursement of salaries

With his concept of 'mediated class locations', Wright (1997), calls attention to the problem of assigning social class locations. The concept necessitates that, not just the individual, but the household, family, or network of dependents is taken into account when considering the class location of the individual. So, as a simple example, the children of a doctor or lawyer will be classified as middle-class by virtue of their 'mediated class location'. The present research project represents this problematic in reverse. There is some difficulty in assigning a

University of Cape Town

social class location to a teacher, such as Babalwa, who had an unemployed husband, an unemployed child of 22, and two children at school. Or, as Seekings (2003) asks: 'What should we do in the case of a lawyer who supports five unskilled, unemployed younger relatives. Are they all members of the 'professional' class by virtue of their breadwinner's individual class location?' (p. 15). The social class location of the teachers is considered here in relation to their network of dependents and the manner in which their salaries were disbursed.

The middle-class teachers had a range of intimate relationships. Anne was single. She was not in a relationship and both her parents were deceased. She had a small circle of close friends and two aunts in Germany who she visited annually. Jeanne was also single. She had planned to leave Rhodes at the end of the year in which the research was conducted in order to work in London and travel. Kate was in a long-term relationship; her partner was a mechanical engineer. She was close to her parents; her mother lived in Cape Town and her father was on contract in Dubai. Fiona was married and had two grown children. Her son worked as an IT consultant in London and her daughter worked in human resources, also in London. Both had university degrees. Fiona's husband ran a car dealership, and had left a large financial services company in order to run his own business. None of the middle-class teachers had dependents and all had potential alternative or supplementary sources of income, either from partners or parents.

The working-class teachers had very different familial relations. Nomsa was single, but was in a relationship with someone who worked as an assistant in a forensics laboratory. She lived with her two sisters and her nephew. Her youngest sister was partly dependent on Nomsa's salary, especially for the costs of her nephew's schooling. Palesa was married. Her husband had matriculated and worked night shift in a bank, doing clerical work. She had a daughter of seventeen who was still at school, and, at the time of the interview, had told her mother that she was six months pregnant. Palesa was also responsible for her youngest sister, who she had taken in as her own child at the age of twelve. Yonela was single, and had a number of dependents, including her mother, her own son of eleven years, and her sister's child, who was six years old.

Babalwa was married with three children, two of whom were still at school. The third child was 22 and unemployed. Her husband was also unemployed and had been for a number of

University of Cape Town

years. He had previously worked as a clerk in a revenue office. Babalwa had recently run into severe financial problems. On anecdotal evidence this appears to be a common problem amongst teachers in township schools, where teachers fall into debt as a result of entering into hire purchase agreements and subscribing to various policies, especially funeral policies[3].

The familial obligations of the teachers in the working-class setting, in particular their financial obligations, were very different from those of the teachers in the middle-class setting. Whereas the latter all appear to have substantial mobility and sole claim on their salaries, the teachers in the working-class setting had a network of relations who were dependent on their salaries. Yonela, Babalwa and Palesa were all the main breadwinners for their families and extended families. Their social relations considered here in terms of their dependents were vastly different.

8.2.3.2 Geographical location

There is no inherent link between people's social mobility and their geographical shift (Savage, 1988), although this area is under-researched in the South African context. Sitas (2004) undertook a study of working-class social mobility. In his sample he distinguishes between 'the mobile', the 'stuck', and the 'deteriorated' when examining the changes in life opportunities, shifts in consciousness and livelihood strategies of former cadres in the anti-apartheid struggle. He shows that, particularly for the 'mobile', 'the new fields of activity their new status has opened up for them and their families take them away from their old constituencies and communities' (p. 837).

---

[3] In the following conversation that Babalwa has with Xolisa, she explains her particular situation:

Teacher: By the way, school finishes at 2 pm today. On payday we leave at 2 pm.
XG: But why?
Teacher: Because people are rushing to the banks. They close at 3:30.
XG: Can't they wait for the weekend maybe?
Teacher: They don't want the stop and debit orders to take their money. As I told you I myself am in debt, so are most of the teachers. My R2700 net is taken off. I don't get money at the end of the month.
XG: How do you survive?
Teacher: Relatives on my side and on my husband's side buy us food. Some give us R100 for electricity. But I am bonusing next month.
XG: Is your husband not working?
Teacher: No. He ran out of work in 1998. He used to be a clerk. He stays at home all this time. I feel the strain.

Babalwa sells biscuits during school time in order to make extra money, or in most cases, recruits learners in her class to do this for her. She buys packets of biscuits and then sells the biscuits individually at a small profit to other teachers and to some students. In spite of the ban that the Minister of Education recently placed on teachers conducting these kinds of business arrangements during school hours, it would seem that this practice is still relatively widespread. Babalwa also takes vegetables from the school vegetable garden to supplement food at home. Babalwa reports that for seven months her net salary had been R23 per month, after legal procedures led to deductions from her salary.

University of Cape Town

This was not the case for the teachers in the working-class setting in this study. They all lived in formerly coloured and black working-class areas. This was probably partly due to the fact that their *places* of work (the schools) were located within working-class communities. Contributory factors would be the enduring apartheid geography of Cape Town, and the costs of relocating to more affluent areas. All the teachers in the middle-class setting, on the other hand, lived in former white, affluent, middle-class areas. The teachers' places of residence are shown in Table 8.4 below.

Table 8.4: Teachers place of residence

Teacher	Place of residence	Area type
Anne	Little Mowbray	Predominantly white, middle-class suburb
Kate	Kenilworth	Predominantly white middle-class suburb
Fiona	Bergvliet	Predominantly white middle-class suburb
Jeanne	Newlands	Predominantly white middle-class suburb
Babalwa	Charlesville, Montana	Working-class African and Coloured township
Palesa	Mandalay, Khayelitsha	Upper working-class African township
Nomsa	Gugulethu	Working-class African township
Yonela	Litha Park, Khayelitsha	Working-class African township

Although we see the lineaments of class mobility in the teachers in the working-class setting, in terms of educational qualifications and occupational position, they had not physically or socially relocated into middle-class areas. They all lived in working-class townships, and this physical location was related to the kinds of things they did and the people they interacted with. It is worth noting, as Castells (1997:60) has argued, that local environments do not induce specific distinctive identities, but people do get together and generate communal identities which foster feelings of belonging and hence of distinction. These aspects are explored further in the discussion of the teachers and social and cultural capital which follows.

8.2.3.3 Social and cultural capital

Further differences in the teachers' material circumstances become apparent through a consideration of their social and cultural capital (Bourdieu, 1986). In particular the teachers' leisure activities and their social networks are used as indicators for these class measures.

All four of the middle-class teachers had been overseas; none of the working-class teachers had. When asked about their last holiday, the middle-class teachers cited a number of places:

University of Cape Town

'…is work on oneself (self-improvement), an effort that presupposes a personal cost … an investment, above all of time, but also of that socially constructed form of libido, *libido sciendi,* with all the privation, renunciation, and sacrifice that it may entail (p.18).

This definition is evident in the focus on exercise (jogging, walking) and, in Anne's case, her engagement in holistic activities. It is also notable that all the teachers in the middle-class setting read as part of their leisure activities. The activities are *solitary*. The leisure activities of the teachers in the working-class setting involve those which had far less to do with the self, and were located within the local community context – at home (entertainment such as watching TV and listening to the radio), and in the local community (attendance at church and activities there). Different dispositions – individual and communal – between the two sets of teachers are suggested in a consideration of their leisure activities.

It is possible to reflect on teachers' social capital through a consideration of who their friends were and what work these friends did. Bourdieu (1986) explains the possession of social capital in the following way:

The volume of the social capital possessed by a given agent thus depends on the size of the network of connections he can effectively mobilize and on the volume of the capital (economic, cultural or symbolic) possessed in his own right by each of those to whom he is connected (p. 21).

As in Metz's (1994) study, the teachers were asked what work their siblings and friends were engaged in. There was some difference between the groups of teachers. In general, the teachers in the working-class context spent time with family members, neighbours and people from church. Some of these people were involved in semi-professional occupations, such as a policeman, a social worker and a teacher, and some were unemployed or studying. In the middle-class context the teachers' friends included people who worked in the business world, in teaching, and some had siblings who were studying and traveling. In general, the family and friends of the teachers in the middle-class setting had higher educational levels than those of the teachers in the working-class setting, and they all lived in middle-class suburbs, although not always close to the teachers.

An investigation of the teachers' social networks indicates differences, not only in the kinds of networks that the teachers established (what the people they interacted with did and what their educational levels were), but also in the spatial configuration of those networks. The

University of Cape Town

teachers in the working-class setting form relationships which derive from the community in which they live (neighbours, people in their home, and people at church), whereas the middle-class teachers' relationships were not contingent on immediate community.

Although the teachers in the working-class context all had post-school qualifications, including degrees and diplomas, and ostensibly earned middle-class salaries, they all came from, and were firmly rooted within working-class communities, from which their social networks were drawn, and with which their leisure activities were associated. Through a consideration of the teachers' geographical locations, and their possession of economic, social and cultural capital, it is possible to characterize the teachers from the working-class setting as occupying a *hybrid* social class position. Although the lineaments of social class mobility are evident in the education and occupation of the teachers, their material and social conditions point to an ambivalence in social class location.

In the following section I investigate the teachers' professional dispositions. I am interested in exploring whether the teachers' different social class locations align with different professional dispositions. In much the same way as Bernsteinian theory looks at the continuity between the home and the school in terms of the specialization of meaning for learners, I consider the match between the lived identities and the professional identities of the teachers in their strategic dispositions.

8.3 Teachers' professional dispositions

This section looks at ways in which the teacher typifies learning, subject knowledge and the relation between teachers and students. The way in which the teachers construct the instructional and regulative aspects of their pedagogical work is considered. The purpose is to explore whether there were differences in the categorizations that the teachers in the two contexts deployed, and whether these categorizations were more strongly specialized with respect to learning and of a more de-personalized nature (strong classification), or more particular and personal and less specialized with respect to learning (weaker classification).

University of Cape Town

8.3.1 Instructional dimension: classification of learning

The teachers were asked how they thought children learnt, and then more specifically, how children learnt phonics. Two of the teachers (Kate and Anne) commented on the learning of mathematics as well. In general the teachers in the working-class context emphasized enjoyment as an important component of learning – Yonela emphasized learning through songs and Nomsa spoke about learning through play.

Nomsa: I think children they learn through play sometimes, and even /.../ if you introduce something to them, just introduce it as if they are in a game you know. Don't be serious when you talk to them, in order they learn so they must enjoy it ja. Just give them something that they are going to enjoy it.

The working-class teachers also tended to make references to the appropriate moral and behavioural comportment for learning. Babalwa stresses appropriate *behaviour* in this regard.

Babalwa: How to read and how to learn in the classroom they must behave when you are talking to them so they can grasp what you are saying, they can know, they can understand.

When asked specifically how children learnt phonics, the responses of the teachers in the working-class setting were broad and general. It was often not clear what aspect of literacy they were talking about from the comments they made. For example:

Palesa: You do the cutting, the flash cards. Using flash cards.

Nomsa: Um, children they learn phonics, you know by, by spelling maybe. Spelling first and then you take that letter with that letter.

Yonela: The phonics ok if I'm doing the phonics I'll do I'll teach them how to do this word, how to write this word and then how to announce this word, how this word is formed.

This is not to claim that the teachers did not possess a systematic notion of how they taught phonics, but rather they did not articulate it in categorical terms with strong boundaries between the learning of phonics and of, say, writing or mathematics.

In response to the question of how children learnt, the middle-class teachers' responses were markedly different. Firstly, they stressed the notion that different learners learnt differently.

Fiona: Mmmm. I think they all learn a little differently.

University of Cape Town

Anne: Ah, no you can't say that. You can't say: 'How do children learn phonics?'. They all learn it differently.

The teachers also mentioned a range of learning 'triggers', including use of the senses.

Fiona: ...and sometimes you can write it in the air, sometimes they like to write it on somebody's back, or on their arm, so it's just through different feels, and then experiencing the actual writing plus the listening plus the seeing, I think that's the only way to get them, to learn.

Repetition was also stressed by all four of the teachers and Anne, in particular, had an explicit theory of how repetition functions in learning.

Anne: ... and then repetition, but not two and two is four, two and two is four, two and two is four, you do the same sort of activity in lots and lots of different ways, um, and that's when you'll get those who are slower at maths, you're adding, you practicing a certain bond or something, and you're doing it for the tenth time but in a different way, and somebody will suddenly come and tell you 'Ahhh, did you know!' because they were making the pattern themselves You know the brain is a pattern detecting device and you've got to provide the opportunity for the brain to make its own pattern.

University of Cape Town

Here Anne presented a generalized statement on learning, 'You know the brain is a pattern detecting device, and you've got to provide the opportunity for the brain to make its own pattern.' In relation to the question of how children learnt phonics, the middle-class teachers presented definitions of what phonics *was* in the course of their explanations. Fiona started her response with, 'Phonics, I think, first of all, it's phonetic, it's the sound, so you're going through the sound'. And Anne explained what it was about phonics in particular that learners found difficult, given the requirements of phonics learning and the students' general social milieu.

Anne: And our society today is so visual that they find phonics very difficult so you've got to try lots and lots of sound type activities, um, looking at the um, trying to, 'cos at Grade 3 they can all read and they can mostly picture what the words look like, so it's quite difficult to do phonological awareness activities without them seeing the word in their head...

In summary then, the middle-class teachers were concerned with the particular specialized requirements of phonics. They differentiated phonics learning clearly from other learning. Their construction of phonics learning was strongly classified.

In general descriptions of learning, the middle-class teachers provided a number of relatively precise conceptions of how students learn. These conceptions focused on 'inner' cognitive issues – the child's thinking and acquisition processes. The teachers in the working-class setting, on the other hand, presented generalized statements on learning, which in the first instance focused on more 'outer', non-cognitive aspects, such as behaviour and enjoyment, and secondly provided diffuse comments on phonics learning which did not always take into account the specialty of the subject. In other words, their construction of phonics learning was more weakly classified than that of teachers in the middle-class context. In the latter, there was an emphasis on individual learning styles, and the need to provide for diversity in learning processes among students. In the working class no such distinctions emerged in the interview.

8.3.2 Instructional discourse: the classification of subject knowledge

In the interview, the teachers were shown a set of four potential resources for use in a lesson on creative writing in order to access their orientation to school knowledge in a particular area of literacy learning – writing. The resources are shown in Appendix B, interview question 25. The teachers were asked which of the resources they would use, and why. They were then asked which they wouldn't use, and why not. In their responses to the task, teachers in the different settings offered different kinds of reasons as to why they would select a particular resource. Again the interest is in the classification of subject knowledge, the extent to which the knowledge is bounded from other knowledge, and whether elements of literacy knowledge are highlighted.

In the working-class context the teachers' focus in response to the task was once more on learners' potential enjoyment in working with a particular resource, and secondly on their familiarity with the particular subject matter and their ability to grasp it. Some of the statements made by the teachers are considered below. The first is Babalwa's response. She was responding, in the first instance, to an invitation to a child's birthday party, and secondly to a detailed cartoon picture of a city, Johannesburg:

Babalwa: It's going to be easy for them. They know the birthday party, they know the birthday parties, you know, we teach them, it is in their lessons.

UH: Okay, and which ones wouldn't you use?

University of Cape Town

Babalwa:	This one. They don't know the cities well.. But they normally go to the cities with their parents sometimes during holiday times when they go and buy Christmas things, maybe they notice there's a bank, there's a..., so this one will need an explanation. Even uh uh they can see what is going on in the picture. They can write the story.

Both Babalwa's responses focus on learners' familiarity with the material, i.e. with that which is local and context-dependent. In Nomsa's response she selected the city picture, and again she referred to learners' familiarity with the topic through having studied the particular theme.

Nomsa:	I think I can use this one.
UH:	Hm hm. Why would you use that one?
Nomsa:	Because they have so many things they can discuss about in this picture.
UH:	And how would you structure a task around it?
Nomsa:	Firstly they can tell me, what they see in the picture you know. Where they have seen this place before maybe, ur, as we have done transport you know. I see a lot of cars here so, they can form a story here, they can write a story about this picture.

Nomsa singled out a particular aspect of the picture – cars – in order to relate her selection criteria to a theme – transport – that they had covered in class. Yonela also referred back to a theme that had been covered. She selected the party invitation.

Yonela:	I can choose this one.
UH:	That one. Why would you choose?
Yonela:	The reason why I choose this for the writing, for the writing... First of all first of all I look at the picture here they do an invitation. please come to my party from Nandime. /.../ For this, we've taught the communication the way we communicate.
UH:	Okay.
Yonela:	We've taught, so this is this activity will be part of my communication activities

Again, the teacher's primary selection criterion was theme: 'We've taught this, this is communication. This activity will be part of my communication activities'. Yonela also stated that she would not use the city picture.

Yonela:	The reason why I don't choose this one first it's dense.
UH:	Too dense?
Yonela:	[laughs] It's too dense.
UH:	Okay.
Yonela:	Some of them maybe they can't see even the words the bank restaurant, parking, some of them they can't see maybe...

The teacher cited the learners' familiarity with the subject matter as a reason for her rejection of that particular resource. The emphasis on theme (an integrating principle) revealed a weaker classification of the subject knowledge. The boundary between the learning of writing

University of Cape Town

and other learning, or between the instructional and the regulative dimensions of learning, was also relatively weak in the statements produced by the teachers. The rules for selection identified in Chapter 6 as being everyday, context-dependent knowledge, embodied in a theme, are borne out here.

In the choices of the teachers in the middle-class setting, the emphasis was on the generative potential of the resources for a particular task and the cognitive demand of the tasks generated. Kate selected the city picture and gave her reason.

Kate: Because you could actually write a story about one of these people. The ambulance driver or somebody working in the bank or the restaurant or somebody even going to the restaurant or something. And write about maybe your day, or you could also choose the aspect of maybe more of direct speech. Like this little boy, person. What do you think he's saying or are these his friends, or the taxi driver, what is he saying to the people. Or even in the police car. Are they on their way to a robbery or about to catch somebody or something like that.

UH: Okay. Great. So if you had to frame a task around that, that's probably what you would do.

Kate: Hm... or even maybe a poem about the business of the city or something, what sounds do you think are going on. Or what does it feel like to be here is it a hot day. You know write about that, something like that.

In this extract Kate began to generate a range of potential tasks. She referred to a range of literacy elements in her response: sensory description, the poem and direct speech. In her rejection of the invitation, she again referred to the generative potential of the resource in terms of setting up a task, and also it's cognitive level.

Kate: I think it's just too little information or ideas of what you could... you could get them to maybe write their own invitation, and decorate it, um ya, but I, I don't think there's enough sort of ideas for that.

Fiona's emphasis in her response was similar. After rejecting the set of pictures of the two children and the snake as 'too basic', and the invitation as 'boring', she selected the city scene and another series of pictures depicting a narrative of a dog falling through a hole in the ice.

Fiona: Okay, now let's have a look between these two, that one would be appeal to me [the dog and ice]. Okay, I would go for this one [city scene], depends on which time of the year as well, this one you could make something of, you could do something different, you could talk about the traffic jam and you could say they had to get from a certain place to another, and this is what happened and how did they overcome it and so on, but this one would be a really fun one [the dog and ice].

University of Cape Town

UH: Okay, so how would you structure the task?

Fiona: This one I would look at it and I would say um, alright, this one I would definitely get them into groups, and they must say what happens and actually tell me. And then I would say right, now let's get some exciting describing words, adjectives, put those on the board, and then that's it and let them write.

Like Kate, who referred to direct speech, Fiona also invoked a particular conceptual aspect of literacy learning – adjectives. There was a stronger classification of the subject knowledge in the way in which the teachers invoked particular conceptual issues related to writing. Fiona also pointed out that the choice was dependent on the cognitive development of the learners at the point of doing the task – 'depends on which time of the year as well'.

The teachers in the different settings classified subject knowledge differently in their selection of tasks. In the middle-class setting the focus was generally on the learning potential that they recognized in a particular task. The discussion of the knowledge was strongly classified with respect to the instructional potential of the tasks by taking into account specific elements of literacy learning, and the cognitive level of both the tasks and the students. In the working-class setting the focus in the teachers' selection was generally on the potential enjoyment of learners, and their familiarity with the subject matter (often a theme that had been covered). The subject knowledge was more weakly classified with respect to the instructional dimensions of the task. The middle-class teachers indicated a stronger classification of writing as a subject, and differentiated between different tasks on the basis of instructional criteria. The rules for selection referred to literacy elements. In the case of the working-class teachers, classification between writing as a subject and other knowledge was less strongly classified, and their criteria for selection tended more to regulative aspects, such as enjoyment, or to the everyday content of the resources.

University of Cape Town

8.3.3 Regulative discourse: framing, the moral imperative and the classification of agents

I showed above how the teachers in the working-class context differed in their emphasis on the outer, non-cognitive aspects of classroom activity, such as enjoyment and the behaviour of learners, compared to the middle-class teachers who placed greater emphasis on the cognitive dimensions of learning. Another way of articulating this differences is to say that, in response to the interview questions, *in the working-class context, the student is first a child and then a learner, and in the middle-class context, the student is first a learner and secondly a child.* The working-class teachers demonstrated a strong moral imperative in their approach

to learners in addressing the question of learning. This was again demonstrated in the following statement by Yonela:

UH: How do you know what to teach in the classroom and what order to teach it in?
Yonela: How do I know?
XG: What to teach.
Yonela: Ubuntu[4]. Do you know ubuntu. Ubuntu.
UH: I know ubuntu.
Yonela: Ubuntu. I know ubuntu. I teach the academic, the school academic the classroom academic like interesting so whatever and ubuntu and the children and the customs I usually teach the customs in my class.

I take this notion of the moral imperative further in looking at the ways in which the teachers spoke about children. In the interviews the teachers spoke about the learners extensively, although in different ways. The typifications of learners in the middle-class context were generated through a school ethos, exemplified in terms such as 'the Arbor child' (Kate), and statements like 'We don't do that at Rhodes' (Jeanne). In the working-class setting, typifications of learners appeared to be strongly regulated by a community ethos. Teachers made constant reference to the types of homes and communities that the learners came from, and the social problems that they confronted. Typifications were also ascribed to learners on the basis that they came from the 'homelands', referring to historical, racially defined 'reservations'. The school itself, then, conferred on the learner a community, or local, identity.

University of Cape Town

The classification of agents, or the strength of the demarcation of pedagogic identities differs in the two contexts. In the middle-class setting there was a strong classification of the student and what being a student entailed. In the working-class setting this classification was weaker, with a focus on the child and their community (as opposed to school) location. These differences in the typifications of learners were mirrored by the apparent moral imperatives of the teachers. In the middle-class context the emphasis was on the learner (in a particular school and its set of practices) and learning, and in the working-class setting the emphasis was on the child (from a particular community), and *caring*.

The difference is seen clearly in the way in which the teachers responded to the question, 'What is the best thing for you about being a teacher?' The teachers in the middle-class

[4] Ubuntu refers to an African philosophy and way of life called 'Ubuntu' (humanness), enshrined in the Zulu maxim *umuntu ngumuntu ngabantu* 'a person is a person through other persons' (Shutte, 1993:46), articulating a basic respect and compassion for others, and an emphasis on community.

setting emphasize the cognitive aspects of the job, seeing 'something click' or a learner 'getting it'. Anne puts it this way:

Anne: Ja I don't know, I don't know how to answer that. It's being in the present with the kids, it's the immediate situation the whole time and uh, the reward of seeing things suddenly click, and at the same time the challenge, if you don't know what four and five is, how many different ways can I present it to you so that you do know. Because if I show you sticks and it doesn't work and I show you fingers and it doesn't work, how else? What other ways? So that challenge.

In the working-class context this aspect of the practice was not mentioned. The teachers focused more specifically on their affection for the learners, and also their potential to help the learners with a range of social problems. Palesa's response was illustrative of this orientation.

Palesa: The best thing is that in teaching you, you encounter problems, you encounter problems like, in fact from the kids, social problems. Then you as a teacher you need to be a mother to these kids, a counsellor, a social worker, you need to accommodate them, because they are coming from different backgrounds. /.../ most problems are the abuse, and poverty and all that.

Yonela put it this way:

Yonela: The best thing of me being a teacher is that I've got the love for the children, I've got the patience for the children. I can solve some problems for the children and the problem-solver for them, I can negotiate with their parents with the problem. And I can tell them where to go if their child has got this problem

Finally, it is possible to access the construction of particular framing relations in the way in which the teachers spoke about their interactions with the learners in their classrooms. In the middle-class context the relations were more open, and negotiation between teachers and learners was invoked. Learners were seen as coming into the school with knowledge and interests. Three of the teachers mentioned learning from the children, and enjoying listening to their ideas. Anne describes in some detail her interaction with a learner whose parents had complained that she was targeting him for discipline.

Anne: Now, and their perception is that I'm picking on him. So, am I? I don't mean to, but is it happening so often, is he not changing, is my voice getting an edge? I've got to look at how am I coming across to this little chap. So I spoke to him today, I said see this, and this was privately, I didn't do it in front of everybody, and his eyes just welled with tears, and I said Marty, I'm not cross, we need to understand each other.

University of Cape Town

In stating 'we need to understand each other' Anne weakened the framing of the relationship. She demonstrated here a perception of the need to interact individually with a particular child, and to negotiate a way out of the problem. At the other extreme was Babalwa's comment about the children in her class who struggled:

Babalwa: Thando hasn't got brains. There's just nothing in his head but the TST [Teacher Support Team – in charge of professional development in the school] people don't want us to label the children as stupid, but it helps sometimes. One day I lined up the slow ones and I told them that God will take away their brains if they don't use them. Now they have started borrowing books and they read on their own. The support teacher says that they have improved. Sometimes it helps to tell a person what she is.

Setting up '...we need to understand each other' against 'Sometimes it helps to tell a person what she is' is not to imply that the latter indicates a lack of care or concern. It simply indicates a different construction of the child and how the relationship between teacher and student is set up. In the pedagogy, as we have seen, this has consequences for the nature of knowledge made available in the classroom, and how it is transmitted. However, a stronger hierarchy could also, at least in part, be a response to the real threat that teachers face, if not directly, then at least in the perceived potential of relinquishing strict authority over the child. Palesa articulated this as follows:

Palesa: I enjoy teaching them. As long as you understand them you'll enjoy your job. I like teaching young children. At least they listen to you and can be disciplined, unlike high school children who'll point you with a gun.

The teachers in the middle-class setting focused on the individuality of the child, and emphasized individual personalities and learning styles. In contrast to Palesa's statement, Kate's construction of Arbor and its students was very different.

Kate: It's also a school where they are allowed to develop more by themselves. Where it's more of a, not an open school, but a school where the child is definitely allowed to think more critically, and just allowed to think a lot more. Um... as opposed to just being boxed into 'this is the Grade three class and this is what you are doing', um...

However, we are reminded that weak framing is always 'apparent', that it masks control or hierarchy rather than doing away with it. What the middle-class teachers' constructions also emphasized was the need for the child to be self-regulating within a particular set of expectations of the school and the identity of the student. Reay (2004) argues that this brings with it deep fears and anxieties around failure: 'Middle class children are learning an

University of Cape Town

important lesson about failure – that it is intolerable, unwanted and belongs somewhere else' (Reay, 2004:39).

In the foregoing discussion we have seen a difference in the way in which the teachers classified the instructional aspects of their practice, and a difference in the framing of the relation teacher-student. In the middle-class context we see a strong classification of the instructional discourse and of agents, and a weaker framing of the hierarchical rules, the social relation between teachers and students. The converse was true in the working-class setting, where pedagogic identities and the instructional were more weakly classified, and the relation teacher-student was more strongly framed. In the following section I turn to the school, the location of the teachers work.

8.4 The social bases of the schools: specialization of time, division of labour and forms of solidarity

Thus far I have considered the teachers social class location in relation to their professional dispositions, which I looked at in terms of the classification and framing of the instructional and regulative discourses and the pedagogic identities of learners. In this section I want to briefly reflect on how these differences align with differences in the social organization of the school. In order to do this I take two key aspects of the context of the teachers' work: the specialization of time in the schools and the division of labour and forms of solidarity (Durkheim, 1933) in the schools. My intention here is to show how teachers' professional dispositions, which I have shown to be aligned with particular social class locations, are filtered through particular configurations of social relations in the school. I begin with an analysis of the specialization of time which leads to a discussion of the division of labour and forms of solidarity.

8.4.1 The specialization of time in the schools

By specialization of time I mean the division of the school day into units set aside for engagement with the formal curriculum, the extra curriculum, and for other activities. Several studies, focusing largely on former-DET schools, have reported in some detail on the differences between school types in terms of the use of time in schools. These studies report enormous losses in school time across the school year (see Reeves, 2000, for a summary of

University of Cape Town

this research). The present study, which looks at learning across three consecutive days, cannot report on time losses in this way.

In Table 8.6 below I firstly show the distribution of pedagogic time in terms of time allocated to numeracy, literacy and other formal curriculum subjects (which includes second language subjects and lifeskills). Secondly, I show time allocated to extra-curricula subjects such as physical education, art, computers, library. Thirdly, I indicate time that was used for non-pedagogic purposes, such as eating, praying and cleaning.

Table 8.6: Distribution of time in eight teachers' classes

Teacher **Total available time in minutes***		Babalwa n = 927	Palesa n = 931	Yonela N= 835	Nomsa n = 915	Fiona n = 1021	Jeanne n = 910	Anne n = 960	Kate n = 920
Pedagogical – formal curriculum	**Literacy 1st lang**	268 (29%)	284 (30%)	333 (39%)	400 (43%)	302 (29%)	286 (31%)	399 (43%)	282 (31%)
	Numeracy	171 (18%)	237 (25%)	170 (20%)	199 (22%)	172 (17%)	143 (16%)	188 (20%)	152 (17%)
	Lifeskills	77	61	58	32	20	33	38	10
	Literacy 2nd lang	157	216	135	83	78	81	46	57
	Literacy 3rd lang					32			60
	Homework					20	25	10	27
Pedagogical – extra curriculum	**Physical education**					66	60	30	30
	Library						15	30	25
	Computers						52		62
	Art					58		60	60
	Music					60	30	60	
	RE							60	63
	Drama, concert					180	150		61
Total ped %		**73%**	**86%**	**83%**	**78%**	**97%**	**96%**	**96%**	**97%**
Non-pedagogical	**Teacher absent from class (no work set), on cell phone, learners eating, praying, cleaning, waiting.**	254	133	139	197	33	35	39	31
Total non-ped %		**27%**	**14%**	**17%**	**22%**	**3%**	**4%**	**4%**	**3%**

* This does not include breaks and assemblies, as the occurrence of these was inconsistent across schools (e.g. one teacher in Rhodes was observed on a short day, making the break period much shorter than that of the other teacher; and not all teachers were observed on assembly days).

A key issue emerging from a breakdown of time allocation represented in Table 8.6 was the amount of time that was spent on non-pedagogical activities in the working-class setting, varying from 14% in Palesa's class to 27% in Babalwa's class. This non-pedagogic time refers to activities which were not about teaching and learning, such as cleaning of the classroom, saying prayers and preparing or eating food. It also refers to periods when learners waited for the teacher and no activities had been set. The teachers' non-pedagogical activities

University of Cape Town

included being out of the classroom, speaking on the cell phone, and, in the case of Babalwa, managing a biscuit business which she operated from her classroom. This loss of pedagogic time was not found in the middle-class schools, where there was a strong specialization of time for learning. An average of 3% of the total amount of time in these schools was not devoted to teaching and learning.

In all schools, by far the most pedagogic time was allocated to numeracy and first language literacy, the key learning areas for this grade level. In the working-class setting a considerable amount of time was also allocated to the teaching of second language literacy, as a transition to English-medium instruction would be made in the following year. Apart from this exception, there were no significant differences in the amount of time allocated to literacy and numeracy. All teachers spent between a third and three-quarters of their time on first language literacy, and between 17% and 25% of their time on numeracy. The difference, then, between the schools, was not in the time available for literacy and numeracy learning, but rather in how much was covered in that period, what knowledge was privileged and how the knowledge was organized, as we saw in Chapters 5 and 6. What appears to be more pertinent from the breakdown of the school day, however, is what it reveals about the division of labour in the schools.

8.4.2 The division of labour in the schools

Durkheim's (1933) concepts of the division of labour and forms of solidarity, usually applied to the study of society, were introduced in Chapter 3. There I argued that the division of labour potentially has implications for social cohesion at the schools – whether this is based on *common faith or covenant* (Durkheim, 1933:109) associated with mechanical solidarity, or social cohesion based on *contractual relationships* (Durkheim, 1933:206), associated with organic solidarity. The division of labour within the schools is considered in relation to the extent to which teachers' work is specialized, and the types of relations between teachers and management.

Table 8.6 above shows that learners in Arbor and Rhodes were exposed to a range of extra-curricular activities, such as computers, art and music. All of these subjects had specialist teachers, and when these subjects were being taught the class teachers had free time or scheduled meetings. In Lwazi and Uxolo learners engaged with only one teacher for the

University of Cape Town

entire day, and no extra curricular activities were included in the school day. This breakdown gives us some indication of the different forms of division of labour in the school, and how the organization of the curriculum and its staffing at the schools reflects differing forms of solidarity (Durkheim, 1933).

Mechanical solidarity at Uxolo and Lwazi was evidenced in a simple division of labour. The class teacher taught all subjects. At Arbor and Rhodes, strong specialization indicated organic solidarity, and the teachers' work was specialized towards the teaching of particular subjects. Within the organization of the teachers' day, teachers at Arbor and Rhodes had the opportunity to meet with the other teachers during the course of the day, or mark, or prepare, whereas the teachers at Lwazi and Uxolo were afforded no free periods or time to attend to such matters or to interact with other teachers about them.

At Lwazi the relations that existed between teachers and management were hierarchical. Roles assigned within this hierarchy (part of the covenant) were relatively strongly bound, and directed the teachers' work and responses to aspects of the school[5]. This was evidenced in comments by Babalwa around the difficulty of setting a planning meeting:

Babalwa: The planning meeting has not happened because Ma'am Tyesi [Deputy principal: foundation phase] must set the date. I can't tell her to set the date because I can't tell her her job. She is my senior.

In both Lwazi and Uxolo, the relations between management and teachers were conflictual. Amongst teachers, and amongst members of management, they were generally communal or consensual. The nature of the relationship between management and teachers at Lwazi was articulated by Babalwa, who was a member of the school management team. She said of the teachers in the school:

Babalwa: The teachers have nonsenses. They do not want to do their work /.../. It is very difficult to manage these people you know. They are not professionals. The school institution is like a firm but in a firm people aren't educated there. As a management team we have to stick together. Otherwise we'll end up with no principal, like Sisulu School. We can't let anything come between us.

[5] At Uxolo, Nomsa indicates a gendered dimension to this role allocation. In response to a question about whether the [male] principal had any interaction with her around her classroom practice, she replied: 'You know I think, ur, men sometimes difficult for them to know, it's difficult for them to know what's happening in the junior phase so they just let the ladies do'.

between teachers at Lwazi and Uxolo were not found here. Secondly, the relationship between staff and management was quite formal and distant, but not conflictual, and not as hierarchical as that at the working-class schools. Kate said of her interactions with the principal at Arbor:

Kate: It's not like I go to him all the time, and I don't really go to him with problems either. But then also, when I do see him, it's the type of thing, it's quite easy as well, you don't feel like he's on the headmaster level type of relationship.

Anne says of the same principal:

Anne: Every second week I meet with him, and then every second week we also have a general head of department meeting, yes and he's a person you can, – I suppose debate is a good word – just talk to him about learning things, or about school issues, ja, so I enjoy that.

When the teachers in these schools talk about other teachers and the management, they generally speak about them in relation to their teaching or issues around teaching (Anne's comment above is exemplary). However, there were cases where the contractual nature of these relations were a source of frustration, especially to the younger teachers, Kate and Jeanne. Kate expressed a level of alienation from the school on a personal level, although she acknowledged that the school functioned well in terms of teaching and learning.

Kate: So I think that there should have been or there needs to be more of a stronger thing of you know we're a staff and we work together as a team even though you don't maybe like this person, or whatever. There still needs to be a definite, you know a norm of how you act with others.

Kate appears to be appealing to a 'norm' which includes an affective dimension to working with other teachers. Anne also expresses a certain personal social distance from other teachers, but this appears to be more from choice. Again, she stresses pedagogic issues as being at the centre of the relationship when asked who she spends time with in the school:

Anne: Cally Moore, I talk a lot with her, and Heather Tyler. I don't really socialise with teachers, I mean out of school, um, if I do then Cally Moore, um. And the librarian too, we get on quite well. And some of the new teachers this year, they're good, and we've got lots in common as far as learning and that sort of this is concerned, school stuff.

In the discussion above, different kinds of social relations between teachers, and between teachers and management, at the different schools are suggested. In the middle-class setting

University of Cape Town

these were described as contractual, where relations were generally framed by the teachers' work, teaching and learning, and relations lack the affective dimensions we find in the working-class context. In the working-class setting relations were more personal and consensual between teachers, hierarchical and conflictual between management and teachers. These differences in social relations suggest different forms of solidarity.

A different division of labour in the schools is associated with different forms of solidarity[7], and we see the differences starkly in the planning practices of the teachers.

8.4.3 External framing: teachers planning

External framing refers to the degree of control that the teacher has over her instructional practice – the sequence, selection, pace and evaluation of instructional knowledge – in relation to external regulation, such as the curriculum, management, departmental officials and other teachers. Weak external framing would mean that the teacher has substantial discretion over what to teach, in what order and at what pace, and what the rules for evaluation would be. Strong framing would mean that the teacher has fewer choices in these respects. I look at external framing here in relation to planning – a key mechanism for setting up particular external framing relations.

Rhodes and Arbor

I attended three meetings at Rhodes and two meetings at Arbor. At Rhodes and Arbor, planning meetings were held once a week at the same time, during a period in the day when all the Grade 3 teachers were free. The teachers discussed precisely what would be taught over the course of the week, and reflect on what had been covered. In some instances teachers voiced concern around keeping up with the coverage of the other teachers. At Rhodes, teachers filled in a form indicating intended coverage for a list of categories for each subject (for example, in mathematics, for counting, the four operations and problem solving). At Arbor teachers listed in their diaries what would be taught. The level of detail in the planning

[7] Harley and Mattson (2000) in their research, which associates certain schools with forms of solidarity, point out that most schools in South Africa could not empirically be categorized into either side of the dichotomy. They identify a third school type – displacement – which sits between tradition and modernity; where 'while the forms and practices of a mechanical solidarity were no longer valid in the school, an alternative solidarity had not been achieved through the recognition of interdependence and contractual relationships' (p. 8). As stated, the sample in this study was deliberately selected to emphasize difference.

University of Cape Town

meetings was extensive. Conversations in both schools considered not only *what* should be taught (i.e. which phonics, what letters for handwriting, which comprehension), but also *how*. In some cases, particularly at Arbor, Anne as HOD would model precisely how she would teach a particular concept. Professional development was also discussed, and at Rhodes the teachers had an extensive discussion about the proposed new curriculum (RNCS) which was to be implemented in the following year.

The sequence, selection, pace and evaluation of all instructional knowledge was determined within the grade meeting. This very strong external framing resulted in similarities across the classes in terms of what was taught, and both the 'how' and the 'what' of transmission was clearly stipulated for teachers. These meetings also reflected on the *'why'* of the how and the what, and related these to individual learners and the class' experiences of them.

Lwazi and Uxolo

I was not able to attend a planning meeting at either of the schools as none were held in the third term, apart from an initial meeting at the beginning of the term at Uxolo to which I was not privy. At both schools, however, teachers stated that they had planning meetings scheduled for every second week, and these were held after school, between the time of learners leaving and the teachers leaving the school (between 2 pm and 3 pm). Since these meetings did not take place, planning took the form of agreeing on a theme and then selecting contents from the textbooks that were related to that theme. Yonela had this to say about her planning process:

Yonela: Sometimes I plan, but it only takes three to four minutes. I decide what I am doing, animal noises or animal homes and then I look through the textbook on other things on animals. Other times I prepare corrections for the next day in my notebook and then we do it on the board; and then they [the learners] do it in their spare time.

Babalwa's comment on planning, two weeks from the end of the term, was this:

Teacher: We haven't yet planned for this term. We will have a planning day on Thursday.
XG: So what you are teaching is not in the plan?
Teacher: I'm just teaching out my head, but our theme will be on trees.

University of Cape Town

In some instances teachers generated their own content in worksheets. However, the predominant content for lessons was taken directly from textbooks. This was in stark contrast to the middle-class schools, where no textbooks were seen to be used.

There was extremely weak external framing of the pacing, sequencing, selection and evaluation of instructional knowledge in the working-class context. Since there were no planning meetings, the teacher had almost complete discretion over what to teach. The extensive use of textbooks appeared to keep the teachers on a Grade 3 curriculum track, although selections appeared to be made on the basis of theme rather than a pre-specified learning trajectory. Across the classrooms in the working-class context, where the external framing was weak, the knowledge that was transmitted was less consistent and also less uniform – there was less agreement around the instructional discourse – the referent, or 'guarantor' for the pedagogy was absent or ill-defined.

8.4.4 Discussion: the division of labour in the schools

I have shown that teachers in the middle-class setting were compelled to, and did, meet regularly, and at the meetings they accepted shared responsibilities and accounted for their practice. Activities such as budgeting, checking books, selecting topics for instruction and arranging outings were allocated to different teachers. In the working-class context on the other hand, no planning meetings were observed, and the teachers reported that they had not been able to organize such a meeting in the third term. The interdependence of teachers in terms of their work was therefore less systematic. As is evident from the comments above by Babalwa and Yonela regarding management, assigned roles (in particular in relation to management or educator positions) were not challenged, even if these proved to be a constraint to getting the work done well. Different forms of solidarity emerged from the different division of labour in the schools – broadly communalized in the working-class schools and contractual in the middle-class schools.

A brief analysis of curricular differentiation and the staffing at the schools suggested interesting differences regarding the specialization of time and the division of labour in the schools. In the working-class schools there was a relatively a weak specialization of time, an undifferentiated curriculum and few specialist teachers. There was a simple division of labour, and mechanical solidarity characterized the relations amongst staff. Collective

University of Cape Town

planning was not a regular feature of teachers' work. In the middle-class schools we find a stronger specialization of time, greater curriculum differentiation, and an extensive array of specialist teachers. Consequently there was a more complex division of labour, and staff relations tended more towards organic solidarity, with planning forming a core regulatory mechanism for what teachers did and how they did it.

8.5 Conclusion

I began this chapter by looking at the eight teachers' social class backgrounds, and I showed that the teachers in the working-class setting emerged from working-class backgrounds, and that the four teachers in the middle-class setting had middle-class origins. Social class here was measured along conventional sociological scales of parental occupation and educational levels. I showed that, although the teachers in the working-class context were the ones who had undergone the most extensive training, their schooling and tertiary education had generally been stratified along racial lines which coincided with class.

By virtue of being salaried employees in semi-professional occupations, with a certain level of education, all the teachers could be positioned as middle class. However, an analysis of the teachers' material and social circumstances, including a consideration of their access to economic, social and cultural capital, and their geographical location, showed how the teachers' social class positioning was in fact very different. The teachers in the working-class setting occupied an emerging middle-class social class position, between middle-class work and education levels, and working-class material constraint and social relations. This reflected a hybrid social class positioning.

The professional or strategic dispositions of the teachers were then read off the ways in which the teachers talked about learners, learning and knowledge. The way in which the instructional and the regulative aspects of pedagogy were constructed by the teachers suggested particular classification and framing relations in their work. Different strategic dispositions aligned with the teachers' different social class positioning: a communalizing impetus in the teachers' constructions in the working-class setting, and an individualizing orientation with respect to the middle-class teachers.

University of Cape Town

From an examination of the professional dispositions of the teachers it emerged that amongst the working-class teachers there was an emphasis on the regulative dimensions of learning. Subject knowledge was weakly classified in the way in which the teachers in the working-class context spoke about their work. Because the teacher-student relation prioritizes the *child* and the need for discipline and caring, the pedagogic identity of the learner was more weakly classified, and students were communalized, particularly through the invoking of local, community identities. In the middle-class context the emphasis was on the instructional dimensions of the students' schooling experience, subject knowledge was more strongly classified and, in the relation teacher-student, the teacher prioritized the learner and his/her cognitive development. There was a strong demarcation of the student's pedagogic identity, and an individualizing disposition was evident in the way in which the teachers spoke about students. Table 8.7 below summarizes the argument thus far.

Table 8.7 The teachers' positioning: social class, pedagogic disposition and school context

Social class of teacher	Pedagogic dispositions			School context				Classroom Pedagogic modality		Specialization of student voice
	Instructional	Regulative	Agents	Class context	Division of labour	Forms of solidarity				
Hybrid-class	C^-	Positional (F^+)	C^-	Working-class	Simple	Mechanical	⇒	Horizontal	⇒	Weak
Middle-class	C^+	Personal (F^-)	C^+	Middle-class	Complex	Organic	⇒	Vertical	⇒	Strong

The final columns show the analyses from prior chapters – the pedagogic modalities identified in the classrooms in the different contexts, and the differential way in which student voice is specialized. Bernstein's theory of 'the social' identifies the crucial relation between 'the material base of society (its class relations) and the forms of relay of 'symbolic controls' (discursive ways which structure our social experience)' (Shalem, 2004:60). The table raises the question as to which configuration is most likely to act as an amplifier or interrupter of particular codes brought to the school by students. It could be argued that there is an alignment between the home and the school in both the working-class and middle-class contexts in terms of the pedagogic modalities which they confronted in the school, and the individual/community emphasis. But for the working class what was required was a greater break between the school and the home, an interruption such that they may be inducted into the school code.

University of Cape Town

Here a tentative comment can be made in relation to the teacher as a sub-relay, and the links between teachers' social class, strategic dispositions and pedagogic practice. The teachers from working-class backgrounds, rooted in working-class communities, and located in working-class schools, held particular strategic dispositions. Confronted by working-class students they were in a sense 'pulled back' into a restricted code, and constructed their practice along the lines of the horizontal pedagogic modality. This we have seen failed to specialize the students' voice with respect to the school code.

A structural similarity between the middle-class teachers' strategic dispositions and the vertical pedagogic modality was suggested. Situated in middle-class schools with middle-class students the pedagogy supported the development of elaborated orientations to meaning and the strong specialization of students' voice with respect to the school code.

In the presentation of the study's findings in the following chapter, these issues are taken up and elaborated in relation to the analysis as a whole.

University of Cape Town

Chapter 9: Summary and findings: a social class analysis of pedagogy

9.1 Introduction

In this chapter I summarize the analyses presented in the preceding four chapters. I present the main findings of the study, which show the accumulated evidence of the analyses in order to present certain arguments about the relation between social class, pedagogy, the specialization of voice and the role of the teacher in the reproduction of social class differences.

9.2 Overview of the analysis

The first interest of the study was to examine the reproduction of social class differences through pedagogy in selected primary schools. The focus of the analysis was on the transmission and acquisition of certain orientations to meaning. These meanings may be more context-independent (elaborated code) or more context-dependent (restricted code), the latter focusing on the local, the everyday and the particular. I was interested in whether and how the pedagogy of the eight teachers potentially specialized the learners' voice in different social class contexts.

Evidence of the actual specializing of students' voice was sought through two tasks conducted with learners, the objectives being to ascertain the orientation to meaning, strategies and competences deployed by students in relation to school learning.

The second interest of the study was in the role of the teacher in this process, and in this regard I considered the social class backgrounds of teachers and their strategic dispositions. The analysis in this regard was purely qualitative and exploratory, and the findings speculative.

University of Cape Town

The sample for the study was constructed specifically to work out the relation between social class, pedagogy and the reproduction of difference. I sought to capture the extreme ends of the social class continuum in terms of the configuration of school-community-teacher-learner. The sample of eight teachers comprised four teachers from working-class backgrounds, teaching learners in a lower working-class context who came from poor homes, and four teachers of middle-class backgrounds teaching middle-class students in a middle-class setting. In the next section I discuss the analyses in more detail.

9.2.1 Pedagogic modalities

The first part of the analysis involved a characterization of the teachers' pedagogic practice. In looking at pedagogic modalities I focused on the potential for the specialization of learners' voice with respect to the reproduction of school knowledge. I was interested in the relation between the local and the general in the pedagogy, the concrete and the abstract, and, especially, everyday and school knowledge. My interest was in the prioritizing of elaborated (context-independent) or restricted (context-dependent) meanings in the classroom. In order to analyze the potential specialization of voice of learners in these terms, I characterized three dimensions of the pedagogy. In this way two pedagogic modalities for the two social class contexts were identified: a horizontal modality in the working-class context and a vertical modality in the middle-class context.

University of Cape Town

The first dimension of the modality was the classification and framing of pedagogic discourse. This took account of the instructional and regulative aspects of the practice, as well as the instructional form. The latter considered issues of differentiation and individualizing. On the basis of this analysis I assigned values for each of the teachers, and then the social class school settings, for the classification of discourses, agents and spaces, and the framing over the sequence, selection, pacing and evaluation criteria. Thus the organizational and interactional dimensions of the pedagogy were mapped. In this way I considered the relay of the transmission, the structure of the pedagogic discourse.

I then focused more closely on what was relayed. I looked at the way in which knowledge was distributed in the classroom and to what domain that knowledge referred – the public domain or esoteric domain. I analyzed the instructional strategies contained in each of the mathematics and literacy tasks in all the classrooms, and determined whether they

represented localizing or specializing strategies. I considered the rules for combination of pedagogic assemblies by looking at whether they represented fragmenting or generalizing strategies; in other words, whether the pedagogic assemblies were generated by a public domain or esoteric domain message. In the rules for selection I looked in more detail at the classification of discourses, between everyday knowledge and school knowledge, in order to establish what informed the selection of knowledge in different classrooms.

By establishing the two modalities I was able to show how, in the working-class context, there was a weak potential for the specialization of learners' voice with respect to the reproduction of school knowledge. The teacher facilitated the circulation of local, context-dependent meanings in the classroom, with little reference to the esoteric domain. In the middle-class context learners were subject to strongly classified knowledge and to a systematic rehearsal of context-independent meanings in the form of concepts and operations that referred explicitly to the specialized domain of school mathematics and school literacy learning. Two modalities – a horizontal modality in the working-class context and a vertical modality in the middle-class context – were identified.

Table 9.1: Analysis summary: pedagogic modalities

School location		Middle-class context	Working-class
Student social class background		Middle class, affluent	Working class, poor
Teacher social class background		Middle class	Working class
Pedagogic modality		**Vertical modality**	**Horizontal modality**

9.2.2 Specialization of student voice with respect to the school code

In the second stage of the analysis I was interested in the extent to which learners' voices had been specialized. I analyzed this through two tasks: an experiment designed to elicit categorization principles from learners, and a task focused on examining the acquisition of recognition and realization rules in mathematics and learners' deployment of localizing and specializing strategies. In this way I was able to discern the coding orientation of the learners in the two contexts, and ascertain the actual specialization of the students' voice with respect to the school code.

University of Cape Town

In the middle-class context students were able to recognize and realize context-independent meanings, or an elaborated coding orientation, and had mastered the recognition and realization rules for Grade 3 mathematics. The working-class students deployed, almost exclusively, a restricted orientation, and in mathematics they had not mastered the recognition and realization rules.

On the basis of this analysis I concluded that, in the working-class context, students' voice is more weakly specialized with respect to the school code, and in the middle-class context a strong specialization of voice was apparent. The bracketed C and F values shown in the table below are derived from the analysis of the classification of agents and framing of the hierarchical rules in the preceding analysis of pedagogy (Section 5.3.2).

Table 9.2: Analysis summary: specialization of student voice

School location		Middle-class context	Working-class
Student social class background		Middle class, affluent	Working class, poor
Teacher social class background		Middle class	Working class
Pedagogic modality		Vertical modality	Horizontal modality
Specialization of student voice		**Strong (C^{++}; F)**	**Weak (C^{-}; F^{+})**

The macro-relay in the reproduction of social class differences through pedagogy was thus described, and the relationship between social class, pedagogy and the specialization of voice was established.

9.2.3 Teacher positioning: social class and professional dispositions

Teachers' social class and education

The analysis in the second part of the thesis considered the teachers' social class positioning and strategic dispositions, and suggested a way of understanding the processes described in the foregoing analysis. In this part of the analysis I looked at the social class background of the eight teachers, primarily in terms of their parental education and occupation levels. The teachers in the middle-class setting all had middle-class upbringings, and the teachers in the

University of Cape Town

working-class setting came from working-class backgrounds. I derived a categorization of the teachers' current social class position through a consideration of the material and social conditions of their lives. I looked at their family structure, dependents and the disbursement of their salaries. I also looked at the geographical location of the teachers and considered their social and cultural capital.

I concluded that, whereas the teachers in the middle-class context appear to be unambiguously middle class, the teachers in the working-class context represent a more hybrid social class position, between the middle class and working class. Although the lineaments of social class mobility are evident in the education and occupation of the teachers in the working class context, their material and social conditions point to an ambivalence in social class location.

A consideration of the teachers' educational levels and their formal qualifications showed that, whilst the working-class teachers had more qualifications than the middle-class teachers, the educational experience of all the teachers had been stratified along racial lines established under apartheid, with the associated differences in quality and type of education. The teachers in the working-class setting received their education mainly in institutions located within or near working-class communities, historically established to serve the Black working class, and the middle-class teachers were schooled and trained in former White institutions located in middle-class geographical locations. Nonetheless, all the teachers had undergone some specialized training with respect to teaching, and all were formally qualified to teach.

University of Cape Town

Table 9.3: Analysis summary: teacher positioning

School location		Middle-class context	Working-class
Teacher social class background		Middle class	Working class
Teacher social class positioning		Middle class	Hybrid class
Teacher training		Qualified	Qualified

Strategic dispositions

In the next part of the analysis I examined what kinds of professional or strategic dispositions were associated with the middle-class and hybrid-class teachers, and whether there was

divergence amongst the groupings. I examined these dispositions in terms of the instructional and regulative dimensions of pedagogic discourse, usually applied to a description of pedagogic practice, but used here to classify dispositional states. I examined the instructional dimension in terms of the classification of learning and the classification of instructional knowledge, and was then in a position to say something about the teachers' strategic dispositions. I proceeded to look at the regulative dimension by analyzing the teachers' construction of the framing of the relation teacher–student and the different moral imperatives expressed by the teachers.

I also considered the classification of the student – i.e. the extent to which the teacher specialized the identity 'student' (as opposed to 'child'). I found a difference in the way in which the teachers classified the instructional aspects of their practice, and a difference in the framing of the relation teacher-student. In the middle-class context there was a strong classification of the instructional and of agents, and a weaker framing of the hierarchical rules, i.e. the social relation between teachers and students. The converse was true in the working-class setting, where the instructional was more weakly classified, pedagogic identities were more weakly classified, and the relation teacher-student was more strongly framed. I suggested that, although all the teachers had undergone a form of specialization with respect to teaching, their strategic dispositions were very different, and these aligned with the teachers' different social class positions.

University of Cape Town

Table 9.4: Analysis summary: teachers' professional dispositions

School location		Middle-class context	Working-class
Teacher social class background		Middle class	Working class
Teacher social class positioning		Middle class	Hybrid class
Teacher training		Qualified	Qualified
Strategic disposition	Instructional	C^+	C^-
	Regulative	C^+; F^-	C^-; F^+

Social bases of the school

Having analyzed the teachers' professional dispositions I focused on the school context, specifically on the division of labour and the forms of solidarity. Here I was interested in the social bases of teachers' work. I looked further at the external framing of the teachers' work

Table 9.6: Analysis summary

School location		Middle-class context	Working-class
Student social class background		Middle class, affluent	Working class, poor
Teacher social class background		Middle class	Working class
Pedagogic modality		Vertical modality	Horizontal modality
Specialization of student voice		Strong (C^{++}; F^{-})	Weak (C^{--}; F^{+})
Teacher social class positioning		Middle class	Hybrid class
Strategic disposition	Instructional	C^{+}	C^{-}
	Regulative	C^{+}; F^{-}	C^{-}; F^{+}
Social bases of the school	Division of labour	Complex	Simple
	Forms of solidarity	Organic	Mechanical
	External framing	F_e^{+}	F_e^{-}

University of Cape Town

The table is discussed below in relation to the study's findings.

9.3 Findings

9.3.1 The reproduction of social class differences through pedagogy

The reproduction of social class differences with respect to orientations to meaning is the central interest of the thesis. In order to address this interest I initially needed to establish *how* the pedagogy differed, and I posed two questions.

- How is the pedagogy in different classrooms structured differently?
- What strategies are deployed by the teacher in the distribution of knowledge in the classroom?

The first question was addressed through a consideration of the classification and framing of the pedagogic discourse in the classrooms in the different social class school contexts, and an analysis of the instructional form. The differences between the contexts along these dimensions were significant, in particular in relation to framing over the pacing of the

instructional knowledge, the transmission of the evaluative rules and the classification of agents and discourses. In the working-class school context there was very strong framing over pacing, and learners were given no control over the rate of expected acquisition. This was often evident when the learners, having finished the set task, had to sit and wait for extended periods of time. Pacing in the middle-class context was weaker, and differential pacing of students was managed largely through the setting of parallel tasks. Teachers responded to student interjections and errors and adjusted the pace accordingly.

In the working-class context, framing over the evaluative rules was extremely weak, and at times the transmission of evaluative criteria seemed to be absent. This weak framing was coupled with very weak classification of the relation between everyday knowledge and school knowledge. The converse was the case in the middle-class classroom, with strong framing over the evaluative criteria and strong classification of discourse with respect to everyday and school knowledge.

In addition, a weak classification of students and strong framing over the hierarchical rules was found in the working-class context, where positional and imperative control relations predominated in the pedagogy. In the middle-class context positional and personal relations were found, and there was a strong classification of agents. The pedagogy in the middle-class context differentiated between different students with respect to ability, and different contents were made available to different students. In the working-class context there was an homogenizing of the class in terms of instructional form: all learners worked on the same tasks, and groups within the class were very rarely differentiated.

This analysis spelt out the structural aspects of the pedagogy – it elucidated the relay in the reproduction of meanings in the classroom. A more elaborated coding orientation was suggested in the middle-class context, and a more restricted orientation was suggested by the characterization in the working-class context. In order to investigate the transmission of context-independent and context-dependent meanings, and to address the second question posed above, I also needed to consider what was relayed. I, therefore, examined the strategies deployed by the teacher in the classroom, and the nature of the knowledge transmitted.

Drawing on Dowling's (1998) concepts of domains and strategies, the analysis found significant differences in the distributing strategies deployed in the transmission. In the

University of Cape Town

working-class context there was a predominance of localizing strategies, where students engaged with knowledge that was familiar, everyday and non-specialized with respect to school knowledge. In the middle-class context the predominant strategy in the pedagogy was that of specializing, where students had extensive opportunity to engage with, and practice, specialized understandings, operations and concepts of Grade 3 literacy and numeracy.

Considering the development of the pedagogy across three days showed that, in the middle-class context, the pedagogic assemblies were generated by esoteric domain principles, thus foregrounding the conceptual aspects of learning. Conversely, in the working-class context, the pedagogy was constructed by a public domain logic, and what connected tasks was the elaboration of a theme, rather than the rehearsal of particular concepts. Finally, in the rules for selection it was found that, in the working-class context, school knowledge was obscured by a focus on everyday knowledge, and in the middle-class context everyday knowledge was subordinated to school knowledge, and in some cases dispensed with.

In addressing these first two questions I identified two different pedagogic modalities which describe the forms of pedagogy found in the middle-class and working-class contexts. These modalities refer both to the relay of instructional knowledge, examined through the classification and framing of pedagogic practice, and what is relayed, identified through the strategies which distribute particular messages within the classrooms. In the working class a horizontal modality was identified, and in the middle-class context a vertical modality was defined.

My interest in considering these different modalities was in the process whereby learners acquire an elaborated or school code, or the extent to which their voice is potentially specialized with respect to school knowledge. I found that, through different pedagogic modalities, voice is potentially differently specialized in the two different social class contexts, and I argue that, with respect to school knowledge and orientations to meaning, these modalities function to reproduce social class differences between learners in the different contexts. In the middle-class context teachers made available a more elaborated orientation. In the working-class context a weak potential for the specialization of learners' voice with respect to school knowledge was found.

University of Cape Town

9.3.2 The specialization of students voice with respect to the school code

What I described in the analysis of the pedagogic modalities was the *potential* for the specializing of the students' voice. Two specific questions sought to ascertain what it was that the learners had in fact acquired, and in this way considered the students' *actual* specialization of voice with respect to the school code.

- What are the dominant coding orientations (elaborated or restricted) displayed by students in the different classrooms?
- What strategies and competencies do students display in relation to Grade 3 mathematics learning?

The questions were addressed through the analysis of the sorting task and the mathematical task. Again, significant differences in the two social class contexts were found. In the middle-class context students were able to recognize and realize context-independent meanings, or an elaborated coding orientation. On the other hand the working-class students, in general, operated solely with context-dependent meanings, a more restricted orientation.

In relation to the question of strategies, through the mathematics task I showed that the students in the middle-class context had mastered the recognition and realization rules for Grade 3 mathematics, and had developed a repertoire of specializing strategies for the solving of mathematical problems. In mathematics the working-class children had not mastered the recognition and realization rules for Grade 3 mathematics, and mostly deployed rudimentary, concrete methods, or localizing strategies, in attempts to solve problems.

On the basis of this analysis I concluded that, in the working-class context, students' voice is more weakly specialized with respect to the school code, and in the middle-class context there is a strong specialization of students' voice. Below I relate the findings of the analysis of pedagogic modalities to that of the specialization of student voice.

Bernstein's theory of social reproduction focuses on the home-school relation, realized and embodied in the learner. It posits that, in working-class families, positional relations predominate, and that these give rise to restricted orientations to meaning, that is, a weak

University of Cape Town

specialization of meaning. In middle-class families, personal relations facilitate the development of elaborated orientations which are congruent with the types of context-independent thinking required for success in school. In this thesis these orientations to meaning were taken to be the crucial background variable associated with social class, which makes a difference to children's schooling experience.

Through the pedagogic modalities described, the potential for the amplification of the coding orientation the learners probably bring from the home becomes evident. It is clear that, in the working-class context, the school has done little to interrupt the restricted code, and the horizontal modality possibly amplifies a restricted coding orientation. In the middle-class context we see that the pedagogic modality is reliant upon, or supportive of, an elaborated code; the vertical modality in the middle-class schools reproduces the codes that students probably bring to the classroom.

To clarify, I am not claiming that the particular orientations found amongst the students are necessarily derived from the schooling experiences of the learners; they most likely come from the home. In the case of mathematics learning we can be reasonably sure that the deployment of localizing and specializing strategies are a direct outcome of the pedagogy. The crucial interest is around the potential for the interruption and amplification of the coding orientations of the learners.

The literature on social class and the home-school interface emphasizes the challenge for working-class children to access the culture (Bourdieu, 1975; Lareau, 2000), language (Heath, 1985) and code (Bernstein, 1975) of the school. In the case presented here we see how the mismatch between the home and the school is in fact potentially reduced by the teachers in the working-class context who make available local, community meanings with which the learners are probably generally familiar. This is speculative, for we can't be sure what meanings are privileged in the home, short of going there. Nonetheless, it is clear from the analysis that the pedagogy in the working-class context does little to specialize the learners' voice with respect to the reproduction of school knowledge.

University of Cape Town

9.3.3 Teachers as a sub-relay in the reproduction of social class differences through pedagogy

The second main interest of the thesis was in teachers and how they contribute to the dynamic of the reproduction of difference described above. In other words, I sought to uncover *why* there were differences in the pedagogic modalities and student outcomes in the different social class contexts. In an exploratory way, I linked this to the social class background of the teachers, the social bases of the schools and the teachers strategic dispositions. Three questions were posed in relation to this interest.

- What is the social class positioning of teachers in the different social class contexts?
- What differences are there in teachers' professional dispositions in the different social class context?
- What are the differences in the social bases of the school?

I established that the teachers occupied different social class positions, which I termed middle class and 'hybrid class'. I then went on to consider differences in the teachers' strategic dispositions, and I found differences in the orientations of the teachers towards learners, learning and knowledge.

Despite quantitatively equivalent training (albeit in stratified institutions), the teachers exhibit very different strategic dispositions. In the working-class context these are more localized, communalized and less inclined towards strongly classified knowledge and agents. Here the student is first a child and then a learner. In the middle class context teachers' dispositions reflect a strong classification of knowledge, of learning and of the pedagogic subject; the student is first a learner and then a child. These different dispositions are filtered through different forms of solidarity found in the schools.

In the table below the structural similarity between the teachers' strategic orientations and the specialization of learners' voice in the two social class contexts emerges:

University of Cape Town

Table 9.7: Teachers' dispositions and the specialization of learners' voice

School location	Middle-class context	Working-class context
Teachers' strategic orientation	C^+ ; F^-	C^- ; F^+
Specialization of student voice	Strong (C^{++} ; F^-)	Weak (C^{--} ; F^+)

Earlier I stated that whether teachers do or do not transmit an elaborated code, and whether learners do or do not acquire this code, is at the heart of the thesis. Although still tentative, the matrix above is perhaps the clearest indication of the teachers' role in the reproduction of social class differences through the pedagogy. I show how a weaker specialization of teachers' strategic orientations aligns with a weak specialization of learners' voice, and vice versa.

Centrally, the concepts of classification and framing (Bernstein, 1975; 1990; 2000), and the concepts of domains and strategies (Dowling, 1998), allowed for the investigation of the transmission and acquisition of the school code. I showed that the hybrid-class teachers do not transmit context-dependent meanings in the classroom, and an elaborated code does not appear to be acquired by students. The middle-class teachers transmit predominantly context-independent meanings in the classroom, and students in this context recognized and realized elaborated orientations and the specialized knowledge of Grade 3 mathematics and literacy.

University of Cape Town

9.3.4 The relation between teachers' social class and pedagogy

I tentatively suggest in the thesis that class does make a difference, not only for learners' performance in school, but also for teachers. I have shown how, in the classroom, the teachers in the working-class context deploy what could be described as approximating a restricted code – meanings are concrete and context-dependent, knowledge is close, local, familiar, and fragmented (horizontal modality). In the middle-class context teachers make available knowledge and opportunities for learning that approximate a more elaborated code, where meanings in the classroom are more context-independent (a vertical modality). But how is social class related to the pedagogic modalities defined here?

The teachers in the two schooling contexts are confronted by learners who enter their classrooms with very different coding orientations. In the middle-class context, the majority of learners bring from the home an elaborated coding orientation. This orientation is consistent with that privileged by schooling; i.e. the acquisition of context-independent ways of organizing experience. The middle-class teachers, in constructing their pedagogy, are able to rely on the students' domestic acquisition of the school code, and this supports a particular pedagogic modality, which I have called vertical. In the case where a student potentially does not have access to the code, the individualizing and differentiating processes that inhere in this pedagogic modality open up the space for the teachers to do 'repair' work. The teachers in the middle-class context, if they have not entirely mastered the code themselves, or what its transmission entails, will be regulated, at least in a procedural way, through the strong external framing of the pedagogic practice in the school.

In the working-class context the teachers encounter learners who make meaning and negotiate experience according to a restricted coding orientation. They are confronted with a very different pedagogic sanction. They are required to 'teach' an elaborated coding to the learners, but they don't. Instead, the analysis shows how the teachers are, in a sense, 'pulled back' into a restricted code and construct their practice along the lines of the horizontal pedagogy defined in the analysis. In turn, the social organization of the school would appear to contribute to the absence of a systematic programme for the specializing of learners' voice with respect to the reproduction of knowledge in its weak external framing and simple division of labour.

But the crucial point that I want to make here is that the social class background of the teachers, in interaction with learners of the same class background (i.e. working class), results in the prevalence of localizing strategies in their classrooms, the privileging of a horizontal pedagogic modality. This is not to say that the working-class teachers, in another context and given a different set of circumstances and learners, with different social competences, would deploy a different pedagogic practice. I am not able to offer any argument about that in this thesis. What is clear is that in both contexts the pedagogic modality deployed by the teachers amplifies the coding orientation that learners probably bring to the school. In particular, in the working-class schools, the pedagogy fails to interrupt the learners' restricted orientation and does not specialize their voice with respect to the school code.

It is also unlikely that, in the course of their training, the teachers have been trained to teach an elaborated code to restricted code learners. Rose (2004), Martin & Rose (in press) and Morais (2002) show us how this may be done, but it is a sophisticated pedagogical approach which requires a particular orientation to learning, learners and to school knowledge. The analysis also shows that the pedagogy in the working-class context stands in direct contradistinction to the kinds of suggestions that both Rose and the ESSA group make regarding what classification and framing relations optimize learning for working-class children. In my analysis it would seem that the teachers are not disposed to this pedagogical orientation, and in all likelihood their training has not provided for it.

Through a particular selection of schools, teachers and learners I have shown the mutually re-enforcing aspects of class in the schools. I suggest that teachers' social class backgrounds and strategic dispositions are possibly related to particular pedagogic modalities and outcomes for students. I can, however, make these tentative claims only in relation to this particular sample, with a specific school-teacher-student configuration in terms of social class location.

University of Cape Town

Chapter 10: Conclusion

10.1 Introduction

This chapter presents an overview of the thesis. It briefly covers the main points addressed in each of the preceding chapters. Some of the implications of the study for the understanding of pedagogy and social class, and for further research are presented, as well as some of the limitations of the study.

10.2 Overview of the thesis

The study set out to describe the reproduction of social class differences through pedagogy, and to consider the role of the teacher in this process. Chapter 1 introduced the study's questions and briefly located the study in its context. Two aspects of the South African educational landscape in particular were described – the curriculum context, and the changing composition of schools in terms of social class. An argument for focusing on social class as a social category for analysis was made. The chapter went on to describe the research context within which the study is located, and the growing interest, both theoretically and empirically, in the study of pedagogy in South African classrooms.

University of Cape Town

Chapters 2, 3 and 4 framed the study empirically, theoretically and methodologically. Chapter 2 located the study in the broader literature, and also identified some of the silences in that literature. I looked at reproduction theory in general, and located Bernstein's theory within this broad theorizing of the relation between schooling and society. The school effectiveness literature, I argued, confirms that there are differences in the achievement of rich and poor students in schools, and that the home background of students is the strongest predictor of how students achieve in school. It is limited in elucidating *how* this happens, however.

I argued that Bernstein's code theory offers a useful conceptual means for describing how, precisely, the reproduction of differences are effected through pedagogy, in particular when considering the specializing of consciousness and the transmission of elaborated orientations to meaning. I outlined the evolution of the code theory and the empirical studies within which my study is located theoretically and methodologically. I showed how the work of Morais (2002) and the ESSA group in particular show ways in which these investigations could be operationalized with respect to pedagogy, and what this work, and that of Rose (2004), suggests about optimal pedagogic relations for the success of working-class students. I therefore established the first part of my research interest – the macro-relay which relates social class, pedagogy and the specialization of voice.

I indicated a gap in the research literature on the sociology of teaching and pedagogy, an absence of focus on the teacher as a social class actor. I indicated minor openings in the literature for a consideration of the social class position of teachers (Metz, 1994; and Connell, 1982), and argued for the re-insertion of the teacher as a 'sub-relay' in a discussion of the reproduction of social class differences through pedagogy. I thus specified my second research interest, that is, the relation between the social class background of teachers and the reproduction of difference through pedagogy. Through the review of the literature I argued for research which focuses on pedagogy *and* considers the central role of the teacher.

University of Cape Town

In Chapter 3 I presented the theoretical antecedents and assumptions underlying the study. In particular, I focused on Bernstein's code theory, his theorizing of pedagogic discourse, the key concepts of classification and framing and the specialization of voice. I also raised some of the difficulties in working with the theory empirically. I went on to discuss some concepts drawn from Dowling (1998), in particular his distributing strategies – localizing, specializing, fragmenting and generalizing – and their relation to the esoteric and public domains of knowledge. I discussed these domains more generally in terms of the relation between everyday knowledge and school knowledge (Muller & Taylor, 2000).

Three theoretical assumptions were identified as informing the study. The first is that pedagogy involves transmitters and acquirers in an hierarchical social relation where criteria are transmitted. The second assumption is that school learning involves the induction of acquirers into an elaborated code. Thirdly, the teacher is a potential interrupter or reproducer in the process of social reproduction.

Chapter 4 addressed the methodological issues of the study and showed the research design. It considered both the production of data and its analysis. The development of the external language of description for the analysis of data, developed on the basis of the theory introduced in Chapter 3, was described. In this regard, the problems arising in the analysis of the coding of the evaluative rules were raised. Possible further theorizing around the classification and framing schema, and a definition of pedagogy in relation to the South African context was raised. The chapter also considered issues of validity and reliability in the study.

Chapters 5 to 8 presented the analysis of the data. In Chapter 5 and 6 the teachers' pedagogic practice was characterized in terms of two pedagogic modalities – a horizontal modality in the working-class context and a vertical modality in the middle-class context. Here it became evident that in the working-class context learners were learning to name the world, and the middle-class context learners were learning to categorize the world.

Chapter 7 presented the analysis of two experiments conducted with students in the two social class contexts. The purpose of the tasks was to examine the extent to which the students' voices had been specialized with respect to a school code after three years of schooling. A weak specialization of students' voice was found in the working-class context, whereas a stronger specialization of voice with respect to school knowledge was apparent in the middle-class context. This analysis provided evidence that the horizontal pedagogic modality was not operating as an 'interrupter' of the codes that the students probably brought from the home – i.e. restricted or community codes. In the middle-class context, elaborated codes were reproduced or supported by a vertical pedagogic modality.

Chapter 8 presented a tentative reason as to why elaborated and restricted codes were reproduced in the middle-class and working-class classrooms respectively. A tentative argument that related the social class background of the teacher, their strategic dispositions, the social bases of the school and pedagogy was made. Chapter 9 provided a summary of the analysis and presented the findings of the study.

University of Cape Town

10.3.5 Implications for social class considerations

The work of Morais (2002) and Rose (2004) suggests the possibilities of differentiated pedagogies, and of specifying what kinds of pedagogic practice, and its precise dimensions, would benefit working-class students, making the theoretical connection between social class and orientations to meaning. What I have shown is that there is possibly a need to interrogate what kind of student and what kind of teacher (in terms of social class) we regard as the norm. To put it bluntly, do we construct curricula and teacher education that directs the teaching of elaborated codes to students (and possibly teachers) who are not necessarily in a position to privilege these in the school context? Perhaps even raising these questions requires further research, however.

10.3.6 Implications in terms of deficit and difference

Debates from the 1960s about education, the working class and deficit and difference have never completely disappeared, particularly in relation to Bernstein's theory, and especially elaborated and restricted codes. I argued in Chapters 2 and 3 that these criticisms are largely constructed on misreadings of the work. Nonetheless, in this study I do suggest that there is a difference in terms of what working-class children and middle-class children bring to school, and how they are positioned to succeed, given the knowledge privileged in school learning. This may seem to fly in the face of critics of so-called deficit theory. These critics seek models which resist a single standard of development; a single model of the best model of parenting and family life. Their arguments resist focusing on what children and families lack and concentrate rather on what they have. The deficit critics seek to connect the home and the school in new ways (Panofsky, 2000). This rhetoric is familiar, but it ignores the harsh reality of the number of children who are failing to acquire at school what they need to succeed. Hasan (1995) asks:

> Are there no logical reasons for better valuing such higher mental functions as those of abstraction, generalization, deductive reasoning, disembedded thinking and so on? Are these functions valued highly only because they are associated with the dominating codes? Or are they valued because they are the ultimate point in the programs of the development of the human mind necessary for subjugating the environment? (p. 193)

University of Cape Town

What cannot be ignored is the emancipatory potential of elaborated codes to create the possibility of imagining other realities and to think things as they aren't. As Bernstein points out, acquiring an elaborated code is about acquiring the means to imagine things as different:

> We are arguing that elaborated understandings, and even more elaborated codes are the media or thinking the 'unthinkable', the 'impossible', because the meanings they give rise to go beyond local space, time, context and embed and relate the latter to a transcendental space, time and context. A potential of such meaning is disorder, incoherence, a new order, a new coherence (1986:182)

10.4 Limitations of the study

Sample size

My sample is not representative. The intention here was to work between the theory and the data in order to develop a conceptual frame for the analysis of pedagogy in different social class contexts. The work is exploratory, aiming to expand understandings of pedagogy in South African classrooms, and also the teacher's role in those processes. I consider the contribution of the thesis to be more in the language of description that I have developed for the reproduction of social class differences through pedagogy than in the representative nature of the findings. Whether these findings are representative will depend upon further, large-scale research.

University of Cape Town

Sample composition

The sample for the study comprised four schools, eight teachers and eighty students. These schools, teachers and students were purposively selected in order to put certain differences in expected pedagogic practices on display, and the sample represents the two ends of the social class continuum: lower working class and upper middle class. A very definite picture of the contrasts emerges, whereas, in reality, classrooms are likely to exhibit hybrid forms of the two modalities defined, as well as more complex and nuanced interplay between social class actors.

Ultimately, in a somewhat unfashionable sociological spirit, this study set out to end up with explanations rather than prescriptions. However, I do think that the thesis has implications for how we think about the purposes of schooling, and one of these is raised by Bernstein (2000:xx). In his enduring interest in social justice and knowledge, Bernstein outlines the rights that must be institutionalized to meet the conditions of an effective democracy. One of the rights he describes as 'enhancement', which concerns boundaries and the right to experience boundaries. These boundaries are tension points which open up the possibility for condensing the past and opening up possible futures. And, giving Bernstein the last word, 'Enhancement entails a discipline'.

University of Cape Town

References

Adlam, D. J., with Turner, G. J. & Lineker, L. (1977). *Code in context*. London: Routledge and Kegan Paul.

African National Congress (ANC) (1994). *A policy framework for education and training.* Mimeo.

Althusser, L. (1971). Ideology and ideological state apparatuses: Notes towards an investigation. In L. Althusser, *Lenin and Philosophy.* London: New Left Books.

Anyon, J. (1980). Social class and the hidden curriculum of work. *Journal of Education, 162*, pp. 67-92.

Arnot, M. & Reay, D. (2004). The framing of pedagogic encounters: Regulating the social order in classroom learning. In J. Muller, B. Davies & A. Morais (Eds.), *Reading Bernstein, researching Bernstein.* London: RoutledgeFalmer.

Ashton, P. & Webb, K. B. (1986). *Making a difference: Teachers' sense of efficacy and student achievement.* New York: Longman.

Atkinson, P. (1985). *Language, structure and reproduction: An introduction to the sociology of Basil Bernstein*. London: Methuen.

Ball, S. (2003). *Class strategies and the education market: The middle class and social advantage.* London: RoutledgeFalmer.

Baudelot, C. & Establet, R. (1981). France's capitalistic schools. In C. C. Lemert (Ed.), *French sociology: Rupture and renewal since 1968.* New York: University of Columbia Press.

Becker, H. (1963). *Outsiders.* New York: Free Press

University of Cape Town

Bernstein, B. (1971). *Class, codes and control volume 1: Theoretical studies towards a sociology of language*. London: Routledge & Kegan Paul.

Bernstein, B. (1975). *Class, codes and control volume 3: Towards a theory of educational transmissions*. London: Routledge and Kegan Paul.

Bernstein, B. (1977). *Class, codes and control volume 3: Towards a theory of educational transmissions. Second edition*. London: Routledge and Kegan Paul.

Bernstein, B. (1981). Codes, modalities and the process of cultural reproduction – a model. *Language in Society, 10, 3*, pp. 327-63.

Bernstein, B. (1986). On pedagogic discourse. In J. G. Richardson (Ed.), *Handbook of theory and research for the sociology of education*. New York: Greenwood Press.

Bernstein, B. (1987). Class, codes and communication. *Sociolinguistics: An international handbook of the science of language and society, 1*. Berlin: Walter de Gruyter.

Bernstein, B. (1990). *Class, codes and control, volume 4: The structuring of pedagogic discourse*. London: Routledge.

Bernstein, B. (1996). *Pedagogy symbolic control and identity: Theory, research, critique*. London: Taylor & Francis.

Bernstein, B. (1999a). Official knowledge and pedagogic identities. In F. Christie (Ed.), *Pedagogy and the shaping of consciousness*. London & New York: Continuum.

Bernstein, B. (1999b). Pedagogy, identity and the construction of a theory of symbolic control: Basil Bernstein questioned by Joseph Solomon. *British Journal of Sociology of Education, 20*, pp. 265-279.

Bernstein, B. (2000). *Pedagogy, symbolic control and identity: Theory, research and critique. Revised edition*. Oxford: Rowman & Littlefield.

University of Cape Town

Bernstein, B. & Henderson, D. (1969). Social class differences in the relevance of language to socialization. *Sociology*, *3, 1*, pp. 1-20.

Bernstein, B. & Brandis, W. (1970). Social class differences in communication and control. In W. Barndis & D. Henderson. (Eds.), *Social class, language and communication*. London: Routledge & Kegan Paul.

Borich, G. D. (1992). *Effective teaching methods*. New York: MacMillan.

Bourdieu, P. (1973). Cultural reproduction and social reproduction. In R. Brown (Ed.), *Knowledge, education and cultural change.* London : Tavistock.

Bourdieu, P. (1974). The school as a conservative force : Scholastic and cultural inequalities. In J. Eggleston (Ed.), *Contemporary research in the sociology of education*, translated by J. C. Whitehouse. London : Methuen.

Bourdieu, P. & Passeron, J. C. (1977). *Reproduction in education, society and culture.* London: Sage Publications.

Bourdieu, P. (1986). The forms of capital. In J. Richardson (Ed.), *Handbook for theory and research for the sociology of education.* Westport, CT: Greenwood.

Bowles, S. & Gintis, H. (1976). *Schooling in capitalist America*. New York: Basic Books.

Bredeson, P. V., Furth, M. J. & Katen, K. L. (1983). Organisational incentives and secondary school teaching. *Journal of Research and Development in Education 16,* pp. 52-56.

Brophy, J. & Good, T. L. (1986). Teacher behaviour and student achievement. In M. C. Wittrock (Ed.), *Handbook of research on teaching.* New York: MacMillan.

Brown, A. & Dowling, P. (1998). *Doing research/reading research: A mode of interrogation for education.* London: Falmer Press.

University of Cape Town

Bryk, A., Lee, V. & Holland, P. (1993). *Catholic schools and the common good.* Boston: Harvard University Press.

Bryk, A. & Schneider, B. (2002). *Trust in schools: A core resource for improvement.* New York : Russell Sage Foundation.

Bryman, A. (2001). *Social research methods.* Oxford; New York: Oxford University Press.

Burawoy, M., Burton, A., Ferguson, A. A., Fox, K. J., Gamson, J., Gartrell, N., Hurst, L., Kurzman, C., Salzinger, L., Sciffman, J. & Ui, S. (1991). *Ethnography unbound: Power and resistance in the modern metropolis*. Berkley: University of California Press.

Castells, M. (1997). *The power of identity.* Blackwell: Oxford.

Chisholm, L. (1992). Policy and critique in South African educational research. *Transformation*, *18*, pp. 149-160.

Chisholm, L. (1993). Education policy in South Africa. Speech presented to South African Society of Education, Soweto, 6 February.

Chisholm, L. (2004). Introduction. In L. Chisholm (Ed.), *Changing class: Education and social change in post-apartheid South Africa*. London; New York: Zed Books & Cape Town: HSRC Press.

Chitty, C. (1997). The school effectiveness movement: Origins, shortcomings and future possibilities. *Curriculum Journal, 8, 1,* pp. 45-62.

Christie, F. (1999). Introduction. In F. Christie (Ed.), *Pedagogy and the shaping of consciousness* (pp. 1-9). London & New York: Continuum.

Cicourel, A. V. & Kitsuse, J. I. (1963). *The educational decision makers*. Indianapolis: BobbsMerrill.

University of Cape Town

Cohen, D. K. (1990). A revolution in one classroom: The case of Mrs. Oublier. *Educational Evaluation and Policy Analysis, 12, 3,* pp. 327-345.

Cohen, E. G. (1997). Equity in heterogenous classrooms: A challenge for teachers and sociologists. In E. G. Cohen & R. A. Lotan (Eds.), *Working for equity in heterogenous classrooms: Sociological theory in practice.* New York: Teachers College Press.

Coleman, J. S., Campbell, E. Q., Hobson, C. J., McPartland, J., Mood, A. M., Weinfeld, F. D. & York, R. (1966). *Equality of educational opportunity* (pp. 295 – 325). Washington D. C.: Government Printing Office.

Connell, R. W. (1985). *Teachers' work.* Sydney: George Allen & Unwin.

Connell, R. W., Ashenden, D. J., Kessler, S. & Dowsett, G. W. (1982). *Making the difference.* Sydney; London; Boston: George Allen & Unwin.

Cook-Gumperz, J. (1973). *Social control and socialization: A study of class differences in the language of maternal control.* London: Boston Routledge and Kegan Paul.

Cooper, B. (1976). *Bernstein's codes: A classroom study.* University of Sussex, Education Area, Occasional Paper, 6.

Corrigan, P. (1979). *Schooling and the smash street kids.* London: MacMillan.

Creemers, B. P. M. (1996). The school effectiveness knowledge base. In D. Reynolds *et al* (Eds.), *Making good schools: Linking school effectiveness and school improvement.* London: Routledge.

Cresswell, J. W. (1998). *Qualitative enquiry and research design: Choosing among five traditions.* Thousand Oaks; London; New Delhi: Sage.

University of Cape Town

Dowling, P. (1995). A language for the sociological description of pedagogic texts with particular reference to the secondary School Mathematics Scheme SMP 11-16. *Collected Original Resources in Education 19, 2.*

Dowling, P. (1998). *The sociology of mathematics education: Mathematical myths/pedagogic texts*. Falmer: London.

Dowling, P. (1999). Basil Bernstein in frame: "Oh dear, is this a structuralist analysis?". Available at: http://www.ioe.ac.uk/ccs/dowling/kings1999/index.html

Duncan, M. & Biddle, B. (1974). *The study of teaching*. New York: Holt, Rinehart & Winston.

Durkheim, E. (1915). *The elementary forms of the religious life: A study in religious sociology* (J. W. Swain, Trans.). London: George Allen and Unwin.

Durkheim, E. (1933). *The division of labour in society*. New York: MacMillan.

Edwards, A. D. (1976). *Language in culture and class.* London: Heinemann.

Edwards, A. D. (1981). Analysing classroom talk. In P. French & M. Maclure (Eds.), *Adult-child conversation.* London: Croom Helm.

Enslin, P. (1984). The role of fundamental pedagogics in the formulation of educational policy in South Africa. In P. Kallaway (Ed.), *Apartheid and education: The education of Black South Africans*. Johannesburg: Ravan Press.

Enslin, P. (1990). Science and doctrine: theoretical discourse in South African teacher education. In M. Nkomo (Ed.), *Pedagogy of domination: Toward a democratic education in South Africa*. New Jersey: African World Press.

Ensor, P. (1997). Looking straightforwardly, looking awry: Taking a view on the subject of interviewing. *Philosophy of Mathematics Education Journal, 10, 1*, pp. 54-66.

University of Cape Town

Ensor, M. P. (1999). A study of the recontextualizing of pedagogic practices from a South African pre-service mathematics teacher education course by seven secondary mathematics teachers. *Collected Original Resources in Education, 24, 3.*

Ensor, P. (2002). Module Two: JET methods course. University of Cape Town. Mimeo.

Ensor, P. (2004). Legitimating school knowledge: The pedagogic device and the remaking of the South African school-leaving certificate 1994-2004. Paper presented at the Third Basil Bernstein Symposium, University of Cambridge, July.

Ensor, P. & Hoadley, U. K. (2004). Developing languages of description to research pedagogy. *Journal of Education, 32*, pp. 81-104

Ensor, P., Dunne, T., Galant, J., Gumedze, F., Jaffer, S., Reeves, C. & Tawodzera, G. (2002). Textbooks, teaching and learning in primary mathematics classrooms. In C. Lubisi & C. Malcolm (Eds.), *Proceedings of the 10th SAARMSTE Conference.* Pietermaritzburg: University of Natal.

Esland, G. (1977). *Legitimacy and control.* Milton Keynes: Open University Press.

Everston, C., Hawley, W. & Zlotnik, M. (1985). Making a difference in educational quality through teacher education. *Journal of Teacher Education, 36,* pp. 2-10.

Fennema, E. & Loef-Franke, M. (1992). Teachers' knowledge and its impact. In D.A. Grouws, (Ed.), *Handbook of research on mathematics teaching and learning.* New York: MacMillan.

Firestone, W.A., Monfils, L. & Camilli, G. (2001). Pressure, support and instructional change in the context of a state testing program. Paper presented at the American Educational Research Association conference. Seattle, Washington, April.

University of Cape Town

Fontinhas, F., Morais, A. M. & Neves, I. P. (1995). Students' coding orientation and school socializing context in their relation with students' scientific achievement. *Journal of Research in Science Teaching, 32, 5*, pp. 445-462.

Freer, D. (1993). The Residuals of apartheid: Impediments to teacher development in South Africa. In G. K. Verma (Ed.), *Inequality and teacher education.* London: Falmer.

Galant, J. (2002). Political reform and curriculum change – challenges facing the mathematics teacher. Plenary presented at the National Conference of Mathematics Educators, University of the West Indies, Jamaica, October.

Gamoran, A. (1992). Is ability grouping equitable? In R. Arum & I. R. Beattie (Eds.), *The structure of schooling: Readings in the sociology of education.* California; London; Toronto: Mayfield Publishing Company.

Gamble, J. (2004). Tacit knowledge in craft pedagogy: A sociological analysis. Unpublished PhD thesis, Cape Town, University of Cape Town.

Gerwitz, S. & Cribb, A. (2003). Recent readings of social reproduction: Four fundamental problematics. *International Studies in Sociology of Education, 13, 2*, pp. 243-259.

Geertz, C. (1973). *The interpretation of cultures*. New York: Basic Books.

Ginsburg, M. (1987). Reproduction, contradiction and conceptions of professionalism: The case of preservice teachers. In T. Popkewitz (Ed.), *Critical studies in teacher education: Its folklore, theory and practice*. Basingstoke: Taylor & Francis.

Giroux, H. (1983). Theories of reproduction and resistance in the New Sociology of Education. *Harvard Educational Review 53, 3*, pp. 257-293.

Grant, C. & Sleeter, C. (1985). Who determines teacher work: The teacher, the organisation or both? *Teaching and Teacher Education 1*, pp. 209-220.

University of Cape Town

Gwimbi, E. & Monk, M. (2003). The reproduction of social stratification in Zimbabwe: A study of the attitudes and practices of A-level biology teachers in Harare. *British Journal of Sociology of Education, 24, 1*, pp. 22-38.

Hall, K. (2003). Effective literacy teaching in the early years of school: A review of evidence. In N. Hall, J. Larson & J. Marsh (Eds.), *Handbook of early childhood literacy.* London; Thousand oaks; New Delhi: Sage Publications.

Hammersley, M. (1980). Classroom ethnography. *Educational analysis, 2, 2*, pp. 47-74.

Hanushek, E. A. (1986). The economics of schooling: Production and efficiency in public schools," *Journal of Economic Literature, 24, 3,* pp. 1141-1177.

Hargreaves, D. H. (1980). The occupational culture of teachers. In Woods, P. (Ed.), *Teacher strategies: Explorations in the sociology of the school.* London: Croom Helm.

Hargreaves, A. (1981). The culture of individualism. In A. Hargreaves, *The challenge of the comprehensive school: Culture, curriculum and community.* London: Routledge and Kegan Paul.

Harley, K. and Mattson, E. (2000). Education policy script and education practice in newly-democratic South Africa: a case of integration or displacement? Paper presented at the 95th Annual Meeting of the American SociologicalAssociation, Washington DC, USA, 12 - 16 August.

Harris, K. (1982). *Teachers and classes*. London: Routledge & Kegan Paul.

Hartshorne, K. (1992). *Crisis and challenge: Black education and training 1910-90.* Cape Town: Oxford University Press.

Hasan, R. (1993). Contexts for meaning. In J. E. Alatis (Ed.), *Georgetown University round table on language and linguistics: Language, communication and social meaning.* Washington D.C.: Georgetown University Press.

University of Cape Town

Hasan, R. (1995). On social conditions for semiotic mediation: The genesis of mind in society. In A. Sadovnik, (Ed.), *Knowledge and pedagogy: The sociology of Basil Bernstein.* Norwood, NJ: Ablex.

Hasan, R. (2000). The uses of talk. In S. Sarangi, & M. Coulthard (Eds.), *Discourse and social life.* London: Longman.

Hasan, R. (2002a). Semiotic mediation, language and society: Three exotropic theories – Vygotsky, Halliday and Bernstein. Presentation to the Second International Basil Bernstein Symposium: Knowledges, pedagogy and society. Cape Town, July.

Hasan, R. (2002b). Ways of meaning. Ways of learning: Code as an explanatory concept. *British Journal of Sociology of Education, 23, 4*, pp. 537-548.

Hatton, E. (1987). Determinants of teachers' work: Some causal complications. *Teaching and Teacher education, 3,* pp. 55 - 64.

Hawkins, P. R. (1969). Social class, the nominal group and reference. *Language and speech, 12, 2*, pp. 125-35.

Heath, S. B. (1985). *Ways with words.* Cambridge: Cambridge University Press.

Henderson, D. (1970). Contextual specificity, discretion and cognitive socialization: With special reference to language. *Sociology, 4, 3*, pp. 311-17.

Hoadley, U. K. (1999). An analysis of transmission in four grade 1 classrooms. Paper presented at the Kenton Educational Association Conference, Salt Rock, October.

Hoadley, U. K. (2002). The regulation of teacher work identity: Core considerations. *Journal of Education, 28*, pp. 39-62.

Hoadley, U. K. (2003). Time to learn: Pacing and the external regulation of teachers' work. *Journal of Education for Teaching, 29, 3,* pp.47-62.

University of Cape Town

Hofmeyer, J. (1993). Policy change in teacher development. Mimeo.

Holland, J. (1981). Social class and changes in orientations to meaning. *Sociology, 15,* pp. 1-18.

Hyslop, J. (1990). Social Conflicts over African Education in South African from the 1940s – 1976. Unpublished PhD thesis, Johannesburg, University of the Witwatersrand.

Jansen, J. D. (1997). Why outcomes-based education will fail: An elaboration. In J. Jansen and P. Christie (Eds.), *Changing curriculum: Studies on outcomes-based education in South Africa*. Cape Town: Juta.

Jansen, J. D. (2001). Explaining non-change in education reform after apartheid: Political symbolism and the problem of policy implementation. In Y. Sayed & J. D. Jansen (Eds.), *Implementing education policies: The South African experience.* Cape Town: University of Cape Town Press.

Jansen, J. D. & Christie, P. (1999). *Changing curriculum: Studies on outcomes-based education in South Africa*. Cape Town: Juta & Co Ltd.

Jacklin, H. J. (2004). Repetition and difference: A rythmanalysis of pedagogic practice, unpublished PhD thesis, Johannesburg, University of the Witwatersrand.

Jackson, P. (1968). *Life in classrooms*. New York: Holt, Rinehart & Winston.

Jencks, C. & Phillips, M. (1998). *The Black-White test score gap*. Washington, D.C.: The Brookings Institution.

Jessop, T. & Penny, I. (1999). A story behind a story: Developing strategies for making sense of teacher narratives. *International Journal of Social Research Methodology, 2, 3*, pp. 213-230.

Kain, J., Hanushek, E. & Rivkin, S. G. (1998). Teachers, schools, and academic achievement. National Bureau of Economic Research, August.

University of Cape Town

Kallaway, P. (1984). *Apartheid and education: The education of Black South Africans.* Johannesburg: Ravan Press.

Keddie, N. (1971). Classroom knowledge. In M. F. D. Young (Ed.), *Knowledge and control: New directions of the sociology of education.* London: Collier-MacMillan.

Klechtermans, G. (1994). Biographical methods in the study of teachers' professional development. In I. Carlgren, G. Handal & S. Vaage (Eds.), *Teachers' minds and actions: Research on teachers' thinking and practice.* London: Falmer Press.

Kompf, M. (1993). Construing teachers' personal development: Reflections on landmark events through career mapping. In C. Day, J. Calderhead & P. Denicolo (Eds.), *Research on teacher thinking: Understanding professional development.* London: The Falmer Press.

Kyriakides, L., Campbell, R J. & Christofidou, E. (2002). Generating criteria for measuring teacher effectiveness through a self-evaluation approach: A complementary way of measuring teacher effectiveness. *School Effectiveness and School Improvement, 13, 3,* pp. 291 – 325.

Labaree, D. (1997). *How to succeed in school without really learning.* New Haven, CT: Yale University Press.

Labov, W. (1972). The logic of non-standard English. In P. P. Giglioni (Ed.), *Language and social context.* Harmondsworth: Penguin.

Lacey, C. (1977). *The socialization of teachers.* London: Methuen.

Lareau, A. (2000). *Home advantage.* Lanham, MD: Rowman & Littlefield.

Layder, D. (1998). *Sociological practice: Linking theory and social research.* London: Sage Publications.

University of Cape Town

Lee, V. (1973). *Social relationships and language: Some aspects of the work of Basil Bernstein*. Open University course, language and learning, block 3. Milton Keynes: The Open University.

Lineker, L. (1977). The instructional context. In D. Adlam (Ed.), *Code in context*. London: Routledge & Kegan Paul.

Lockheed, M. & Levin, H. M. (1993). *Effective schools in developing countries*. London: Falmer Press.

Lortie, D. C. (1975). *School teacher.* Chicago: University of Chicago Press.

Lynch, K. (2002). Equality in Education. *Studies, 90, 360,* pp: 395-411.

Mac an Ghaill, M. (1996). Sociology of education, state schooling and social class: Beyond critiques of the New Right hegemony. *British Journal of Sociology of Education, 17, 2,* pp. 163-176.

Mardle, G. & Walker, M. (1980). Strategies and structure: Some critical notes on teacher socialisation. In P. Woods (Ed.), *Teacher strategies: Explorations in the sociology of the school*. London: Croom Helm.

Martin, J. R. & Rose, D. (in press). Designing literacy pedagogy: Scaffolding democracy in the classroom. In J. Webster, C. Matthiessen & R. Hasan (Eds.), *Continuing discourse on language*. London: Continiuum.

Maxwell, J. A. (1996). *Qualitative research design: An interactive approach*. California, London & New Delhi: Sage Publications.

McLaughlin, M. W. & Marsh, D. D. (1978). Staff development and school change. *Teachers College Record, 80, 1,* pp. 70-94.

McLaughlin, M. W. & Talbert, J. E. (1994). The contexts in question: The secondary school workplace. In M. W. McLaughlin, J. E. Talbert & N. Bascia (Eds.), *The contexts of*

University of Cape Town

teaching in secondary schools: Teachers' realities. New York: Teachers College Press.

Metz, M. H. (1993). Teachers' ultimate dependence on their students. In J. Little & M. Mclaughlin (Eds.), *Teachers' work: Individuals, colleagues and contexts*. New York: Teachers College Press.

Metz, M. H. (1994). How social class differences shape teachers' work. In M. W. McLaughlin, J. E. Talbert & N. Bascia (Eds.), *The contexts of teaching in secondary schools: Teachers' realities*. New York: Teachers College Press.

Morais, A. (2002). Basil Bernstein at the micro level of the classroom. *British Journal of Sociology of Education, 23, 4*, pp. 559-569.

Morais, A. M., & Miranda, C. (1996). Understanding teachers' evaluation criteria: A condition for success in science classes. *Journal of Research in Science Teaching, 33, 6*, pp. 601-624.

Morais, A. & Neves, I. (2001). Pedagogical social contexts: Studies for a sociology of learning. In A. Morais, I. Neves, B. Davies & H. Daniels. (Eds.), *Towards a sociology of pedagogy: The contribution of Basil Bernstein to research*. New York: Peter Lang.

Morais, A., Neves, I. & Pires, D. (2004). The *what* and the *how* of teaching and learning. In J. Muller, B. Davies & A. Morais (Eds.), *Reading Bernstein, researching Bernstein*, London, RoutledgeFalmer.

Moore, R. (2001). Obituary: Basil Bernstein 1924 - 2000. *British Educational Research Journal, 27, 3,* pp. 367-370.

Moore, R. & Muller, J. (1999). The discourse of voice and the problem of knowledge and identity in the sociology of education. *British Journal of Sociology of Education, 20, 2,* pp. 189-206.

University of Cape Town

Moore, R. & Muller, J. (2002). The growth of knowledge and the discursive gap. *British Journal of Sociology of Education, 23, 4,* pp. 627-637.

Morrow, R. & Torres, C. (1994). Education and the reproduction of class, gender, and race: Responding to the postmodern challenge. *Educational Theory, 44,* pp. 43-61.

Moss, G. (2002). Literacy and pedagogy in flux. *British Journal of Sociology of Education, 23, 4*, pp. 549-558.

Muller, J. (1996). Dreams of wholeness and loss: Critical sociology of education in South Africa. *British Journal of Sociology of Education 17, 2*, pp. 177-195

Muller, J. (1999). Reason, reality and public trust: The case of educational research for policy. In N. Taylor & P. Vinjevold, (Eds.), *Getting learning right*. Johannesburg: Joint Education Trust.

Muller, J. (2000). The sound and fury of international school reform: A critical review. Report prepared for the Joint Education Trust, Johannesburg.

Muller, J. (2004). Differentiation and progression in the FET curriculum. Mimeo.

Muller, J. & Taylor, N. (1995). Schooling and everyday life: Knowledges sacred and profane. *Social Epistemology*, 9, pp. 257-275.

Muller, J. & Taylor, N. (2000). Schooling and everyday life. In J. Muller, *Reclaiming knowledge: Social theory, curriculum and education policy.* London; New York: Routledge/Falmer.

Nash, R. (2003a). Inequality/difference in New Zealand education: Social reproduction and the cognitive *habitus. International Studies in Sociology of Education, 13, 2,* pp. 171-191.

Nash, R. (2003b). Social explanation and socialization: on Bourdieu and the structure, disposition, practice scheme. *The Sociological Review, 51, 1,* pp. 43-62.

University of Cape Town

National Department of Education (1997). *Curriculum framework for general and further education and training: Discussion document developed by the consultative forum on curriculum*. Pretoria: Department of Education.

Nattrass, N. (2000). The debate about unemployment in the 1990s. *Journal for Studies in Economics and Econometrics, 24, 3,* pp. 73-90.

Neves, I., Morais, A. & Afonso, M. (2004). Teacher training contexts: Study of specific sociological characteristics. In J. Muller, B. Davies & A. Morais (Eds.), *Reading Bernstein, researching Bernstein*. London: RoutledgeFalmer.

Nias, J. (1989). *Primary teachers talking: A study of teaching as work.* London: Routledge.

Oakes, J. (1985). The distribution of knowledge. In R. Arum & I. R. Beattie (2000) (Eds.), *The structure of schooling: Readings in the sociology of education.* California; London; Toronto: Mayfield Publishing Company.

Ogbu, J. (1974). *The next generation: An ethnography of education in an urban neighborhood*. New York: Academic Press.

Ozga, J. & Lawn, M. (1981). *Teachers, professionalism and class: A study of organised teachers*. Basingstoke: The Falmer Press.

Ozga, J. & Lawn, M. (1988). Schoolwork: Interpreting the labour process of teaching. *British Journal of Sociology of Education, 9,* pp. 323-337.

Pallas, A. (2001). Notes: Introductory colloquium in the sociology of education, HUDF 4620. Mimeo.

Panofsky, C. P. (2000). Examining the research narrative in early literacy: The case of parent-child book reading activity. In M. A. Gallego & S. Hollingsworth (Eds.), *What counts as literacy: Challenging the school standard.* New York: Teachers College Press.

University of Cape Town

Pedro, E. R. (1981). *Social stratification and classroom discourse: A sociolinguistic analysis of classroom practice.* Stockholm: Stockholm Institute of Education, Department of Educational Research.

Pollard, A. (1982). A model of classroom coping strategies. *British Journal of Sociology of Education, 3, 1*, pp. 19-37.

Prinsloo, M. & Stein, P. (2004). What's inside the box? Children's early encounters with literacy in South African classrooms. *Perspectives in Education, 22, 2*, pp. 67-84.

Reay, D. (2004). Finding or losing yourself? Working-class relationships to education. In S. J. Ball (Ed.), *The RoutledgeFalmer reader in sociology of education*. London & New York: RoutledgeFalmer.

Reay, D. & Ball, S. J. (1997). Spoilt for choice: The working classes and education markets. *Oxford Review of Education, 23, 1*, pp: 89-101.

Reeves, C. (2000). Do schools spend enough time teaching and learning? *Education Africa Forum. The Fourth Edition,* pp. 68-71.

Review Committee (2000). *A South African curriculum for the 21st century: Report of the Review Committee on Curriculum 2005*. Pretoria: Ministry of Education.

Reynolds, D. & Creemers, B. (1990). School effectiveness and school improvement: A mission statement. *School Effectiveness and School Improvement, 1,* pp. 1-3.

Rose, D. (2004). Sequencing and pacing of the hidden curriculum: How indigenous children are left out of the chain. In J. Muller, B. Davies & A. Morais (Eds.), *Reading Bernstein, researching Bernstein.* London: RoutledgeFalmer.

Rosenholtz, S. J. & Rosenholtz, S. H. (1981). Classroom organization and the perception of ability. *Sociology of Education, 54,* pp. 132-140.

University of Cape Town

Rowan, B., Correnti, R. & Miller, J. (2002). What large-scale survey research tells us about teacher effects on student achievement: Insights from the *Prospects* study of elementary schools. *Teachers College Record*, *104, 8*, pp. 1525-1567.

Rowan, B. & Miracle, A. W. (1983). Systems of ability grouping and stratification of achievement in elementary schools. *Sociology of Education, 59,* pp. 133-144.

Rowan, B., Schilling, S., Ball, D. L. & Miller, R. (2001). *Measuring teachers' pedagogical content knowledge in surveys: An exploratory study (Research Note S-2).* Ann Arbor: University of Michigan, Consortium for Policy Research in Education, Study of Instructional Improvement.

Sachs, J. & Smith, R. (1988). Constructing teacher culture. *British Journal of Sociology of Education*, *9, 4*, pp. 423-436.

Sadovnik, A. (2001). Basil Bernstein (1924 – 2000). *Prospects: The Quarterly Review of Comparative Education*, *31, 4*, pp. 687-703.

Sarason, S. B. (1982). *The culture of the school and the problem of change*. Boston: Allyn & Bacon.

Savage, M. (1988). The missing link? The relationship between spatial mobility and social mobility. *British Journal of Sociology, 19, 4,* pp. 554 – 577.

Sayed, Y. (2001). Post-apartheid educational transformation: Policy concerns and approaches. In Y. Sayed & J. D. Jansen (Eds.), *Implementing education policies: The South African experience.* Cape Town: University of Cape Town Press.

Scheerens, J. (2001a). School effectiveness in developing countries. *School Effectiveness and School Improvement, 12*, pp. 353–358.

Scheerens, J. (2001b). Monitoring school effectiveness in developing countries. *School Effectiveness and School Improvement, 12, 4,* pp. 359-384.

University of Cape Town

Schutz, A. (1962). Common sense and scientific interpretation of human action. *Collected papers I: The problem of social reality.* The Hague, NL: Marthinus Nijhoff.

Scriven, M. (1994). Duties of the teacher. *Journal of Personnel Evaluation in Education, 8,* pp. 151-184.

Seekings, J. & Nattrass, N. (forthcoming). From race to class: Inequality, unemployment and the social structure in South Africa. Unpublished book manuscript.

Seekings, J. (2003). Social stratification and inequality in South Africa at the end of apartheid. *CSSR Working Paper, 31*. Cape Town: Centre for Social Science Research, University of Cape Town.

Shalem, Y. (1990). Educated Labour: a study of white English-speaking teachers in secondary government schools on the Witwatersrand. Unpublished PhD Thesis, Johannesburg, University of the Witwatersrand.

Shalem, Y. (2004). Sign, frame and significance – studying student teachers' reading of the particular. *Journal of Education, 32,* pp. 49-80.

Sharp, R. & Green, A. (1975). *Education and social control*. London: Routledge & Kegan Paul.

Shulman, L. (1987). Knowledge and Teaching: foundations of the new reform. *Harvard Educational Review, 57*, pp. 1-12.

Shutte, A. (1993). *Philosophy for Africa*. Cape Town: University of Cape Town Press.

Sikes, P. (2003). Making the familiar strange: A new look at inequality in education. *British Journal of Sociology of Education, 24, 2*, pp. 243-248.

Simkins, C. (forthcoming). *South Africa's human capital.*

University of Cape Town

Singh, P. (2002). Pedagogic discourses and student resistance in Australian secondary schools. In A. Morais, I. Neves, B. Davies & H. Daniels (Eds.), *Towards a sociology of pedagogy: The contribution of Basil Bernstein to research.* New York: Peter Lang.

Sitas, A. (2004). Thirty years since the durban strikes: Black working-class leadership and the South African transition. *Current Sociology, 52, 5,* pp. 830 – 849.

Slee, R. & Weiner, G. with Thomlinson, S. (1998). *School effectiveness for whom? Challenges to the school effectiveness and school improvement movements.* London: Falmer.

Smith, B. (1998). It's about time: Opportunities to learn in Chicago's elementary schools. *Consortium on Chicago School Research research report* [online article]. Retrieved July 24, 2001. Available at: http:www.chi-challenge.org/home.htm.

Solsken, J. (1993). *Literacy, gender and work in families and in school.* Norwood, New Jersey: Ablex.

Soudien, C. (2004). 'Constituting the class': An analysis of the process of 'integration' in South African schools. In L. Chisholm (Ed.), *Changing class: Education and social change in post-apartheid South Africa*. London; New York: Zed Books & Cape Town: HSRC Press.

Stake, R. (1995). *The art of case study research*. Thousand Oaks, California: Sage.

Taylor, N. & Vinjevold, P. (1999). *Getting learning right.* Johannesburg: Joint Education Trust.

Taylor, N., Muller, J. & Vinjevold, P. (2003). *Getting schools working.* Cape Town: Pearson Education South Africa.

University of Cape Town

Thrupp, M. (1995). The school mix effect: The history of an enduring problem in educational research, policy and practice. *British Journal of Sociology of Education, 16, 2*, pp. 183-203.

Van den Berg, S. & Berger, R. (2002). Education and socio-economic differentials: A study of school performances in the Western Cape. Paper presented at the Labour Markets and Poverty in South Africa DPRU/FES Conference, Johannesburg, October.

Veel, R. (1999). Language, knowledge and authority in school mathematics. In F. Christie (Ed.), *Pedagogy and the shaping of consciousness*. London & New York: Continuum.

Walkerdine, V. (1988). *The mastery of reason*. London: Routledge.

Walkerdine, V. & Lucy, H. (1989). *Democracy in the kitchen: Regulating mothers and socializing daughters*. London: Virago.

Wedekind, V. (2000). Friendship, collegiality and community in South African teachers' lives and careers. Paper presented to the British Educational Research Annual Conference, University of Cardiff, 7-9 September.

Welmond, M. (1999). *Teacher identity in Africa: The case of the Republic of Benin*. Unpublished PhD thesis. California: Stanford University.

Willis, P. (1977). *Learning to labour: How working class kids get working class jobs*. New York: Columbia University Press.

Woods, P. (1980). *Teacher strategies: Explorations in the sociology of the school*. London: Croom Helm.

Woods, P. & Levacic, R. (2002). Raising school performance in the league table (part 2): Barriers to responsiveness in three disadvantaged schools. *British Educational Research Journal, 28, 2*, pp. 227-247.

University of Cape Town

Wright, E. O. (1997). *Class counts: Comparative studies in class analysis*. Cambridge: Cambridge University Press.

Wrigley, T. (2003). Is 'school effectiveness' anti-democratic? *British Journal of Educational Studies, 51, 2*, pp. 89 – 112.

Yin, R. K. (1984). *Case study research: Design and methods*. Beverly Hills; London; New Delhi: Sage.

Young, M. (2004). Issues in the reform of the Further Education and Training curriculum: An international perspective. Presentation to the HSRC colloquium on the FET curriculum. Pretoria, April.

University of Cape Town

Appendix A: Transcription conventions for interviews and observations

UH	Researcher Ursula Hoadley
XG	Researcher Xolisa Guzula
/…/	Talk omitted
[ ]	Text inserted by the author, for clarification of words, translations of words, or comments on the transcription, e.g. [inaudible]
Text in italics	Indicates observer description or field notes as opposed to verbatim dialogue
…; , ; -	Indicates pause
Capital letter	Indicates beginning of a new sentence
CAPITAL LETTERS	Indicates 'shouting'

University of Cape Town

Appendix B: Teacher structured interview

University of Cape Town

Date:	
School:	
Teacher:	
Interviewer/s:	

1. What made you become a teacher?

2. Do you think you will stay in teaching? [If so for how long? If not, what do you intend doing and when?]

3. What is the best thing about being a teacher for you?

4. What is the least rewarding aspect of the job for you?

5. I want you to think of all the teachers that you know now, here at School x and in other schools. Think of a teacher whom you most admire or have respect for. Tell me a few reasons why you admire or respect that person. [Prompt for the teacher's pedagogical practice if this doesn't emerge. Preference that teacher respond to teacher that they know now, and not one from their past.]

6. Think of a teacher who you do not admire or have respect for. Tell me a few reasons why you do not admire or respect that person.

7. Do you feel comfortable in the school; do you feel like you belong?

8. What makes you feel comfortable / uncomfortable?

9. If you could change anything at the school, what would you change? (probe for both instructional and regulative after seeing which emerges first).

10. Do you have any other passions and interests outside of teaching?

11. If we think of teaching as providing a service, in your mind who do you serve primarily?

12. Rank these four in terms of who you think you serve primarily:
13. the state, the community, the parents, the child.

14. Do you belong to a union or professional organization? Which? Why do you belong to this particular union or professional organization? In what ways does it impact on your work as a teacher?

15. What committees do you belong to? What extra murals do you take?

16. If you had to send your own child to primary school, where would you send your child?

    a) [If another school] What makes you choose x school? How is it different from here? (probe for both instructional and regulative after seeing which emerges

University of Cape Town

Appendix C: School questionnaire

University of Cape Town

Date:	
School:	
Questionnaire completed by:	

1. How many of the following are on full-time staff at the school?

	Number
a) Principals	....
b) Deputy principals	....
c) Heads of Department	....
d) Classroom teachers	....
e) Cleaners, gardeners, guards etc.	....
f) Administrative staff (secretaries etc.).	....
Total	

2. How long has the present school principal been **principal** at the school? *Number of years* ....

3. Is your school's capacity to provide instruction affected by a shortage or inadequacy of any of the following?

Tick one box in each line

	None 1	a little 2	some 3	a lot 4
a) Electricity				
b) Teachers				
c) Budget for covering running costs and maintenance v				
d) Supplies of paper, pencils, notebooks etc.				
e) Classrooms				
f) Classroom space/size				
g) Chairs, desks, tables				
h) Textbooks				
i) Calculators for mathematics instruction				
j) Library materials relevant for teaching				
k) Audio-visual resources/equipment for teaching (e.g. overhead projectors)				
l) Facilities for duplicating worksheets, etc.				

4. What is the total school enrolment (number of learners)? . . . .

5. On a typical school day, what number of learners are absent from school for any reason? . . . . *Write a number for each. Write 0 (zero) if none* ....

6. How many learners are in **grade 3**? . . . .

7. What is the approximate average class size in **grade 3**? . . . .

8. How many **grade 3** classes are there? . . . .

University of Cape Town

10. How many of the **staff** at the school are ...

	Number
a) White*	....
b) Black*	....
c) Coloured*	....
d) Indian*	....
e) Other	....

*Note: Current research convention recognizes the use of racial classifications for analytic purposes only, recognizing that such racial classifications were constructed under apartheid law as part of oppressive social practices.

11. How many of the **students** at the school are ...

	Number
a) White*	....
b) Black*	....
c) Coloured*	....
d) Indian*	....
e) Other	....

*Note: Current research convention recognizes the use of racial classifications for analytic purposes only, recognizing that such racial classifications were constructed under apartheid law as part of oppressive social practices.

12. About how often does the school have to deal with the following behaviours among learners in the whole school?

tick one box in each line

	daily 1	weekly 2	monthly 3	rarely 4
a) Arriving late at school				
b) Absenteeism				
d) Creating classroom disturbances				
e) Vandalism				
f) Theft				
g) Intimidation or verbal abuse of other learners				
h) Physical threats or injuries to other learners				

13. Roughly how many learners at your school:

Tick one box in each line

	none 1	Some 2	most 3	all 4
a) come from poverty-stricken backgrounds?				
b) come from homes where their parents/main caregivers did not receive more than primary schooling				
c) come from homes which do not have electricity				
d) come from homes which do not have running water				
e) have health or nutrition problems				

14. Roughly how many parents of learners at your school

Tick one box in each line

	none 1	Some 2	Most 3	all 4
a) are in professional, high skill jobs				
b) are in semi-skilled jobs				
c) are in unskilled jobs				
d) are unemployed				

University of Cape Town

15. Roughly how many parents of learners at your school

Tick one box in each line

	none 1	Some 2	Most 3	all 4
a) have no schooling.				
b) have primary schooling only				
c) have primary and secondary schooling.				
d) have tertiary education.				

16. On what basis are learners admitted to your school?

Tick one box in each line

a) Residence in a particular area	Yes 1	No 2
b) Preference given to learners whose primary language is the same as the majority of learners at the school	Yes 1	No 2
c) Learner's academic performance	Yes 1	No 2
d) Preference given according to date of application.	Yes 1	No 2
e) No criteria.	Yes 1	No 2
f) Other criteria, specify	Yes 1	No 2

17. What are the school fees per year? ....

18. In what year was the school established? ....

19. Does the school have a defined feeder area? Yes 1 No 2

a) If yes, where is the feeder area?

....

....

....

....

....

20. How many of the following facilities do you have at your school?

Write a number for each.

a) Classrooms	....
b) Staffrooms	....
c) Offices	....
d) Store rooms	....
e) Halls	....
e) Libraries	....
e) Science/Biology laboratories	....

Thank you for taking the time and effort to complete this questionnaire. Please do not hesitate to contact me if you have any queries regarding the questions. I will collect the questionnaire from you on ______________________.

Kind regards
Ursula Hoadley

Cell: 082 326 4736
Tel: (021) 4225437
Fax: (021)650 3489
Email: uh@education.uct.ac.za

University of Cape Town

Appendix D: Coding scheme for the classification and framing of pedagogic practice

University of Cape Town

Discursive rule **SELECTION** (F^{+-})

The extent to which teacher and learner have control over the selection of instructional knowledge

	F^{++}	F^{+}	F^{-}	F^{--}
1. In the exposition to a task and in doing activities	Always or almost always controlled by the teacher	Mostly controlled by the teacher	Learners have some control	Learners have substantial control
	The selection of tasks, activities and knowledge in the classroom is always or almost always determined by the teacher. Learners are rarely able to disrupt the selection to suit their own needs. Their interjections are generally dismissed or ignored or they are not seen to make any interjections.	The selection of tasks, activities and knowledge in the classroom is determined by the teacher most of the time. On few occasions is selection varied according to learner intervention or production.	Learners have the opportunity to vary the selection of tasks, activities, knowledge some of the time. Some learner suggestions are accepted, or the teacher alters selection according to learners' productions.	Learners often make decisions around the selection of tasks and activities in the classroom. They are given opportunities to determine the knowledge content of the lessons. The teacher alters the selection according to learners' productions, interjections, suggestions.

Discursive rule **SEQUENCING** (F^{+-})

The extent to which teacher and learner have control over the sequencing of instructional knowledge

	F^{++}	F^{+}	F^{-}	F^{--}
2. In the course of the lesson	Always or almost always controlled by the teacher	Mostly controlled by the teacher	Learners have some control	Learners have substantial control
	The teacher always or almost always determines the sequence of transmission of knowledge in the lesson. Any interjections potentially disturbing the order of learning are dismissed or ignored.	The teacher more than half of the time determines the sequence of transmission of knowledge in the lesson.	Learners sometimes make decisions around the sequence of tasks and activities in the lesson. They are regularly given options regarding the order in which to do things.	Learners have the opportunity to vary the sequence of the transmission often. The teacher at times responds to learners' interventions by varying the sequence of the learning.

Discursive rule **PACE** (F^{+-})

The extent to which teacher and learner have control over the pacing of instructional knowledge

	F^{++}	F^{+}	F^{-}	F^{--}
3. In the learners doing activities / tasks	Always or almost always controlled by the teacher	Mostly controlled by the teacher	Learners have some control over the pace	Learners have substantial control over the pace
	The pace at which learners work through tasks is always or almost always strictly controlled by the teacher. Injunctions to 'hurry up' or 'work slowly' and mention of time are frequent, and the teacher doesn't vary the pace according to learners' productions. The teacher always or mostly defers or ignores learners' questions and interjections, or learners make no interjections.	The pace at which learners work through tasks is mostly determined by the teacher. Time is mentioned quite often and on occasion the length of an activity is stipulated beforehand. The teacher accepts few learner interventions and questions. She answers questions briefly and moves on. Occasionally she varies the pace in response to learners productions.	Learners work at their own pace. The teacher exercises some control over pace, but remains open to its variation. The teacher accepts some learner interventions and questions. She pauses the lesson briefly to make sure that all learners are ready to move on before doing so. Setting of parallel activities for learners who have finished may occur.	Learners work at their own pace. The teacher places no pressure on them to finish in a stipulated period. She may give them opportunities to 'catch up'. The teacher accepts most or all learner interventions and questions and discussion may be extended or deviate as a result. Learners decide when they are ready to move on to other work. Setting of parallel activities for learners who have finished may occur.

University of Cape Town

Discursive rule **EVALUATIVE RULES** (F^{+-})

The extent to which teacher and learner have control over the evaluative criteria of the instructional knowledge pertaining to the meaning of concepts and principles and their appropriate realisation

4. In the introduction / explanation / exposition to a topic / task	F^{++}	F^{+}	F^{-}	F^{--}	F^{0}
	Evaluative criteria very clear and explicit	Evaluative criteria quite clear and explicit	Evaluative criteria quite unclear and implicit	Evaluative criteria very unclear and implicit	Transmission of evaluative criteria not observable
	Teacher always or almost always makes the evaluative rules available through exposition. Explicitly defines and explains the meaning of concepts, addresses key aspects of the knowledge or operation under discussion through questioning and explication. She makes it clear exactly how a task should be completed.	Most of the time the teacher makes the evaluative rules available in an explicit and clear manner through explication and discussion. The requirements for the successful completion of a task are generally clear, although there may be some aspects that remain implicit.	The concepts and principles being addressed in the exposition are sometimes unclear. Attempts are made to make the requirements for the successful production of a text available to learners, but these are often unclear or not articulated. Some ambiguity as to what should be done and how it should be done exists.	Generally the teacher does not draw out the knowledge principles in her exposition. Very little or no attempt is made to make the requirements for the successful production of a text available to learners. Learners are unclear as to how to proceed, or proceed in any manner they choose.	It appears as if no attempt is made to transmit the concepts and principles in the instructional practice. What counts as a successful production in terms of instructional knowledge is therefore is totally unclear. The purpose of the task, activity discussion is unclear; learners are unclear as to how to proceed; or they are only given criteria relating to how they should *behave*.

5. In the course of learners conducting an activity or task	F^{++}	F^{+}	F^{-}	F^{--}	F^{0}
	Evaluative criteria very clear and explicit	Evaluative criteria quite clear and explicit	Evaluative criteria quite unclear and implicit	Evaluative criteria very unclear and implicit	Transmission of evaluative criteria not observable
	The teacher constantly moves around and monitors what learners are doing and makes comments. To the whole class and to individuals she repeatedly goes over what constitutes an appropriate performance.	The teacher makes some points either to the whole class or to individual learners so as to clarify what is expected of them in the task.	The teacher makes a few comments during the course of the task and looks at some of the learners work, or attends to learner productions, however this is not sustained and the criteria for a successful production are not made explicit to all.	The teacher looks at a few learners' work when it is brought to her attention. She rarely or never attends to their productions. Rarely she makes a comment to the learner. These are not extended to the whole class.	The teacher engages in other work in her space and is not seen to look at what the learners are doing. She makes no comment on the work as it proceeds. No action is taken to ascertain what the learners are doing.

University of Cape Town

6. In the kinds of verbal answers required of learners	F^{++}	F^{+}	F^{-}	F^{--}	F^{0}
	Evaluative criteria very clear and explicit	Evaluative criteria quite clear and explicit	Evaluative criteria quite unclear and implicit	Evaluative criteria very unclear and implicit	Transmission of evaluative criteria not observable
	Learners are always or almost always required to give reasons for their answers always. They may be asked to draw out a more general principle to support, clarify or modify their answer. In incorrect responses the teacher shows why the answer is incorrect. The teacher often elaborates on a correct answer.	Learners are often required to give reasons for their answers always. They are sometimes asked to clarify or modify their answer. In incorrect responses the teacher often shows why the answer is incorrect. The teacher often elaborates on a correct answer.	Learners are on a few occasions required to give reasons for their answers. In incorrect responses the teacher sometimes shows why the answer is incorrect. The teacher does not elaborate on a correct answer.	The teacher looks only for yes / no answers, or for learners to repeat what she has just said. Incorrect answers are generally ignored, or the reasons for them are not sought. Correct answers are accepted and may be praised, but are not elaborated on.	The teacher does not respond at all to learners' answers questions, whether these are correct or incorrect. She simply moves on with the discussion or with setting out the task, OR any response is acceptable, though not elaborated. It is unclear as to why the response may or may not be appropriate.

7. At the conclusion of the task / activity	F^{++}	F^{+}	F^{-}	F^{--}	F^{0}
	Evaluative criteria very clear and explicit	Evaluative criteria quite clear and explicit	Evaluative criteria quite unclear and implicit	Evaluative criteria very unclear and implicit	Transmission of evaluative criteria not observable
	The teacher makes specific comments around what constitutes an appropriate production. There is rigorous evaluation of learners' productions. She gives examples of both success and failure in the task and may point to individual performances. Marking of the work with comments on individual items in the activity may occur.	The teacher comments on what constitutes a successful production, directed more at the class as a whole and on general points. In marking of work success and failure is indicated. Corrections may be done by the class as a whole.	Learners work is ticked and signed or corrections are written up on the board but with little or no comment as to what constitutes an appropriate production.	The teacher looks at, ticks, and or signs the learners work making little or no comments on it. Students are not given access to the criteria for success or failure in their productions. Correct solutions are not displayed for learners.	Learners productions are not seen, marked or heard nor are corrections done on the board.

8. In the number of ways in which a concept / problem is represented in the exposition to a topic / task or during its course	F^{++}	F^{+}	F^{-}	F^{--}	F^{0}
	Predominantly high level of variation	Some high level of variation	Mostly low level of variation	Predominantly low level of variation	No variation
	The teacher predominantly presents the problem, explanation, concept in a number of different ways, using three or four different contents and strategies for presentation.	The teacher often presents the problem, explanation in a number of different ways, employing two different ways of presenting the problem, explanation, concept.	The teacher on a few occasions presents the problem, explanation, concept in two different ways.	The teacher seldom presents the problem, explanation, concept in a number of different ways, but tends more to repeat the explanation. The teacher provides short single representations.	In exposition the teacher does not offer any representations of the problem/expanation/concept; or it is unclear that any concept is being transmitted

University of Cape Town

9. In the number of ways in which a concept or problem is represented in response to questions from learners	F^{++}	F^{+}	F^{-}	F^{--}	F^{0}
	Predominantly high level of variation	Some high level of variation	Mostly low level of variation	Predominantly low level of variation	No variation
	The teacher predominantly restates the problem, explanation, concept in a number of different ways.	The teacher often restates the problem, explanation, concept in a number of different ways.	The teacher on a few occasions restates the problem, explanation, concept in different ways.	The teacher seldom restates the problem, explanation, concept in a number of different ways, but tends more to restate the explanation as before.	The teacher never restates the problem for the benefit of learners. Questions from learners are deferred or ignored.

Hierarchical rule **TEACHER – LEARNER** (F^{+-})

The extent to which teacher and learner have control over the order, character and manner of the conduct of learners in the relation between teacher and learner

10. When the teacher leaves the class or another adult enters the class	F^{++}	F^{+}	F^{-}	F^{--}
	Positional	Mostly positional	Mostly personal	Personal
	The teacher rarely or never gives the learners reasons for why they are leaving / left the classroom, nor do they explain the presence of another teacher/adult. The visiting teacher/adult is never greeted by the class by name.	The teacher gives the learners some indication for why they have are leaving / left the classroom. The presence of another adult is explained if it pertains directly to a member of the class. The visiting teacher/adult is generally not greeted by the class by name.	The teacher often gives the learners some indication for why they have are leaving / left the classroom. The presence of another adult is explained if it pertains directly to a member of the class. The visiting teacher/adult is generally greeted by the class by name.	The teacher always gives the learners clear reasons for why they are leaving / left the classroom. The reason for the presence of another adult is explained The visiting teacher/adult is generally greeted by the class by name or is introduced to them.

11. In the physical interaction between teachers and learners	F^{++}	F^{+}	F^{-}	F^{--}
	Positional or imperative	Positional	Mostly personal	Mostly personal
	The teacher does not interact with learners physically affectionately. She may pinch or hit learners, or threaten them with a ruler or other implement.	The teacher seldom interacts with learners in a physically affectionate manner. The learner and teacher are physically distant.	The teacher will at times embrace a learner, especially when the learner is distressed. The teacher is generally openly affectionate with the learners.	The teacher frequently embraces or gently touches learners. Learners will often embrace the teacher in greeting.

12. When the teacher disciplines a learner or learners	F^{++}	F^{+}	F^{-}	F^{--}
	Positional or imperative	Mostly positional	Personal or positional	Mostly personal
	The teacher becomes angry and admonishes the learner based on positional control and threatens further action (physical or non-physical). Rationales for actions are not provided by the teacher.	The teacher admonishes the learner using positional control. Rules and control are generally based on formal status relation teacher-pupil, or on sex or age attributes of child. Rules are generally stated, not explained.	The teacher listens to learners' reasons for their actions and reproves them based on personal or implicit positional control. Rules may be stated but the implications of the behaviour is drawn out as well.	The teacher mostly listens to learners' reasons for their actions and provides a counter argument using personal control. The teacher emphasizes the implication of the learners actions for themselves and for others.

University of Cape Town

Discursive relations **INTER-DISCIPLINARY RELATIONS (Between subject areas)** (C^{+-})
The extent to which reference is made to knowledge from other subjects in the teaching of a particular content/s

13. In the referencing of knowledge in the lesson the teacher	C^{++}	C^{+}	C^{-}	C^{--}
	Seldom references other contents	Sometimes references other contents	Often references other contents	Very often references other contents
	There is very little or no referencing of content from other subject areas within a particular literacy or numeracy lesson.	Contents from other subject areas are sometimes referred to.	There is substantial referencing of contents from other subject areas to explain the topic under discussion or to revise or remind learners. Often a theme may predominate in the instruction.	Contents from other subjects are constantly referred to, to the extent that it difficult at times to determine what the focus subject is. This often occurs through the deployment of a theme.

Discursive relations **INTER-DISCURSIVE RELATIONS (Between school and everyday knowledges)** (C^{+-})
The relation in the instructional knowledge between everyday knowledge and school knowledge.

14. In the referencing of knowledge in the lesson	C^{++}	C^{+}	C^{-}	C^{--}
	Everyday knowledge is never/seldom referenced	Everyday knowledge is sometimes referenced	Everyday knowledge is often referenced	Everyday knowledge is constantly referenced
	Everyday knowledge is seldom / never referenced. Only subject-specific content, operations and procedures are introduced. If everyday knowledge is introduced (by a learner or as part of materials) it is dealt with swiftly but not incorporated into the learning.	Everyday knowledge is sometimes referenced. If everyday knowledge is introduced (by a learner or as part of materials) it is dealt with swiftly and partially or incorporated into the learning so that it is the concept, operation or principle that is made explicit.	Everyday knowledge is often referenced. If everyday knowledge is introduced (by a learner or as part of materials) it is dealt with at some length and incorporated into the learning.	Everyday knowledge is constantly referenced so that the distinction between the subject topic or task and everyday knowledge is not always obvious. If everyday knowledge is introduced (by a learner or as part of materials) it is dealt with extensively and may become the focus of the lesson.

University of Cape Town

Relations between **SPACES (specialisation of space for teaching and learning)** (C^{+-})
The extent to which space/s in the classroom are marked off and specialised for teaching and learning, and the strength of insulation between the classroom and the outside.

15. Between inside and outside the classroom	C^{++}	C^{+}	C^{-}	C^{--}
	Very bounded	Quite bounded	Quite unbounded	Very unbounded
	The teacher rarely or never leaves the classroom. Learners' movement out of the classroom is strictly monitored and curtailed. There are few interruptions and these are generally formal (via intercom). The surrounding classrooms are generally quiet.	The teacher on a few occasions leaves the class, and learners generally remain in class or ask specific permission to leave the classroom. The surrounding classrooms are quiet.	The teacher generally remains in the classroom, but there are often disruptions from the outside (including teacher's cell phone) and children at times move in and out of the classroom. There are a few noise interruptions from outside.	Teacher and learners often move in and out of the classroom. There are often disruptions from other teachers, parents, students. The surrounding classrooms are noisy.

Relations between **SPACES (insulation between teacher's space and learners' space)** (C^{+-})

The extent to which space/s in the classroom are marked off for teacher and learners, and the strength of insulation between teacher and learners' spaces.

16. In movement between teacher and learner space	C^{++}	C^{+}	C^{-}	C^{--}
	Very bounded	Quite bounded	Quite unbounded	Very unbounded
	The teacher and learners generally remain in their own spaces. The teacher mostly remains in her desk or at the blackboard and learners remain in their seats. Sometimes a learner may approach the teacher for help with permission, or the teacher on a few occasions may approach a pupil in their space.	The teacher and learners generally remain in their own spaces but quite often move into each others' spaces particularly to facilitate the marking of tasks.	The teacher often enters the learners' spaces to monitor what they are doing and give assistance. Learners also regularly approach the teacher.	The teacher spends the majority of the time in the same space as the learners, checking work, marking, assisting, instructing. She rarely sits at her desks. Learners approach her frequently wherever she is.

Relations between **SUBJECTS** (learner) (C^{+-})

The extent to which the learners' roles are specialized with respect to the classroom and its practices

17. In the grouping of learners for different kinds of tasks and activities	C^{++}	C^{+}	C^{-}	C^{--}
	Always or often specialised	Quite bounded	Quite unbounded	Seldom or never specialised
	Learners are divided into ability groups for instruction, and are given differentiated tasks in most lessons.	Learners are divided into ability groups for instruction, and are given differentiated tasks in some of the lessons	Learners are divided into ability groups for instruction, and/or are given differentiated tasks in a few of the lessons	Learners are seldom or never divided into ability groups for instruction, and/or are rarely or never given differentiated tasks in the lessons

18. In the routine activities engaged in by the learners	C^{++}	C^{+}	C^{-}	C^{--}
	Very bounded	Quite bounded	Quite unbounded	Very unbounded
	Learners do routine instructional tasks in the classroom without being told, such as reading, managing their own books, using activity books.	Learners do some routine instructional tasks in the classroom of their own accord; at times the teacher reminds learners what they should do. For most of their learning learners manage their own books.	Apart from a few tasks, learners do not do routine instructional tasks in the classroom of their own accord but on instruction from the teacher. Some of the learners / some of the time manage their own books.	Learners only do instructional activities in the classroom in response to the teacher's instruction. Learners do not manage their own books, but these are collected and distributed at the beginning and end of each lesson.

19. In the behaviour of the learners	C^{++}	C^{+}	C^{-}	C^{--}
	Very bounded	Quite bounded	Quite unbounded	Very unbounded
	Learners work consistently, the teacher rarely or never disciplines them or tells them to keep quiet	Learners generally work consistently. At times the teachers has to ask the learners to keep quiet or sit down.	Often the teacher battles to get learners to work quietly and consistently. Especially towards the end of a task she has to often tell learners to sit down or be quiet.	The teacher constantly tells learners to sit down or to keep quiet. All learners do not work consistently and are frequently playing, talking or out of their seats.

University of Cape Town

Appendix E: Coding sheet for the classification and framing of pedagogic practice

University of Cape Town

COBS CODING SHEET

Teacher: ___________ **Lesson code:** ___________ **Subject:** ______________ **Duration:** ______________

Lesson description:____

____

1	DR - Selection	In the exposition to a task and in doing activities	F^{++}	F^{+}	F^{-}	F^{--}	
2	DR - Sequence	In the course of the lesson	F^{++}	F^{+}	F^{-}	F^{--}	
3	DR - Pace	In the learners doing activities / tasks	F^{++}	F^{+}	F^{-}	F^{--}	
4	DR - Evaluation	In the introduction / explanation / exposition to a topic / task	F^{++}	F^{+}	F^{-}	F^{--}	F^{0}
5	DR - Evaluation	In the course of learners conducting an activity or task	F^{++}	F^{+}	F^{-}	F^{--}	F^{0}
6	DR - Evaluation	In the kinds of verbal answers required of learners	F^{++}	F^{+}	F^{-}	F^{--}	F^{0}
7	DR - Evaluation	At the conclusion of the task / activity	F^{++}	F^{+}	F^{-}	F^{--}	F^{0}
8	DR – Evaluation	In the number of ways in which a concept is represented in the exposition to a topic / task or during its course	F^{++}	F^{+}	F^{-}	F^{--}	F^{0}
9	DR – Evaluation	In the number of ways in which a concept is represented in response to questions from learners	F^{++}	F^{+}	F^{-}	F^{--}	F^{0}
10	HR – Teacher / Learner	When the teacher leaves the class or another adult enters the class	F^{++}	F^{+}	F^{-}	F^{--}	
11	HR – Teacher / Learner	In the physical interaction between teachers and learners	F^{++}	F^{+}	F^{-}	F^{--}	
12	HR – Teacher / Learner	When the teacher disciplines a learner or learners	F^{++}	F^{+}	F^{-}	F^{--}	
13	DR - inter-disc. relations (Between Subject Areas)	In the referencing of knowledge in the lesson the teacher	C^{++}	C^{+}	C^{-}	C^{--}	
14	DR - Inter-disc. relations (School / Everyday)	In the referencing of knowledge in the lesson	C^{++}	C^{+}	C^{-}	C^{--}	
15	Spaces - (spec. of space for teaching and learning)	Between inside and outside the classroom	C^{++}	C^{+}	C^{-}	C^{--}	
16	Spaces (insulation teacher / learner space)	In movement between teacher and learner space	C^{++}	C^{+}	C^{-}	C^{--}	
17	Relations betw subjects (learners)	In the grouping of learners for different kinds of tasks and activities	C^{++}	C^{+}	C^{-}	C^{--}	
18	Relations betw subjects (learners)	In the routine activities engaged in by the learners	C^{++}	C^{+}	C^{-}	C^{--}	
19	Relations betw subjects (learners)	In the behaviour of the learners	C^{++}	C^{+}	C^{-}	C^{--}	

University of Cape Town

Exemplars:

Appendix F: Student task – mathematics (English and Xhosa)

University of Cape Town

8. There are 54 dresses in a shop. Some are sold. There are 17 dresses left. How many dresses were sold?

______ dresses

University of Cape Town

9. Benny has 15 rand. Lali has 17 rand. How much do they have together?

_______ rand

10. Miriam has 6 sweets. She has 9 sweets fewer than Sipho. How many sweets does Sipho have?

_________ sweets

University of Cape Town

11. Tessa has 8 balls. If she buys 11 more balls she will have the same number as Linda. How many balls does Linda have?

_________ balls

12. In a hall there are 5 rows of chairs.
There are 6 chairs in each row.
How many chairs are there in the hall altogether?

______ chairs

13. There are 3 friends. They must share 7 biscuits equally. How much must each friend get?

__________________ biscuits

University of Cape Town

Name: ____

1. **Leliphi inani elikhulu?**

113 **131**

_____

---

2. **Bhala la manani ukusukela kwelincinci ukuya kwelikhulu**

18 **8** **38** **28**

_____ _____ _____ _____

---

3. **Balela phambili ngoo 3. Leliphi inani elilandelayo?**

63 **66** **69** ____

---

4. **Leliphi inani elikhulu ku32 ngo 20?**

____

---

5. **15 + 17 = ______**

---

6. **214 + 12 = ______**

---

7. **54 – 17 = ______**

University of Cape Town

8. **Kukho iilokhwe eziyi 54 evenkileni. Ezinye zithengisiwe. Kushiyeke iilokhwe eziyi 17. Zingaphi iilokhwe ezithengisiweyo?**

Iilokwe ziyi________________

University of Cape Town

9. **UBenny une 15 randi. ULali une 17 randi. Yimalini abanayo bebobabini?**

Bane________ randi

8. Kukho iilokhwe eziyi 54 evenkileni. Ezinye zithengisiwe. Kushiyeke iilokhwe eziyi 17. Zingaphi iilokhwe ezithengisiweyo?

Iilokwe ziyi________________

9. UBenny une 15 randi. ULali une 17 randi. Yimalini abanayo bebobabini?

Bane________ randi

University of Cape Town

10. UMiriam uneelekese eziyi 6. Uneelekese ezimbalwa nge thoba (9) kunoSipho. Zingaphi iilekese anazo uSipho?

Uneelekese eziyi____________________

11. UTessa uneebhola ziyi 8. Ukuba uthenga ezinye iibhola eziyi 11 uzakuba nenani elilingana nelikaLinda. Uneebhola ezingaphi uLinda?

Iibhola eziyi__________________________

University of Cape Town

12. Eholweni kukho iireyi eziyi 5 zezitulo.
Kukho izitulo eziyi 6 kwireyi nganye.
Zingaphi izitulo ziseholweni lilonke?

Izitulo eziyi________________________

University of Cape Town

13. Kukho abahlobo abathathu (3). Kufuneka bahlulelane ngeebhiskithi eziyi 7 ngokulinganayo. Zingaphi iibhiskithi ekufuneka babenazo umntu nganye?

Iibhiskithi eziyi_____________

Appendix G: Pedagogic assemblies: Literacy

University of Cape Town

Jeanne – literacy pedagogic assemblies

	Reading		Handwriting		Writing		Phonics and spelling
1	Learners read from graded readers independently	6	Learners write a row of capital cursive Bs and a sentence in cursive	8	Learners write a short story about an unusual pet, highlighting positive and negative aspects of the pet	9	Teacher and learners go through a story about the phonic 'ue'. They read through 'ue' words and use the words in sentences t provide definitions.
2	Learners read in small ability groups with teacher	7	Learners write a row of capital cursive Bs and revise eleven other cursive capitals			10	Learners play a phonic board game where they have to spell a number of words with a range of phonics
3	Learners read from graded readers independently					11	Learners underline 'ue' words on a sheet given t them, and they colour in a picture of the phonic story
4	Learners read in small ability groups with teacher					12	Learners shade in a set of spelling words from a list. They write five of these words in symbols given by the teacher, and then decode their partner's words.
5	Learners read from graded readers independently						

University of Cape Town

Fiona – literacy pedagogic assemblies

	Reading		Comprehension		Writing		Phonics and spelling
1	Learners read from graded readers independently	5	Teacher reads through text. Learners read through text independently in pairs. Teacher goes through examples of questions and exercises. Learners write answers	6	Learners draw a picture depicting the narrative in 6.	7	Learners shade in a set of spelling words from a list. Learners test one another's spelling on small white boards.
2	Learners read in small ability groups with teacher. Discuss meaning of text.						
3	Learners read from graded readers independently						
4	Learners read in small ability groups with teacher. Discuss meaning of text.						

University of Cape Town

Kate – literacy pedagogic assemblies

	Reading		Handwriting		Writing		Phonics and spelling
1	Learners read from graded readers independently	6	Learners write words with 'f' in in cursive	7	Learners write a few paragraphs recording news from their weekend	9	Learners read through memory sentence with 'ow' phoneme.
2	Learners read from graded readers independently			8	Learners write a paragraph on 'my special power'	10	Learners offer words with 'ow' with different sound (ie. 'cow' and 'blow'). The teacher writes the words in columns and the learners read through them.
3	Learners read in small ability groups with teacher. Discuss meaning of text.					11	Learners write a sentence and draw a picture for eight words with the 'ow' phoneme.
4	Teacher reads to learners while they sit and listen on the mat					12	Learners copy out the memory sentence.
5	Learners read from graded readers independently					13	Learners do a phonics activity card to do with the 'ow' phoneme.
						14	Learners write out the memory sentence
						15	Learners think of and say as many ow words as they are able.
						16	Learners read through the memory sentence, stamping on the phonic 'ow'. They discuss word meaning and punctuation of the sentence with the teacher.
						17	Learners read out and discuss 24 words with the 'ow' phoneme in them, and then sort them into two columns according to their sound.
						18	Learners write six sentences from the ow (as in snow) column.

University of Cape Town

Anne – literacy pedagogic assemblies

	Reading		Handwriting		Writing		Phonics and spelling
1	Learners read from graded readers independently	8	Learners write a row of cursive fs and write all the vowels in cursive	11	Learners complete a story about a trip to the moon.	12	Learners write out memory sentence from blackboard
2	Learners listen to teacher read from novel, and colour in.	9	Learners write a row of cursive fs and a list of words in cursive.			13	Learners give definitions of various words with the 'aw' phoneme.
3	Learners read in small ability groups with teacher. Read lists of words from cards. Discuss meaning of text.	10	Learners copy out words in cursive from the board			14	Learners write four sentences containing a word with the 'aw' phoneme.
4	Learners read from graded readers independently					15	Learners sort a list of 24 words with the 'ow' phoneme into columns depending on the sound.
5	Learners read in pairs from graded readers					16	Learners do word recognition exercise from practice books
6	Learners read in pairs from graded readers					17	Learners do two word and letter recognition exercises from their spelling and grammar practice book
7	Learners listen to teacher read from novel					18	Teacher-led discussion on meanings of words with 'au' phoneme
						19	Learners write out memory sentence
						20	Learners write one sentence to show meaning of bought and brought
						21	Teacher-led discussion of sentences that learners wrote in . Some learners asked toread out sentences. Learners offer 'clues' for au and aw words. Rest of class guesses the word.

University of Cape Town

Palesa – literacy pedagogic assemblies

	Reading		Oral		Writing
1	Learners listen to the teacher read a passage about healthy foods.	3	Learners answer a few questions about food.	10	Learners write four sentences about the parts of a tree.
2	Learners listen to the teacher read a story about a 'wishing tree'. She talks about the moral of the story.	4	Learners listen to the teacher talk about climate. Respond to several questions about where they would prefer to live.	11	Learners draw a 'wishing tree' and write a sentence about what they would wish for.
		5	Teacher-led discussion with learners about what products are derived from trees	12	Learners write a poem about a leaf
		6	Teacher-led discussion about parts and functions of trees		
		7	Learners tell short folk tales about a topic of their choosing		
		8	Learners recite well-known verses		
		9	Teacher-led discussion about trees and leaves. Learners name different leaves with the teacher		

University of Cape Town

Anne – literacy pedagogic assemblies

	Reading
1	Learners read from graded readers independently
2	Learners listen to teacher read from novel, and colour in.
3	Learners read in small ability groups with teacher. Read lists of words from cards. Discuss meaning of text.
4	Learners read from graded readers independently
5	Learners read in pairs from graded readers
6	Learners read in pairs from graded readers
7	Learners listen to teacher read from novel

	Handwriting
8	Learners write a row of cursive fs and write all the vowels in cursive
9	Learners write a row of cursive fs and a list of words in cursive.
10	Learners copy out words in cursive from the board

	Writing
11	Learners complete a story about a trip to the moon.

	Phonics and spelling
12	Learners write out memory sentence from blackboard
13	Learners give definitions of various words with the 'aw' phoneme.
14	Learners write four sentences containing a word with the 'aw' phoneme.
15	Learners sort a list of 24 words with the 'ow' phoneme into columns depending on the sound.
16	Learners do word recognition exercise from practice books
17	Learners do two word and letter recognition exercises from their spelling and grammar practice book
18	Teacher-led discussion on meanings of words with 'au' phoneme
19	Learners write out memory sentence
20	Learners write one sentence to show meaning of bought and brought
21	Teacher-led discussion of sentences that learners wrote in . Some learners asked toread out sentences. Learners offer 'clues' for au and aw words. Rest of class guesses the word.

University of Cape Town

Yonela – literacy pedagogic assemblies

	Reading		Oral		Writing		Comprehension
1	Learners read from ungraded readers/ textbooks independently	2	Teacher-led discussion about cows, animals and their uses.	6	Learners write sentences using four pairs of words given by the teacher.	9	Teacher reads passage. Learners listen. Learners read the text after the teacher. Learners answer questions orally and then write the answers to the questions.
		3	Learners tell spontaneous stories about animals.	7	Learners write as many words as they are able from the word 'communication'		
		4	Teacher tells learners a story about animals with a moral – helping one another	8	Learners cut out pictures from a magazine of animals and put them in a flip file.		
		5	Teacher-led discussion about various animals. Teacher and learners describe the animals.				

University of Cape Town

Babalwa – literacy pedagogic assemblies

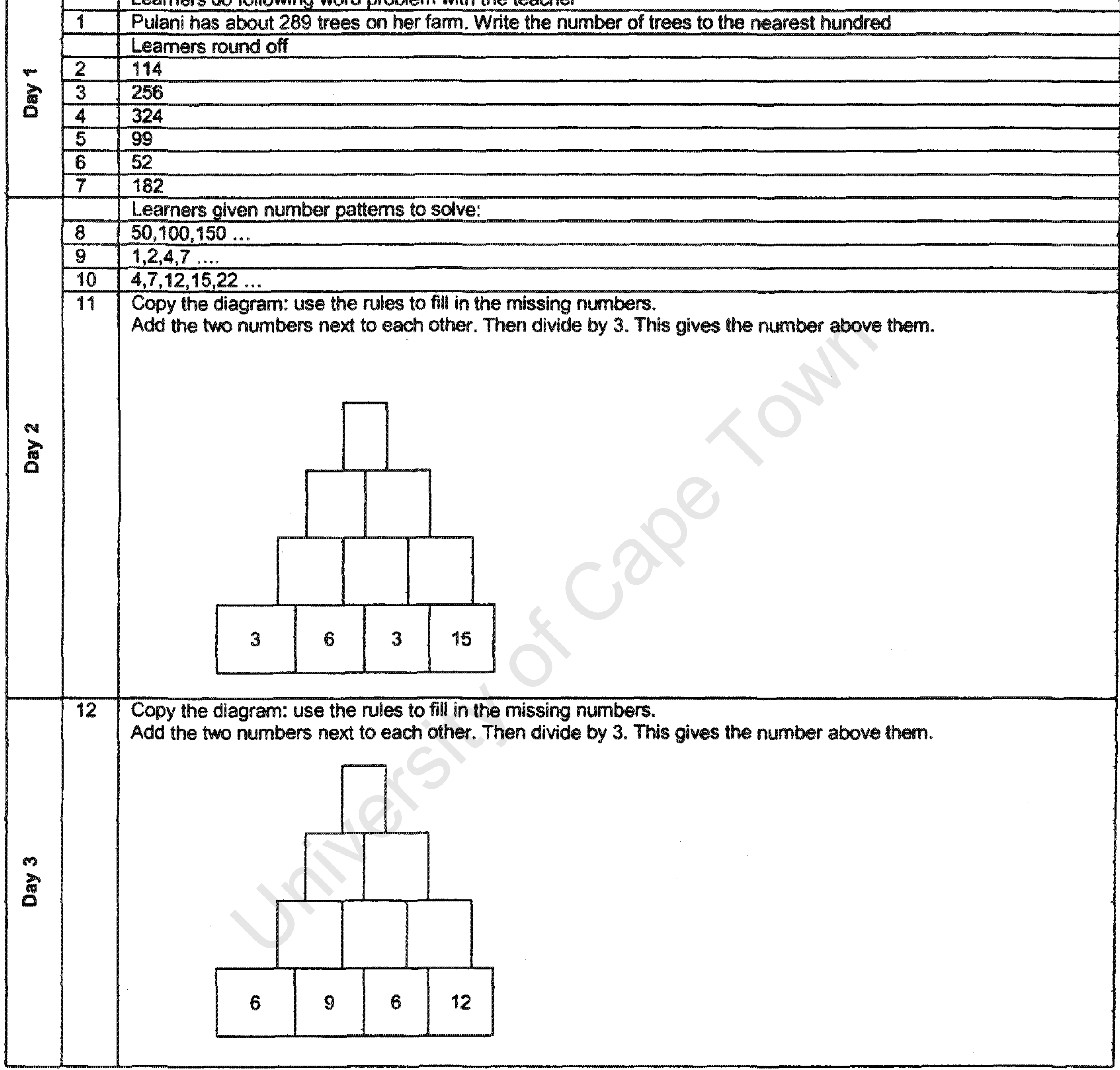
	Reading		Oral		Writing
1	Learners listen to the teacher read a paragraph about seasons, and then repeat the same paragraph after her, line by line.	4	Learners listen to the teacher talk about seasons and repeat phrases after her when prompted.	9	Learners copy five drawings of trees from the textbook. They label the trees from the blackboard.
2	Learners listen to the teacher read a paragraph and chant phrases after her.	5	Teacher-led discussion about trees. Learners repeat phrases after teacher.	10	Learners copy out five drawings of leaves from the textbook.
3	Five learners read the same paragraph as in 3 about the seasons. The whole class reads the paragraph.	6	Teacher-led discussion about leaves. Learners name different leaves with the teacher	11	Learners write out six rhyming words from the board.
		7	Teacher-led discussion about colours. Learners chant phrases after the teacher.		
		8	Teacher-led discussion about parts of trees. Learners answer questions about parts of tree.		

University of Cape Town

Appendix H: Pedagogic assemblies: Numeracy

University of Cape Town

Babalwa – Numeracy pedagogic assembly



Day	No.	Activity
Day 1		Learners do following word problem with the teacher
	1	Pulani has about 289 trees on her farm. Write the number of trees to the nearest hundred
		Learners round off
	2	114
	3	256
	4	324
	5	99
	6	52
	7	182
Day 2		Learners given number patterns to solve:
	8	50,100,150 ...
	9	1,2,4,7 ....
	10	4,7,12,15,22 ...
	11	Copy the diagram: use the rules to fill in the missing numbers. Add the two numbers next to each other. Then divide by 3. This gives the number above them. 3 6 3 15
Day 3	12	Copy the diagram: use the rules to fill in the missing numbers. Add the two numbers next to each other. Then divide by 3. This gives the number above them. 6 9 6 12

University of Cape Town

Yonela – Numeracy pedagogic assembly

Day 1		Learners do word problem:
	1	Mom has given me R20 and sent me to the shop. Rama costs = R1,50, Amasi = R4,20c, eggs = R8,00. How much money have I used to buy? How much is my change from R20,00c
		Learners count in 3s by joining the dots:
	2	Count 300 – 450
Day 2		Learners given worksheet where they are required to calculate coins and notes to the value of five different notes
	3	R10 =
	4	R10 =
	5	R10 =
	6	R20 =
	7	R20 =
	8	R20 =
	9	R50 =
	10	R50 =
	11	R50 =
	12	R100 =
	13	R100 =
	14	R100 =
	15	R200 =
	16	R200 =
	17	R200 =

University of Cape Town

University of Cape Town