

UNIVERSITY OF CAPE TOWN

FACULTY OF EDUCATION

**AN ANALYSIS OF THE IMPACT OF A
TRANSFORMATIVE ACTION REFLECTION INSET MODEL
ON TEACHERS' UNDERSTANDING
AND
CLASSROOM BEHAVIOUR**

A dissertation presented in fulfillment of
the requirements for the Degree of

MASTER OF PHILOSOPHY

by

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MARCH 1997

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DECLARATION

I hereby declare that the whole of this thesis, unless specifically indicated to the contrary in the text, is my own original work and that it has not been submitted for any degree in any other university.

Cheryl Ann Reeves
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February 1997

ABSTRACT

This dissertation tests the core assumptions of a particular model for INSET (teacher in-service education and training). The study uses as an illustrative case study an INSET programme for junior primary teachers which self-consciously aligns itself with the assumptions underpinning the transformative action reflection model.

The assumption of this model is that it is the impact of Courses on teachers' understanding and classroom behaviour of the model both in terms of technical practice and in terms of teachers' ability to employ appropriate practices which will bring about improvement in the quality of teaching and learning in classrooms.

The enquiry entailed operationalising measures through which the core assumptions of the model could be tested. In particular the research entailed measuring whether an INSET course based on this model impacts on

1. a) teachers' understanding of a model for teaching;
b) teachers' practice of the model in the classroom; and
2. assessing whether the impact can be judged as improvement in teaching quality.

Instruments to measure the impact of the course on teachers' understanding and practice of new pedagogies have been constructed on the basis of explicit criteria drawn from the objectives of two Courses from the particular INSET programme used for the study. Qualitative and quantitative data are used to measure the impact of the two Courses on teachers' understanding and practice of the model.

Assessing whether the impact can be said to be improvement in the quality of teaching involved using two independent experts in the field of junior primary teacher training. The craft experts used specially constructed schedules to observe videos of the lessons of a mixed sample of teachers who had attended the INSET course and judge the appropriateness of teachers' practices within specific contexts.

Data from the study reveals reasonable evidence to support the assumption that, in terms of its objectives, the claims of the INSET model appear to be valid. The appropriateness of the classroom behaviour of those teachers who according to the study have demonstrated evidence of adequate understanding and practice or mastery of the model was singled out by the craft experts. However, data from the study also reveals that overall only a small band of teachers demonstrate adequate understanding and practice of the model and that, in spite of a quality intervention based on the INSET model, the focus of the teaching of most teachers in the sample selected is on teaching content and vocabulary rather than on teaching concepts, skills and strategies.

ACKNOWLEDGEMENT

I wish to express my appreciation to my supervisor, Professor Johan Muller, for his guidance, critical comment, support and editing.

I acknowledge those teachers who participated in the study and extend my thanks also to Janella Coyne of Natal College of Education, Maria Mashigo and Virginia Khumalo of VISTA University for the assistance they gave me.

I was employed by the Primary Education Project during the period of the study and express my appreciation to the project director, Associate Professor Wendy Flanagan, for her generous support during the study. In particular, I would like to thank Hilary Buchanan for her computer and other assistance in the preparation of this dissertation. Dr Anita Craig is thanked for her suggestions.

The Joint Education Trust is acknowledged for making available the funding which made this research possible. Opinions and conclusions in the study, however, are those of the author and cannot be attributed to the Trust.

Finally thanks go to Keith Reeves for his support and encouragement.

Cheryl Reeves

ACRONYMS

ANC	African National Congress
CNE	Christian National Education
COTEP	Committee on Teacher Education Policy
DET	Department of Education and Training
INSET	Teacher in-service education and training
IPET	Implementation Plan for Education and Training
JET	Joint Education Trust
NCE	Natal College of Education
NGO	Non-government organisation
NEPI	National Education Policy Initiative
PEUP	Primary Education Upgrading Project
PREP	Primary Education Project
SAIDE	South African Institute for Distance Education
SEP	Science Education Project
TBVC	Transkei, Bophutatswana, Venda and Ciskei
UCT	University of Cape Town

LIST OF TABLES AND MATRICES

TABLE	TITLE	PAGE
Table 1	Number of teachers reportedly reached by NGOs	2
Table 2	Teachers' qualifications on registering for the INSET course	52
Table 3	Range of standards/grades taught by teachers registered for the INSET course	53
Table 4	Sample teachers: existing qualifications	72
Table 5	Sample teachers: age	72
Table 6	Sample teachers: number of years teaching experience	73
Table 7	Sample teachers: standards/grades taught	73
Table 8	Sample schools: class size	75
Table 9	The extent to which teachers understand what is meant by developing their pupils' concept of print	89
Table 10	The extent to which teachers understand what is meant by teaching pupils to read independently	93
Table 11	The extent to which teachers understand what is meant by developing a book culture	96
Table 12	The extent to which teachers understand what is meant by teaching their pupils to read for meaning	100
Table 13	The extent to which teachers understand what is meant by encouraging pupils to interact with text.	103
Table 14	Summary of the impact of the Language and Learning Course on teachers' understanding of the model	105
Table 15	The extent to which teachers' understanding of what is meant by using a model for active learning incorporates acknowledging pupils' prior knowledge by linking pupils' previous learning/ideas to new learning	109
Table 16	The extent to which teachers' understanding of what is meant by using a model for active learning incorporates using problem-solving activities/tasks	112
Table 17	The extent to which teachers' understanding of what is meant by using a model for active learning incorporates teaching pupils the process skills necessary for active learning	115
Table 18	The extent to which teachers understand what is meant by employing learner-centred responses	119

Table 19	The extent to which teachers understand what is meant by adopting an enquiry-based approach through questioning	122
Table 20	The extent to which teachers understand what is meant by using a collaborative approach to teaching and learning	125
Table 21	The extent to which teachers understand what is meant by using an integrated approach to knowledge and the curriculum	129
Table 22	Summary of the impact of the Junior Primary Studies Course on teachers' understanding of the model	131
Table 23	The extent to which teachers are recognising the holistic nature of learning by developing pupils' concept of print	134
Table 24	The extent to which teachers are recognising the social nature of learning by teaching pupils to read independently	137
Table 25	The extent to which teachers are recognising the affective foundation of learning by developing a book culture	140
Table 26	The extent to which teachers are recognising the active nature of learning by teaching pupils to read for meaning	143
Table 27	The extent to which teachers are recognising the central role of language for learning by encouraging pupils to interact with text	146
Table 28	Summary of the impact of the Language and Learning Course on teachers' classroom practice of the model	148
Table 29	The extent to which teachers are recognising the active nature of learning by using a model for active learning which incorporates acknowledging pupils' prior knowledge by linking their previous learning to new learning	151
Table 30	The extent to which teachers are recognising the active nature of learning by using a model for active learning which incorporates using problem-solving activities/ tasks	154
Table 31	The extent to which teachers are recognising the active nature of learning by using a model for active learning which incorporates assisting pupils to develop the process skills necessary for active learning	157

Table 32	The extent to which teachers are recognising the affective foundation of learning by employing learner-centred responses	160
Table 33	The extent to which teachers are recognising the social nature of learning by adopting an enquiry-based approach through questioning	163
Table 34	The extent to which teachers are recognising the central role of language for learning through the use collaborative talk and language for making sense of new learning	166
Table 35	The extent to which teachers recognise the holistic nature of learning by using an integrated approach to knowledge and the curriculum	169
Table 36	Summary of the impact of the Junior Primary Studies Course on teachers' classroom practice of the model	171
Table 37	Summary of the impact of the Language and Learning Course on teachers' understanding and classroom practice of the model	173
Table 38	Summary of the impact of the Junior Primary Studies Course on teachers' understanding and classroom practice of the model	173
Table 39	Percentage of teachers who show evidence of adequate learning of the different dimensions of the Language and Learning Course in terms of the model	193
Table 40	Percentage of teachers who show evidence of adequate learning of the different dimensions of the Junior Primary Studies Course in terms of the model	194
Table 41	Teachers who show evidence of having learnt adequate skills and understanding in terms of the model	194
Table 42	Comparison of teachers' ratings and rankings according to teachers' year marks for the Language and Learning Course with teachers' scores from this study	197
Table 43	Comparison of teachers' ratings and rankings according to teachers' year marks for the Junior Primary Studies Course with teachers' scores from this study	198
Table 44	Comparison of ratings and rankings according to teachers' year marks using combined marks for both Courses and teachers' combined scores from this study	199

Table 45	Ranking of teachers' combined scores for both Courses as allocated by the researcher in the study with teachers' combined year marks for both Courses as awarded by the course co-ordinators at the pilot institutions	201
Table 46	Comparison of the ranking and rating of the appropriateness of teachers' actions according to the first expert's assessment with data from this study	204
Table 47	Comparison of the ranking and rating of the appropriateness of teachers' actions according to the second expert's assessment with data from this study	206
Table 48	Comparison of the ranking and rating of the appropriateness of teachers' actions according to the assessment by both experts with data from this study	208
Table 49	Ranking according to the researcher's scores using the instruments to measure teachers' understanding and classroom behaviour and ranking according to the first independent expert using each of the items on the instrument	210
Table 50	Ranking according to the researcher's scores using the instruments to measure teachers' understanding and classroom behaviour and ranking according to the second independent expert using each of the items on the instrument	211
Table 51	Ranking according to the researcher's scores in the study and ranking according to both experts	213

MATRIX	TITLE	PAGE
Matrix 1	Developing pupils' concept of print	177
Matrix 2	Encouraging pupils to read independently	178
Matrix 3	Developing a book culture	179
Matrix 4	Teaching pupils to read for meaning	180
Matrix 5	Encouraging pupils to interact with text	181
Matrix 6	Linking pupils' previous learning to new learning	182
Matrix 7	Using problem-solving activities/tasks	183
Matrix 8	Assisting pupils to develop process skills	184
Matrix 9	Employing learner-centred responses	185
Matrix 10	Adopting an enquiry-based approach through questioning	186
Matrix 11	Using a collaborative approach to teaching and learning	187
Matrix 12	Using an integrated approach to knowledge and the curriculum	188
Matrix 13	Combined total scores for teachers' understanding and practice of the model for the Language and Learning Course	189
Matrix 14	Combined total scores for teachers' understanding and practice of the model for the Junior Primary Studies Course	190
Matrix 15	Combined total scores for teachers' understanding and practice of the model for both Courses.	191

TABLE OF CONTENTS

DECLARATION	i
ABSTRACT	ii
ACKNOWLEDGEMENT	iii
ACRONYMS	iv
LIST OF TABLES AND MATRICES	v
TABLE OF CONTENTS	x
CHAPTER ONE: INTRODUCTION TO THE STUDY	1
1. AIM OF THE STUDY	1
2. RATIONALE FOR THE STUDY	1
2.1 Non-government organisation involvement in INSET	1
2.2 Evaluations of NGO-driven INSET	2
2.3 The aim of this study	4
3. OUTLINE OF CONTENTS	4
CHAPTER TWO: TEACHER EDUCATION AND INSET IN SOUTH AFRICA	7
1. APPROACHES TO INSET IN SOUTH AFRICA	7
1.1 The academic and theoretical content tradition (first tradition)	7
1.2 The school competence tradition (second tradition)	7
2. A BRIEF HISTORY OF TEACHER EDUCATION AND INSET IN THE FIRST TRADITION	8
2.1 Teacher training for African teachers since 1948	8
2.2 Attempts at reform in the 1980s	10
2.3 The current situation	11
3. CHALLENGES TO THE FIRST TRADITION OF TEACHER EDUCATION AND INSET	13
3.1 The 1976 Soweto uprisings	13
3.2 An emerging critique	13
3.2.1 Conception of the relationship between theory and practice	14
3.2.2 Conception of knowledge	14
3.2.3 Conception of learners and learning	15
3.2.4 Conception of the role of the teacher	15
3.2.5 Conception of effective teaching methods	15
3.2.6 Conception of teacher change	16
3.2.7 Conception of educational quality	16

4.	PEOPLES' EDUCATION AND INSET IN THE SECOND TRADITION	16
4.1	The construction of an alternative model for INSET	17
4.2	Two variants of this model	17
4.2.1	Conception of the relationship between theory and practice	18
4.2.2	Conception of knowledge	19
4.2.3	Conception of learners and learning	19
4.2.4	Conception of the role of the teacher	20
4.2.5	Conception of effective teaching methods	21
4.2.6	Conception of teacher change	22
4.2.7	Conception of educational quality	22
5.	RÉSUMÉ OF THIS CHAPTER	23
 CHAPTER THREE: THE THEORETICAL UNDERPINNINGS OF THE TRANSFORMATIVE ACTION-REFLECTION MODEL AND THE CONSTRUCTION OF THE MODEL IN SOUTH AFRICA		25
1.	LOCATING THE MODEL IN THREE TRADITIONS OF CRITICAL THOUGHT	25
1.1	Marxist theory on dialectics and reflexivity	25
1.2	The Frankfurt School and critical social theory	27
1.3	Paulo Freire and critical pedagogy	30
2.	ACTION RESEARCH AS A METHODOLOGY FOR SOCIAL ENQUIRY AND TEACHER EDUCATION	32
2.1	'Emancipatory' action research	33
2.2	Action research and teacher education	35
2.3	Teacher training and reflective teaching	35
3.	THE DEVELOPMENT OF THE TRANSFORMATIVE ACTION-REFLECTION MODEL FOR TEACHER EDUCATION AND INSET IN SOUTH AFRICA	38
3.1	'Emancipatory' action research as a potential strategy for developing a critical pedagogy	38
3.2	Critical analysis of constraints	39
3.3	The construction of the transformative action reflection model	40
3.4	Central claims and assumptions of this model for teacher education and INSET	41
4.	RÉSUMÉ OF THIS CHAPTER	42

CHAPTER FOUR: THE SITE OF THE STUDY	44
1. THE PRIMARY EDUCATION PROJECT (PREP)	44
1.1 Brief background and history of the Project	44
1.1.1 The first phase of the Project (1986 - 1993)	45
1.1.2 The second phase of the Project (1993 - 1997)	47
1.1.3 PREP'S INSET course	48
2. THE CONTEXT OF THE STUDY	50
2.1 The PREP Courses	50
2.1.2 The Language and Learning Course	50
2.1.3 The Junior Primary Studies Course	50
2.2 The pilot studies	51
2.2.1 Co-ordinators and facilitators	51
2.2.2 Assessment	51
2.2.3 Teacher population	52
2.2.4 The schools	53
3. RÉSUMÉ OF THIS CHAPTER	54
 CHAPTER FIVE: RESEARCH METHODOLOGY	 56
1. RESTATING THE AIM OF THE STUDY	56
2. METHODS	56
2.1 Reconstructing the model's assumptions about teacher competence and teaching quality	56
2.2 Matching the research design appropriately to the assumptions of the model	57
2.2.1 Identifying conceptual categories	58
2.2.2 Constructing vignettes	60
2.2.3 Creating a coding scheme	62
2.2.4 Integrating vignettes, criteria and indicators into configurations	66
2.2.4.1 Designing an instrument to infer the impact on teachers' understanding of the model	66
2.2.4.2 Designing instruments to measure the impact on teachers' understanding and teaching practice of the model	67
2.2.4.3 Designing an instrument to assess teachers' ability to select and employ appropriate practices	69

3.	DATA SOURCES AND COLLECTION	70
3.1	Sample selected for the study	71
3.1.1	Teachers	71
3.1.2	The schools	73
3.2	Data collection	75
3.2.1	Collection of data on teachers' understandings and teaching practice	75
3.2.1.1	Classroom observation	76
3.2.1.2	Interviews	77
3.2.2	Collection of data on the appropriateness of teachers' teaching	78
4.	DATA ANALYSIS AND INTERPRETATION	80
4.1	Analysis of the impact of the PREP Courses on teachers' understanding and classroom practice of the model	80
4.2	Analysis of improvement in the quality of teaching	82
5.	RÉSUMÉ OF THIS CHAPTER	84
	CHAPTER SIX: THE IMPACT OF THE PREP COURSES ON TEACHERS' UNDERSTANDING AND CLASSROOM PRACTICE OF THE MODEL	87
1.	ASSESSING THE IMPACT OF THE LANGUAGE AND LEARNING COURSE ON TEACHERS' UNDERSTANDING OF THE MODEL	87
1.1	Developing pupils' concept of print	88
1.2	Teaching pupils to read independently	91
1.3	Developing a book culture	95
1.4	Teaching pupils to read for meaning	98
1.5	Encouraging pupils to interact with text	102
1.6	Summary of the impact of the Language and Learning Course on teachers' understanding	105
2.	ASSESSING THE IMPACT OF THE JUNIOR PRIMARY STUDIES COURSE ON TEACHERS' UNDERSTANDING OF THE MODEL	106
2.1	Using a model for active learning	107
2.1.1	Acknowledging pupils' prior knowledge by linking pupils' previous learning to new learning	107
2.1.2	Using problem-solving activities/tasks	111
2.1.3	Assisting pupils to develop process skills	114
2.2	Employing learner-centred responses	117
2.3	Adopting an enquiry-based approach through questioning	121
2.4	Using a collaborative approach to teaching and learning	124
2.5	Using an integrated approach to knowledge and the curriculum	127
2.6	Summary of the impact of the Junior Primary Studies Course on teachers' understanding of the model	131

3.	ASSESSING THE IMPACT OF THE LANGUAGE AND LEARNING COURSES ON TEACHERS' CLASSROOM PRACTICE OF THE MODEL	132
3.1	Developing pupils' concept of print	133
3.2	Teaching pupils to read independently	136
3.3	Developing a book culture	139
3.4	Teaching pupils to read for meaning	142
3.5	Encouraging pupils to interact with text	145
3.6	Summary of the impact of the Language and Learning Course on teachers' classroom practice of the model	148
4.	ASSESSING THE IMPACT OF THE JUNIOR PRIMARY STUDIES COURSE ON TEACHERS' CLASSROOM PRACTICE OF THE MODEL	149
4.1	Using a model for active learning	150
4.1.1	Acknowledging pupils' prior knowledge by linking pupils' previous learning to new learning	150
4.1.2	Using problem-solving activities/tasks	153
4.1.3	Assisting pupils to develop process skills	156
4.2	Employing learner-centred responses	159
4.3	Adopting an enquiry-based approach through questioning	162
4.4	Using a collaborative approach to teaching and learning	165
4.5	Using an integrated approach to knowledge and the curriculum	168
4.6	Summary of the impact of the Junior Primary Studies Course on teachers' classroom practice of the model	170
5.	ANALYSIS OF DATA ON THE IMPACT OF BOTH COURSES ON TEACHERS' UNDERSTANDING AND CLASSROOM PRACTICE	172
6.	RÉSUMÉ OF THIS CHAPTER	175
	CHAPTER SEVEN: CORRELATION OF DATA ON TEACHERS' UNDERSTANDING AND CLASSROOM PRACTICE OF THE MODEL AND AN ANALYSIS OF IMPROVEMENT IN THE QUALITY OF TEACHING	176
1.	CORRELATION OF DATA ON TEACHERS' UNDERSTANDING AND CLASSROOM PRACTICE OF THE MODEL	176
1.1	Correlation of data on the Language and Learning Course	176
1.2	Correlation of data on the Junior Primary Studies Course	181
1.3	Correlation of data on both Courses	189
1.4	Analysis of data	192

2.	ANALYSIS OF IMPROVEMENT IN THE QUALITY OF TEACHING	195
2.1	Comparison and correlation of data from this study with data on teachers' year marks from the pilot institutions	195
2.1.1	Comparison of data	195
2.1.2	Correlation of data	200
2.1.3	Analysis of data	202
2.2	Comparison and correlation of data from this study with data on the assessment of the appropriateness of teachers' practices	203
2.2.1	Assessment of the appropriateness of teachers' practices by the first independent expert	203
2.2.2	Assessment of the appropriateness of teachers' practices by the second independent expert	205
2.2.3	Combined data from both assessments	207
2.2.4	Correlation of data from this study with the experts' assessment	209
2.2.5	Analysis of data	214
3.	RÉSUMÉ OF THIS CHAPTER	216
	CHAPTER EIGHT: CONCLUSIONS AND RECOMMENDATIONS	217
1.	AIM OF THE STUDY	217
2.	LIMITATIONS OF THE STUDY IN TERMS OF RESEARCH METHODS	218
3.	CONCLUSIONS OF THE STUDY	219
3.1	The claims of the INSET Model	219
3.2	The impact of the INSET Model	219
4.	IMPLICATIONS OF THESE CONCLUSIONS	221
5.	RECOMMENDATIONS	222
5.1	Recommendations in terms of additional support for quality INSET programmes	222
5.2	Recommendations in terms of the design and implementation of teacher education and INSET courses	223
5.3	Recommendations in terms of future research and impact assessment of INSET	224

BIBLIOGRAPHY

APPENDICES

APPENDICES

- Appendix A:** Forms used by the INSET Project to collect school/teacher information
- Appendix B:** Criteria and instruments used for measuring the impact on teachers' understanding of the model
- Appendix C:** Criteria and instrument used for measuring the impact on teachers' classroom practice of the model
- Appendix D:** Framework for workshop with course co-ordinators and facilitators 18-19 April
- Appendix E:** Assessment schedule used by the researcher for interviews
- Appendix F:** Presentation sheets used with teachers in the interviews
- Appendix G:** Summary of information on sample teachers
- Appendix H:** Summary of video recordings of teachers' lessons
- Appendix I:** Instructions for the two independent experts
- Appendix J:** Schedule used by the independent experts to assess the appropriateness of teachers' practice

CHAPTER ONE: INTRODUCTION TO THE STUDY

1. AIM OF THE STUDY

This study will take an in-depth look at the assumptions underpinning a particular model for teacher in-service education (INSET) as they occur in practice.

In particular the aim is to test the core assumptions of a transformative action reflection model for INSET, a model which emphasises "the dialectical relationship between theory and practice" (Wells, 1990:399) and impacting on teachers' theoretical and practical understanding of teaching and learning.

2. RATIONALE FOR THE STUDY

One of the biggest challenges facing teacher development in South Africa lies in the area of teacher in-service education (Hofmeyr, Simkins, Perry & Jaff, 1992:33).

According to the 1996 National Teacher Education Audit on Colleges of Education, in-service teacher education includes:

all forms of continuing education for serving teachers, whether they are formal or informal activities, and whether they constitute personal or professional education. Accordingly when unqualified teachers in schools are provided with professional training, it is regarded as INSET (Jaff, Rice, Hofmeyr & Hall, 1996:np).

A wide range of organisations are involved in providing in-service education for teachers in South Africa.

2.1 Non-government organisation involvement in INSET

According to the 1992 Report for the IPET Task Teams on 'Restructuring Teacher Supply, Utilisation and Development' in terms of scale, NGOs (non-government organisations) "probably service as many teacher-clients as the education departments do" (Hofmeyr et al., 1992:19). The 1996 Teacher

Education/NGO Audit reports that 99 NGOs are involved in teacher development in South Africa. According to the Audit:

The 99 organisations offer a total of 191 programmes. The vast majority of these are non-accredited short courses or workshops. Six programmes are offered at colleges of education, 19 are accredited by higher education institutions towards diplomas or degrees which are recognised by the state for salary notches, and 15 are certificated by tertiary or professional institutions but are not recognised for salary purposes (Hofmeyr & Hall, 1996:57).

Although the Audit gives reasons for treating their figures with "some caution", the following table, which provides figures on the number of teachers which NGOs reportedly reach per province, gives some sense of the considerable scale of NGO activity in terms of INSET provision:

Table 1: Number of teachers reportedly reached by NGOs

PROVINCE	NUMBER OF TEACHERS	
	1993	1994
Northern Province	5396	8312
Mpumalanga	2932	5140
Gauteng	15661	20486
Western Cape	10851	17736
Eastern Cape	9386	17806
Kwazulu-Natal	19210	20587
Free State	3266	7201
Northern Cape	330	2721
North West	16077	15893
TOTAL	83109	115882

(Source: Table 26 National Teacher Education Audit: Synthesis report, Hofmeyr & Hall, 1996:58).

2.2 Evaluations of NGO-driven INSET

The Report for the IPET Task Team (Hofmeyr, et al.,1992:19) states that "the most effective models of INSET are usually found amongst the NGOs". Furthermore, NGOs themselves claim that they are well-positioned to provide appropriate and relevant INSET because they have both the experience and flexibility to be proactive to the needs of the education system and an understanding of the context in which teachers work (Taylor,1996a:48).

According to Hofmeyr and Pavlich:

the fundamental assumption that underlies in-service education and training of teachers world-wide is that by improving the quality of teaching, the quality of education that pupils receive is improved. This in turn increases the probability of achieving preferred learning outcomes which ultimately are beneficial to society at large (1987:75).

Thus "a positive impact on the quality of education is the primary assumption" of an INSET programme's worth and the worth of a programme depends "in part on the extent to which it addressed the characteristics of effective teaching" (ibid, 1987:91,99).

However, doubt about the efficacy of NGO-driven teacher development is becoming increasingly voiced. For example, Jansen at a Joint Education Trust conference on INSET evaluation in February 1996 stated that:

Teacher development delivered through NGOs (non-governmental organisations) in the form of in-service education (INSET) does not produce significant learning gains in the classroom. One evaluation report after another has delivered the same finding: that while INSET provides important motivational benefits to practising teachers, such programmes simply do not translate into learning gains for students. Yet millions of rands have been invested in teacher development programmes of South African NGOs since the mid-1970s, increasing dramatically through the 1980s, and levelling-off in the first half of the 1990s (Jansen, 1996:13).

Despite this sweeping claim that evaluation studies have not demonstrated a correlation between NGO-driven INSET activities and educational quality, Jansen cites a small number of evaluations only. In fact, there have been a relatively small number of systematic evaluations of INSET programmes which have assessed the impact of INSET on teaching and learning outcomes (JET, 1994:24).

Even fewer evaluation studies have been carried out to test the core assumptions and assess the claims of particular models for INSET systematically. Clearly if valid accounts of INSET models are to be held up for public scrutiny, they need to yield more generalisable knowledge and information than that which is made

available from "purely localised undertakings" (Cohen & Manion, 1984:218), which is what the first generation of INSET evaluations largely yielded (Taylor, 1996b).

2.3 The aim of this study

The aim of this study is to test the core assumptions of a particular INSET model by conducting a case study of a project which self-consciously aligns itself with the core assumptions of the model.

In particular the study aims to test whether an INSET course based on a model which emphasises the dialectical relationship between theory and practice and the need to change teachers' theoretical and practical understanding of learning and teaching impacts on:

1. a) teachers' understanding of a model for teaching; and
b) teachers' practice of the model in the classroom; and
2. testing whether the impact can be said to be improvement in the quality of teaching.

3. OUTLINE OF CONTENTS

This report has been structured in the following way:

Chapter One of the study introduces the aim of the research which is to test the core assumptions of a particular INSET model. The chapter provides a rationale for the study by outlining the need to test the assumptions underpinning INSET models.

Chapter Two provides a brief history of teacher education and INSET in South Africa and includes a description of the two main traditions for teacher education and INSET and the main models within these two traditions. In particular, the chapter describes:

- a) the challenges to and critique of the main model in the first tradition, and

- b) the core assumptions of the reflective teaching model - the main model in the second tradition which emphasises critical reflection on practice through a process of action reflection.

Since it is the second variant of this model which is the focus of this study, the chapter focuses on the central concepts of the transformative action reflection model which emphasises changing teachers' theoretical and practical understanding of learning and teaching.

Chapter Three examines the theoretical underpinnings of this INSET model in three traditions of critical thought, namely, Marxist thought, critical social theory and critical pedagogy. A description of action research as a methodology of critical thought is provided. Particular reference is made to the notion of 'emancipatory' action research, a notion which informs the model assessed in the study. A brief description of the three main views of reflective teaching or action reflection approaches to teacher education and INSET is included. This description focuses on an approach which emphasises a more 'transformative' role for the teacher, which is the approach which informs the model assessed. The chapter describes the development in South Africa of the transformative action reflection model for teacher education and INSET and the ways in which the model embodies the neo-Marxist theory of critical social theory and critical pedagogy. An outline of the role which 'emancipatory' action research played in the construction of the model is provided. The chapter ends by restating the central claims and core assumptions of the transformative action reflection model.

Chapter Four contextualises the study by providing a background and history of the project which provides the site for the study and describes the way in which the project's INSET course embodies this theory. A brief description of the context of the particular Courses which are evaluated for the assessment is included.

Chapter Five describes the methodology of the study and the way in which the central assumptions of the model are assessed for the purposes of the study.

Methods for the research are informed by the theory which underpins the INSET model to be assessed and entailed the reconstruction of the assumptions about teacher competence and teaching quality which underpin the model and matching the research design appropriately to these assumptions. The chapter explains how the evaluation takes place through operationalising measures which would make it possible to demonstrate whether the impact on teachers' understanding of new pedagogies and classroom practice of new pedagogies can be said to be improvement in the quality of teaching

Chapter Six provides an analysis of the impact of the two INSET Courses on teachers' understanding and classroom practice of a model for teaching based on the data collected for the study. This consists of a qualitative and quantitative analysis.

Chapter Seven correlates data on teachers' understanding of the model with data on teachers' classroom practice of the model and provides a qualitative and quantitative analysis of improvement in the quality of teaching.

Chapter Eight restates the aim of the study and describes the limitations of the study in terms of methods. The chapter draws conclusions by relating the research findings of the study to the core claims of the transformative action reflection model for INSET, in particular whether the findings demonstrate causal links between improved understanding (consciousness) and teachers' ability to select and employ appropriate practice (action). The chapter discusses the implications of the study's findings in terms of the impact of the model and makes some tentative recommendations for INSET and future research based on these findings and the researcher's experience.

CHAPTER TWO: TEACHER EDUCATION AND INSET IN SOUTH AFRICA

1. APPROACHES TO INSET IN SOUTH AFRICA

Two main traditions for teacher in-service education (INSET) in South Africa can be identified from the literature:

- * a tradition which focuses on academic and theoretical content and;
- * a tradition which focuses on school competence (Hofmeyr & Hall, 1996:61).

1.1 The academic and theoretical content tradition (first tradition)

Departmentally accredited courses which as of 1996 are offered by colleges of education for un- and under-qualified teachers to upgrade their qualifications focus on academic and theoretical content and are generally content or syllabus-based (Hofmeyr & Pavlich, 1987:82-83).

In South Africa the majority of teachers involved in these course are black teachers who are upgrading their professional qualifications to an (M (matric)+2) or an (M + 3) qualification (Hofmeyr & Hall, 1996:62). Teachers are motivated to upgrade their qualifications through these courses because they have been getting salary recognition for their certificates (Reeves, 1993:3; Hofmeyr & Hall, 1996:62).

1.2 The school competence tradition (second tradition)

Courses in the second tradition for INSET focus on school competence and aim to impact on the professional development of teachers by offering management training and/or by assisting teachers to improve their subject knowledge and/or change their classroom practices.

Most of these courses are not accredited and are provided by non-government organisations (NGOs) which are funded by the private or business sector or overseas donor agencies (Hofmeyr & Pavlich, 1987:82-3; Schofield, 1994:157).

The state, through its own INSET programmes and its teacher centres, also provides some INSET in this tradition although generally these programmes focus on INSET for curriculum change (Hofmeyr & Hall, 1996:62).

The majority of courses in this second tradition are 'course' or subject-based and consist of short courses or workshops for individual teachers which do not entail sustained interaction with teachers or classroom follow-up (Jaff et al., 1996:np). However, this model has come under increasing scrutiny and critique by some NGOs who assert that INSET should be "based on holistic approaches to solving the context-specific needs of teachers and schools" (Hofmeyr & Hall, 1996:63).

The claim is that approaches to INSET need to entail more sustained interaction with teachers and to adopt a more participative and democratic approach (Flanagan, 1991d:1). The assumption of some providers is that, if INSET is to succeed, the focus needs to be on the school and its particular needs and conditions with the school and staff "owning" the change process (SAIDE, 1994:14). School-based INSET leaves professional development to the school's own devices and resources whilst school-focused INSET includes the contribution of outside agencies such as NGOs who provide supplementary support and resources (Jaff et al., 1996:np; Schofield, 1994:159).

2. A BRIEF HISTORY OF TEACHER EDUCATION AND INSET IN THE FIRST TRADITION

2.1 Teacher training for African teachers since 1948

Until the Nationalist Government came to power in 1948, most teacher training for African teachers in South Africa was controlled by missionary groups (Christie, 1985:66). After 1948 the Nationalist Government gradually began shifting responsibility for all teacher training to the state (Walker, 1991b:8). In 1954, as a result of the Eiselin Commission's 'Report on Native Education' (1951), the Bantu Education Act ensured centralised state control of all black teacher education by legislating that in future teacher education would only be allowed to take place

through "government-controlled centres" (Salmon & Woods, 1991:105). By 1968 all training colleges for black teachers were controlled by the 'Bantu Education Department' (Murphy, 1985:79).

Even before apartheid education was introduced, African teacher qualifications were "generally low" (Unterhalter & Wolpe, 1991:4) but the situation deteriorated after 1954. Junior primary schooling for black children was expanded in order to meet the labour requirements of the white population (ibid) and, in an attempt to meet the increased demand and "boost the number of teachers available for primary schools", the state introduced a three year post std 6 and post std 8 teaching certificate (Christie & Collins, 1984:79). As a result there was an overall "deterioration in the qualification levels of teachers under Bantu Education. Together with an increase in teachers without matriculation, came a significant reduction of professionally qualified teachers with university degrees, in comparison with the pre-1953 period" (ibid:179).

During the 1960s, the responsibility for educational provision of African children gradually began to change in support of the 'homelands' policy. A large number of centres for training black teachers were established in 'native reserves' (Christie & Collins, 1984:178) and responsibility for planning and provision of teacher development began to shift to the various departments of education of the TBVC (Transkei, Bophutatswana, Venda and Ciskei) and 'homeland' authorities (NEPI, 1992:7).

By the 1970s, the fragmented education departments in South Africa had produced inequalities both in terms of types and levels of teacher qualifications for the various education departments and in terms of the location of the training of teachers for various departments. Nevertheless, the Department of Education and Training (DET) exerted "an enormous influence" on teacher education for Africans as most teacher training institutions followed the formal curriculum and syllabi of the DET (ibid) and because teachers had to teach syllabuses that were centrally prescribed by the DET in the schools (Walker, 1991b:12).

2.2 Attempts at reform in the 1980s

In 1981 the De Lange Commission into Education expressed the need for teacher education reform. In order to satisfy the "skilled labour crisis" and "provide for the needs of the economy" (Unterhalter, 1991:64), the Commission recommended that urgent steps be taken to reduce inequalities between black and white education systems (Vinjevold, 1994:1). Particular mention was made of inequalities in teacher qualifications (Salmon & Woods, 1991:107).

The Government's 1983 White Paper on the Provision of Education endorsed the Commission's recommendations on teacher qualifications by making the "official norm" for teacher qualifications a std 10 certificate + 3 years professional training (M + 3) (NEPI, 1992:23). The majority of African teachers had std 8 (Junior Certificate) and a two year teaching diploma thus the new ruling meant that nearly 80,000 teachers were now underqualified (Walker, 1991b:11; Murphy, 1984:82).

Because teachers' salaries were linked to qualifications, the demand for upgrading courses increased and most colleges of education began to offer part-time in-service courses for un- and underqualified teachers to upgrade their qualifications in line with this principle.

Correspondence education became the main means for in-service teachers to improve their qualifications. It is seen to be cheaper than contact-based education and provides access to courses for teachers who are geographically removed from institutions which means that these teachers can continue teaching whilst they are studying (Reeves, 1993:13).

Institutions such as VISTA University as well as other 'distance education' colleges were set up with the purpose of upgrading the qualifications of underqualified in-service teachers (van der Wolk, 1996:14). Tuition on these courses is almost entirely by correspondence and students are provided with virtually no contact or support such as face-to-face contact sessions, tutorial

support or counselling. According to the 1995 Report for the 'National Audit on Teacher Education Offered at a Distance in South Africa', the focus of most of these courses is on the acquisition of academic and theoretical content rather than building teaching skills or competencies (SAIDE, 1995:81).

Modifications to in-service teacher education introduced as a result of the "government's (1983) commitment to provide qualifications of equal standards for all population groups" (Vinjevold, 1994:93) emphasised the achievement of academic equivalence or 'sameness' of types of teacher qualifications through the accumulation of academic credits (Salmon & Woods, 1991:112) or 'adding on' to the level of teachers' existing qualifications rather than improving the quality of teaching competence by giving depth to in-service teachers' prior experience and knowledge.

For example, teachers who already had professional qualifications but who did not have matric had to pass std 10 in order to gain access to upgrading courses. Other modifications such as the "ad hoc introduction of new subjects" (Salmon & Woods, 1991:112) has meant that many teachers on upgrading courses have been required to study 'academic' subjects such as criminology, mercantile law or biblical studies which are either not relevant to what they teach or which are not school subjects (Reeves, 1993:3) or are "non-priority" subjects (SAIDE, 1995:84).

2.3 The current situation

It is hardly surprising therefore that pre-service and in-service education in South Africa has never been linked as a continuous process of professional development (Hofmeyr, 1991 cited in Reeves, 1993:8) and that the poor quality of most teachers' pre-service training "condemns INSET to being forever remedial rather than renewing and developmental" (Hofmeyr & Hall, 1996: 63).

Neither is it surprising that, although the formal qualifications of many teachers have risen since the early 1980s (Vinjevold, 1994:2), qualifications have been

"pursued with little regard for quality or relevance" to classroom teaching (Hofmeyr & Hall, 1996:62).

Furthermore, the state's policy of linking teacher qualifications to salaries has been criticised for causing a 'paper chase' for certification instead of encouraging improvement in the quality of teaching and learning (Hofmeyr & Hall, 1996:62) and, indeed, qualifications are to be de-linked from remuneration (Department of Education, 1995:64).

According to the 1994 African National Congress Policy Framework:

The strong link which the present government has established between formal qualifications, salary advancement and promotion for teachers has resulted in massive distortions. Teachers invest heavily in formal study which is often totally disconnected from their professional work. Upgrading teachers' qualifications is thus de-linked from improving their professional competence (ANC, 1994:47)

However, more than a third of teachers in South Africa remain un/under-qualified (Department of Education, 1996:3) and, according to the 1996 Synthesis Report of the National Teacher Education Audit, the quality of courses, including upgrading courses, offered in the college of education sector is still 'very uneven'.

There are a range of approaches to teaching and learning, but the dominant approach is authoritarian and content-based. Theory and practice are not integrated and neither reflect the direction of the new South Africa or the latest international advance in knowledge. (Hofmeyr & Hall, 1996:52)

In addition the report reports that most institutions in the distance sector are not providing good quality distance education and states that this is evident from the lack of interactive, problem-centred approaches to learning. Instead,

The courses offered are of poor academic quality and show little understanding of the realities of South African schools or concern to improve teaching competence. There is little integration of theory and practice. Thus, these courses are unlikely to lead to improved classroom competence (Hofmeyr & Hall, 1996:53).

3. CHALLENGES TO THE FIRST TRADITION OF TEACHER EDUCATION AND INSET

3.1 The 1976 Soweto uprisings

After the 1976 Soweto uprisings demands for an end to an unequal and discriminatory education system increased. The assertion was that Bantu Education was the "mechanism of reproduction of white domination and inequality" (Unterhalter & Wolpe, 1991:8) and much of the debate on education focused on the effects of Bantu Education, Christian National Education, Fundamental Pedagogics and how the authoritarian practices which had "emanated from these policies" could be replaced by more democratic approaches to teaching and learning (Flanagan & Sayed, 1992:109). Traditional transmission teaching with its "concomitant emphasis on teacher-talk, drill and practice and rote-learning" was rejected (Walker, 1988a:150).

It was in this context that a negative critique of conventional INSET courses in the first tradition began to emerge.

3.2 An emerging critique

The majority of courses offered at teacher training colleges were seen to have their philosophical and ideological roots in apartheid, specifically in the ideology of Christian National Education (CNE) (Flanagan, 1991c:2). According to CNE educational policy there was to be "no mixing of languages, no mixing of cultures, no mixing of religions, and no mixing of races" (Christie, 1985:160). CNE was understood to be rooted in the Afrikaner nationalist struggle to legitimise the interests of the dominant white group (Flanagan, 1991c:1) and to ensure the subservience of blacks within the apartheid system (Unterhalter & Wolpe, 1991:4).

More specifically this critique made reference to the conception these courses have of:

- * the relationship between theory and practice;
- * knowledge;

- * learners and learning;
- * the role of the teacher;
- * effective teaching methods;
- * teacher change;
- * educational quality.

3.2.1 Conception of the relationship between theory and practice

Critics argue that these courses impose a single educational theory on teachers and that in many cases this theory is underpinned by the philosophy of Fundamental Pedagogics (Walker, 1991b:9).

Fundamental Pedagogics, it is argued, was developed to endorse the ideology of CNE (Hofmeyr & Hall, 1996:23) and encourages the view that political questions are not involved in understanding education (Enslin, 1984:141). As a result courses based on this philosophy treat educational theory as a 'science' which must strive to be "value-free" and classroom practice as applied theory which can only be studied in a "neutral", "scientific" way (Flanagan, 1991c:3).

This approach is seen by critics as behaviourist because it determines the nature of classroom practice in that it discourages teachers from improving their practice or from developing a more critical pedagogy through reflection and experimentation (SAIDE, 1994:14). The critique is that the:

narrow etymology of FP, and its emphasis on top-down authority, has had a powerful disempowering effect on teachers. They teach didactically with little emphasis on the child's learning; they learn with no eye on how it will affect their practice; they freeze into inaction in educational circumstances out of the ordinary; and they manage schools and classrooms with thoughtless authority rather than consultation (SAIDE, 1994:14).

3.2.2 Conception of knowledge

A further objection is that courses promote the view that all knowledge is 'out there' in the environment independent of the learner and therefore 'transmittable.' This entails a view of knowledge as consisting of content or facts which can be

'given' or learnt one after the other (Flanagan, 1995a:103). This view of knowledge, it is argued, discourages the active participation of learners through discussion and critical debate and encourages unquestioning "acceptance of whatever is transmitted by the teacher or textbook" (Salmon & Woods, 1991:11).

3.2.3 Conception of learners and learning

Courses based on this model are criticised for encouraging the conception of learners' minds as 'tabula rasa' or passive receptacles as if learners have no prior learning or experience of their own (Flanagan, 1992:29; Salmon & Woods, 1991:113). This view, critics argue, encourages the idea that learners learn by memorising facts 'transmitted' by the teacher or textbook through listening and reading (Macdonald, 1990b:16; Davidoff & van den Berg, 1990:10). As a result, content is seen as central to the learning process and learning is assumed to take place through rote and repetition and assessment takes place through testing pupils on how much they can recall or remember of the prescribed content (Flanagan, 1992:29).

3.2.4 Conception of the role of the teacher

Critics argue that this model promotes an authoritarian approach to education where the teacher is seen as "the authority" whose role is to control pupils learning by telling them what to do and think (ibid) and whose task, as the one who has "the knowledge", is to be the "transmitter of reified knowledge" (Woods, 1992:1).

3.2.5 Conception of effective teaching methods

A further criticism of these courses is that they encourage teachers to adopt methods which promote rote learning rather than understanding and that, as a result "teacher-talk, talk-and-chalk, drill and practice" and labelling have become the main methods of teaching in South Africa (Walker, 1988a:150).

3.2.6 Conception of teacher change

Because courses are based on the assumption that teaching competence is acquired through familiarity with the content of a single educational theory and its preferred methods, criteria for measuring teaching competence are linked to behavioural objectives which dictate what teachers should do and what content teachers should know (Butcher, 1996:10; Flanagan, 1992:29).

3.2.7 Conception of educational quality

Criteria for measuring educational quality include improved teacher qualifications or pupil pass rates (Jansen, 1994:15). These criteria are criticised because they ignore the "dimension of quality as process" (Grisay & Mahlck, 1991:4) and focus on the acquisition of content knowledge and skills (rather than the development of higher order mental processes such as "deliberate remembering and reasoning" (Wells & Chang-Wells, 1992:30), problem-solving and critical reflection). Secondly, critics argue that they do not necessarily indicate improvement in the quality of learning and teaching (Ross & Mahlck, 1990).

4. PEOPLE'S EDUCATION AND INSET IN THE SECOND TRADITION

By 1985/6 the concept of 'People's Education for People's Power' had emerged. People's Education emphasised the development of "a critical mind that becomes aware of the world" (Molobi, 1986:77). Schools were perceived of as sites of struggle where teachers would play a crucial role in implementing people's education (Rensburg, 1986:11).

According to Unterhalter & Wolpe (1991), the slogan 'people's education for people's power

expressed a radical redefinition of the relationship between education and the social system. The core of the policy of people's education was that, under the specific conditions of apartheid capitalism in the mid-1980s, the creation of new education structures and the institution of new practices could contribute to a process of social transformation. This could be done both by challenging the role of Bantu education as a mechanism for reproduction of apartheid and capitalism, and by intensifying the contradictions in the system through the subversive

effects of alternative, radical education structures (Unterhalter & Wolpe, 1991:10).

The task of progressive educators was to "implement the principles of People's Education" and find ways of addressing "issues of inequality and discrimination in schooling as well as society" (Walker, 1991a:69).

After the 1976 uprisings, a number of NGOs and projects had been set up in response to the need to improve the quality of black education (Hofmeyr, 1994:18). The emergence of the concept of 'People's Education' in the mid 1980s meant that many teacher development agencies began to make a link between the political goal of empowerment and the pedagogical goal of encouraging more democratic and participatory approaches to teaching and learning.

A number of these NGOs and other teacher educators began to investigate the potential of action research strategies for the development of a critical pedagogy (Walker, 1988a; Flanagan, 1991c). However, by the early 1990s the focus of most of these teacher educators began to shift from a focus on changing teachers' political 'consciousness' to a focus on changing teachers' conceptual (pedagogical) 'consciousness'. As a result, the principle of action reflection or reflective teaching has become an integral part of enquiry-based approaches to teacher in-service education in South Africa.

4.1 The construction of an alternative model for INSET

This principle of reflective teaching or action reflection led to the construction of a model for INSET which aims "to facilitate teacher's transformation of their own practice" (NEPI, 1992:46).

4.2 Two variants of this model

Two empirical variants of this reflective teaching or action reflection model are discernible from the literature:

1. INSET courses based on the first variant assume that in order to transform their own practice, teachers need to be provided with little or no access to the theories of teaching and learning (Flanagan, 1992:30). Instead practice is "seen as determining the relevant theory through the actions taken" (Clandinin & Connelly, 1988:94). Thus theory is not seen as a form of understanding that bears on practice but as a form of understanding which emerges from practice.
2. Courses based on the second variant assume that, in order to "act as agents for transformation", teachers need to be provided with access to and control over the theories of teaching and learning (Flanagan & Sayed, 1992:110). The emphasis in teaching and learning in this variant is on cognition with mediation as the "motor of cognitive growth" (Flanagan & Sayed, 1992:111).

More specific dimensions of the generic model and its two variants refer to conceptions of:

- * the relationship between theory and practice;
- * knowledge;
- * learners and learning;
- * the role of the teacher;
- * effective teaching methods;
- * teacher change;
- * educational quality.

4.2.1 Conception of the relationship between theory and practice

The generic model stresses "the dialectical relationship between theory and practice" where "each influences and is influenced by the other" (Wells, 1990:399).

The assumption is that the divide between the theory and practice of teaching can be resolved through teachers critically reflecting on their practice through a

cycle which involves them in a process of action reflection or "trying, evaluating, modifying and trying" again (Hofmeyr & Hall, 1996:20).

However, advocates of the second variant of the model argue that the "atheoretical" approach of the first variant offers a "common sense" and uncritical understanding of reflection which may develop teachers' technical or practical competence but which does not develop teachers' ability to reflect critically on the relationship between educational theory and practice (SAIDE, 1995:95) and to select and employ appropriate practices within a particular context (Flanagan & Sayed, 1992:111).

The claim is that, if an instrumental approach to teaching (for example, teachers applying new skills in inappropriate ways) is to be avoided, teachers need to be provided with an adequate understanding of alternative, more cognitive theories of teaching and learning. The idea is that this theoretical and practical understanding improves the possibility of "pedagogic reflexivity" where teachers themselves take responsibility for exercising the kind of 'prudent' or appropriate judgement which will improve the quality of teaching and learning in their classrooms (Flanagan, 1992:34).

4.2.2 Conception of knowledge

The generic reflective teaching or action reflection model is based on a constructivist theory of knowledge where the view is that knowledge is actively and personally constructed by learners rather than 'given' through the environment acting on learners. Knowledge is presented as changing and debatable rather than fixed (Wells & Chang-Wells, 1992:27-28).

4.2.3 Conception of learners and learning

According to the reflective teaching model, learners are no longer seen as passive recipients of 'reified' knowledge but as active participants who make their own meaning through collaboration with their peers or "others more knowledgeable than themselves" as well as through their own contribution (Wells

& Chang-Wells, 1992:28). Learning in this model is assessed in terms of conceptual understanding and not only as the accumulation of facts and skills (Flanagan, 1992:33) and pupils are tested on what they are able to do independently with what they have learnt.

Advocates of the second variant of the generic model argue that, because the first variant does not provide teachers with access to and control over current theories on cognition (for example, by developing teachers' understanding of the teaching and learning process or of the difference between behaviourist and cognitive learning theory), teachers' existing (behaviourist) understanding of the psychology of learning does not change.

As a result teachers do not develop an adequate understanding of the importance of mediation, social collaboration and language in the learning process. They ignore the social nature of learning and are left with the idea that learners only learn by discovering knowledge for themselves through acting on their environment (ibid).

4.2.4 Conception of the role of the teacher

It is the view of the teachers' role in the classroom which is perhaps the most dramatic feature of the model and the one with the greatest implication for INSET.

According to the reflective teaching model, the role of the teacher is not to 'dominate' discussion or even teach in the traditional sense but to 'facilitate' new learning by providing pupils with opportunities for active participation in the classroom.

The claim of the second variant of this model is that, because the first variant does not focus on changing teachers' understanding of how cognitive growth takes place (Flanagan, 1991b:35), the role of the teacher in the learning/teaching interface remains un- or under-theorised (Flanagan & Sayed, 1992:110).

As a result, teachers are denied the opportunity of developing their central role in the process of instruction, (in other words their role in mediating between learners' prior knowledge and experience and new learning) and the teacher's task of mediating and demonstrating the skills, strategies, content and language or 'tools' necessary for abstract thinking, problem-solving and achieving cognitive understanding is left unexamined (Flanagan, 1992:34).

Instead of encouraging teachers to place themselves at "the centre stage" (Walker, 1988a:151) - as "the mediator, the bearer of authority, the voice which structures the social interaction" in the classroom (Deacon & Parker, 1991:108-9), courses based on the first variant encourage teachers to act as a "guides" or "facilitators" or "managers" (Davidoff & van den Berg, 1990:19; Macdonald, 1990b:16) whose task it is to organise "learning experiences" (Flanagan, 1992:33), provide "the resources for self-directed learning" (Flanagan & Sayed, 1992:109) and "observe and monitor pupils' development" (Flanagan, 1991c:179).

Critics argue that, as a result, teachers may seat pupils in groups but, instead of engaging them in 'collaborative talk' or providing them with opportunities to develop the thinking skills and strategies which are necessary for independent problem-solving and critical thinking and which will enable them "to apply knowledge in different contextual domains" (Schofield 1994:156), teachers engage pupils in similar ways and in similar tasks to those in the tradition they are supposed to be replacing (Galton, 1987 cited in Macdonald, 1990b:17; Flanagan & Sayed, 1992:111).

4.2.5 Conception of effective teaching methods

The reflective teaching or action reflection model values more "progressive", "participatory", "democratic" teaching practices and encourages learner-centred, problem-solving, enquiry-based, interactive and collaborative learning and teaching (Davidoff & van den Berg: 1990:19; Macdonald, 1990:16b).

4.2.6 Conception of teacher change

According to the generic model, teachers should no longer be seen as passive recipients who need to be told by experts what it is that they "ought to know" or do (Hofmeyr & Hall, 1996:20). Instead teachers are seen as "active participants" who, through continually and critically reflecting on their practice, can take responsibility for changing their practice themselves (Flanagan, 1991c:26).

However, advocates of the second variant of the model argue that, by focusing on modifying teachers' beliefs, values and attitudes (for example, their attitudes towards particular teaching procedures and methods) and skills, instead of focusing on changing teachers' theoretical and practical (conceptual) understanding of teaching and learning, the first variant treats teachers as "problems" "incapable of intellectualising their work" or as "receivers" in need of a "solution" or "remedies" given by "experts" who will transform them into "good" teachers (Deacon & Parker, 1991:108-9).

The claim of the second variant is that, whilst courses based on the first variant may assist teachers to acquire the physical resources and technical skills to change their practices, they do not assist teachers to acquire the mental or conceptual resources to take responsibility for improving their practice themselves and for selecting and employing appropriate practices within a particular context. Thus they operate with the same "deficit" model of teachers as the model which they are supposed to be replacing (Flanagan, 1991b:35).

4.2.7 Conception of educational quality

Criteria for teaching competence in the reflective teaching or action reflection model are not linked to behavioural objectives which dictate what teachers should know and do but are linked to the teaching and learning processes and interactions necessary to teach pupils such that they can become independent learners (Jansen, 1994:28).

Critics argue that the 'atheoretical' approach of the first variant reinforces a behaviourist or technical view of teaching where improvement in professional practice is seen as the acquisition of content knowledge and the application of skills and procedures rather than the development of theoretical and practical understanding as well as skills and subject knowledge. As a result, teaching competence tends to be measured and assessed in terms of "the successful conformity of teachers to broadly defined teaching procedures" (demonstrated by 'good' management skills, 'good' use of resources, 'good' classroom organisation) and methods (particularly, the use of group work) (Flanagan 1992:34; Flanagan & Sayed, 1992:110).

The assumption of the second transformative variant of the generic action reflection model is that changes in teachers' self-understanding and conception of cognition are necessary if teachers are to take responsibility for transforming teaching and learning practices and bringing about improvement in the quality of teaching and learning (Flanagan, 1991a:171). A further assumption is that it is teachers ability to reflect critically and act appropriately within a particular context which will bring about improvement in the quality of teaching and learning.

5. RÉSUMÉ OF THIS CHAPTER

Two main traditions for INSET have developed in South Africa, namely the academic and theoretical content tradition and the school competence tradition. Two main models for INSET have been constructed within these two traditions and different assumptions underpin the conceptual base for these two models for improving the quality of teaching and learning through teacher development.

The critique of the main model in the first tradition is that it does not recognise the dialectical relationship between theory and practice and discourages teachers from improving their practice or from developing a more critical practice through reflection and experimentation (SAIDE, 1994:14). Furthermore, curricula for courses based on this model are dominated by theory which is not linked to

practice and, in most cases such courses emphasise familiarity with the content of a single theory approach to teaching and learning (NEPI, 1992:17).

The main model in the second tradition is based on the principle of action reflection or reflective teaching and emphasises the dialectical relationship between theory and practice. Two variants of this reflective teaching or action reflection model for INSET are evident. The first variant is based on the assumption that teachers need to be provided with little or no access to the theories of teaching and learning. The second variant is based on the assumption that, in order to reflect critically on their practice and transform teaching and learning practices, teachers need to be provided with access to and control over the theories of teaching and learning.

The transformative action reflection model or second variant of the generic reflective teaching model is the model to be assessed in this study. This model assumes that a qualitative impact on classroom practice cannot happen without impacting on teachers' theoretical and practical understanding of teaching and learning and that it is teachers' ability to reflect critically and act appropriately which will bring about improvement in the quality of teaching and learning.

CHAPTER THREE: THE THEORETICAL UNDERPINNINGS OF THE TRANSFORMATIVE ACTION-REFLECTION MODEL AND THE CONSTRUCTION OF THIS MODEL IN SOUTH AFRICA

This chapter attempts to clarify the core assumptions of the transformative action reflection model for INSET by examining the theoretical underpinnings of the central concepts of this model, in particular the concept of 'the dialectical relationship between theory and practice' and the concept of 'action-reflection.' These concepts have a central place in three traditions of critical thought, namely Marxist theory on dialectics and reflexivity, the Frankfurt School's critical social theory and Paulo Freire's critical pedagogy.

1. LOCATING THE MODEL IN THREE TRADITIONS OF CRITICAL THOUGHT

1.1 Marxist theory on dialectics and reflexivity

The idea that theory (understanding) and practice (behaviour) are mutually interdependent has a central place in Marxist thought.

Marx saw society as structured into two classes - the oppressed and the oppressors. His concern was social transformation and he believed that this entailed fundamental changes in social relations (Bottomore, 1975:60).

According to Marxist social theory, capitalist society functions through its structures (for example organisations and institutions such as schools), both to ensure the reproduction of a class of workers or proletariat to serve as a dependable and compliant workforce and to maintain the privileges of the 'ruling class' (International Encyclopaedia of Education, 1994, s.v. 'Marxism and educational thought'). These functions of social reproduction and legitimisation of 'class order' are concealed by the fact that the social practices of society and its structures are overcoded by the dominant 'ruling class' ideology (ibid.).

Thus for Marx, abstract theories or understandings of society which are unrelated to social practices cannot provide the practical means to change society

(Bottomore, 1975:53-4). In other words, according to Marx, the way to change the historic conditions which create "existing reality" (Avineri, 1968:138) is not through "the application of a 'correct' theory in order to reach a desired and predicted end" (ibid.:61).

Instead, Marx saw the central agency for social transformation as the "revolutionary proletariat" (Bottomore, 1984:72). He believed that it is only when "the proletariat becomes conscious of and understands their exploitation and alienation" that they will "be impelled to change their circumstances by striving for a classless society" (Levitas, 1974:viii).

When the worker comprehends that under capitalist production he (sic) is degraded to the mere status of an object, of a commodity, he ceases to be a commodity, an object and becomes a subject (Avineri, 1968:148).

In terms of Marxist thought what is necessary for the proletariat to emancipate themselves from accepting established ways of thinking and the social practices which oppress them, is the development of "social life in new forms" (Bottomore, 1975:53-4) together with "new forms of consciousness" (Avineri, 1968:149). In other words Marx saw the development of new forms of social behaviour and new forms of social understandings as a simultaneous task.

For Marx, 'praxis' or "the self-creative activity through which we make the world" (Bottomore, 1983:386) can no longer be seen as human action which is:

informed by theory in the sense of self-conscious, undetermined activity of individuals or social groups operating from a total understanding of the truth about the historical process, but as action based upon the partial, corrigible knowledge acquired by empirical study of social structures and historical events. At the same time, practice itself, the actual development of economic, social and political relationships, has to be seen as exercising an influence upon theory by posing new problems and by bringing into question some of the propositions which constitute, or are derived from, the theory (Bottomore, 1975:53-4).

A further feature of this understanding of the relationship between theory and practice and social change is Marx's explanation of the development of

knowledge. For Marx, knowledge develops in a particular social and historical context which is in a process of continual change (Bullock, Stallybrass & Trombley, 1988:386-7). Thus human activity which is consciously designed to change conditions which create "existing reality" must have a dialectical aspect which includes critical self-reflection (Avineri, 1968:138). This "revolutionary praxis" entails:

a developing interplay of social thought and social action, in which thought has to correct itself by inquiring into, and reflecting upon, past action and its consequences, and to remain open to the possibility of genuine novelty in the process of human self-creation (Bottomore, 1975:61).

In summary, the central question for Marx is how to change established ways of thinking or people's unconscious and uncritical way of seeing the world and create an alternative view so that the proletariat can emancipate themselves. For Marx the answer lies in the development of the 'revolutionary praxis of the proletariat' or human activity which is consciously directed at social transformation. According to Marx, it is through 'praxis', or the unity of theory and practice, that the working class can change their 'consciousness' and develop new forms of social understanding and social behaviour. However, this should be viewed as an ongoing developmental process of continual growth through a spiral of action and critical reflection on action.

1.2 The Frankfurt School and critical social theory

The Frankfurt School, originally a centre for Marxist theory in the 1930's (Bottomore, 1984:7) articulated a theoretical framework for a "critical social science" and for the development of "individual human consciousness" through collaborative critical self-reflection (Wallace, 1987:109).

The School shared Marx's goal of social transformation and, like Marx, saw theory and practice as inseparable (Bottomore, 1984:11). However, according to the School, the agency for social transformation was individual human consciousness through the power of critical thought rather than a 'revolutionary proletariat'.

The School ruled out positivistic and interpretative social science as a means of contributing to social transformation. Their critique of positivistic social science was that it is not objective because researchers adopt the position of 'neutral' observers who do not question existing reality but take "social reality for granted" (Wallace, 1987:108). Although interpretative social science tries to understand human actions or social practices by focusing on participants' perspectives, the School argued that this 'hermeneutic' approach does not expose the conditions which influence people's perceptions (ibid.). They argued that neither interpretative nor positivistic approaches to social science encourage critical reflection on "current forms of domination" and established social practices and will not lead to social transformation as their 'interests' are not 'emancipatory' (International Encyclopaedia of Education, 1994, s.v. 'action research').

Instead the School suggested an alternative model of 'critical' social science based on the view that only an approach which reunites theory and practice and which includes ongoing self-critical reflection can contribute to social transformation (Wallace, 1987:109). In other words, the School suggested that the emancipatory function of critical social science is "not merely as a consequence of good theory but as partly constitutive of it" (International Encyclopaedia of Education, 1994, s.v. 'philosophy of education: historical overview').

Although the Frankfurt School contributed to the development of a critical theory of social science, it was Jurgen Habermas, a contemporary theorist of the Frankfurt School who articulated what 'critical' social science "might look like" in practice (Wallace, 1987:109). He suggested a model based on Freudian psychoanalysis which he calls 'depth hermeneutics' where the aim is to "penetrate the surface consciousness of the patient to uncover unconscious or repressed needs and wants, so as to reconstruct the patient's life history in order to precipitate self-reflection and acceptance" (Deacon & Parker, 1991:107).

The intention of Habermas' model was to provide "the kind of self-reflective understanding that will permit individuals to explain why the conditions under which they operate are frustrating" and which "will suggest the sort of action that is required if the sources of these frustrations are to be eliminated" (Carr & Kemmis, 1986:136).

Habermas grounded critical theory in language through his 'discourse theory' (Bottomore, 1984:77). According to Habermas, language is "in principle a medium for sharing meaning" and overcoming domination (Wallace, 1987:108).

He advocated the use of 'communicative action' for 'communicative competence' through "collaborative critical self-reflection" on "conditions of action by people who engage in dialogue as equal and autonomous partners" (Wallace, 1987: 108). The idea is that:

By following a procedure for examining statements which are claimed to be true, consensus is achieved through complete understanding unhindered by normal distortions. The enlightenment gained through development of critical theory is grounded when subsequent action is taken to realise emancipation from conditions of domination and dependence (Wallace, 1987:109).

In education, the task of the educator is to help learners discover the knowledge that they already have as well as to assist them in getting to know what they do not already know. Habermas' theory that critical reflection takes place through language through a process of communicative action has been criticised in terms of education, (International Encyclopaedia of Education, 1994, s.v. 'philosophy of education: historical overview'). His idea of an "ideal speech situation" implies that all participants "take each other seriously" and "share a common world" (ibid.). The assumption is that everyone has relatively equal communicative competence. However, to be on equal terms in a discussion, a "certain level of knowledge" as well as "an understanding of notions of value" is crucial (ibid.). Clearly, these are unequally distributed in a society such as South Africa.

1.3 Paulo Freire and critical pedagogy

The Brazilian educator Paulo Freire grounded critical theory in education through his understanding of 'critical' pedagogy (Deacon & Parker, 1991:107). Pedagogy is concerned with the theory and practice of teaching and learning. Critical or radical pedagogy is a pedagogy where "theory is generated through reflection on practice so as to contribute to the development of a 'critical theory of schooling'" (Flanagan, 1991c:iii) and is concerned with "What kind of teaching could make critical learning happen?" (Freire & Shor, 1987:19).

Freire's philosophy is based on the observation that education, in particular education for the poor, is not neutral but is either for 'domestication' or for 'liberation'. In particular he believed that conventional approaches to adult education are not relevant to oppressed people of the Third World because they do not contribute towards the revolutionary overthrow of oppression but encourage 'uncritical acceptance' of the socio-economic relationships which cause their oppression (International Encyclopaedia of Education, 1994, s.v. 'conscientization and mobilisation'; 'critical theory and education').

Like Marx and the Frankfurt School, Freire believed that the way to address the existing reality of the poor or oppressed was through a process of 'conscientization'. It was through 'conscientization' or understanding their social reality and experiences that they would become 'humanised' and would be able to shift from being 'objects' to becoming 'agents of change' (Freire, 1970b:27-56).

For Freire the process of 'conscientization' involves 'problematizing' the circumstances in which people find themselves so that they can begin to understand their position as 'objective-problematic situations' (ibid.). The idea is that through "dialogue, reflecting together on what we know and don't know, we can then act critically to transform reality" (Freire & Shor, 1987:99). Through this process people will become aware of the circumstances and powers which cause their suffering as well as their own faculty for critical reflection and personal resources for taking responsibility for changing the situation.

In other words, Freire's key principle is that "...there is no conscientisation outside of praxis, outside of the theory-practice, reflection-action unity" (Freire, 1985:160). It is only by developing 'praxis' through participating in a continuous and dialectical cycle of reflection and action that the oppressed could begin to transform both the 'dehumanising situation' in which they found themselves and themselves from objects to conscious human beings (Freire, 1976:3-5).

Thus for Freire:

The act of knowing involves a dialectical movement that goes from action to reflection and from reflection upon action to a new action (1985:50).

It is in this way that the oppressed would become the "authors of the ideology which constructs their subjectivity" (Flanagan, 1991c:13) and this awareness would become the basis for the practical transformation of society.

According to Freire's 'Pedagogy for Liberation' (Freire & Shor, 1987), the role of the teacher in this process is not to remain neutral but to ensure that her/his practice serves the interests of the oppressed and is consistent with the politics of social transformation. Teachers need to ask themselves "What kind of politics am I doing in the classroom? That is, in favour of whom am I being a teacher? By asking in favour of whom am I educating, the teacher must also ask against whom am I educating?" (ibid.:46).

Although Freire's philosophy requires "accountability from the teacher for "naming" the political agenda behind her/his wish to initiate a critical pedagogy" (Flanagan, 1991c:32), for Freire this does not mean that pedagogy should be based on certainties. Rather, a pedagogy for liberation needs to be based on an "experimental attitude" where teachers "research their field of action to see the results and limits of their interventions" and are as much learners as the students (Freire & Shor, 1987: 58). He believed that "the more unquiet a pedagogy, the more critical it will become " and that a critical pedagogy is one which is "much more a pedagogy of question than a pedagogy of answer" (Freire & Macedo, 1987:54).

2. ACTION RESEARCH AS A METHODOLOGY FOR SOCIAL ENQUIRY AND TEACHER EDUCATION

Debates about educational and social research methodology in the 1970s and 1980s also raised questions about the unity of theory and practice and the need for critical self-reflection (International Encyclopaedia of Education, 1994, s.v. 'action research').

The notion of 'action research' developed as a form of anti-positivistic methodology which would have, so it was hoped, the potential to challenge positivism's view of the relation between theory and practice by trying to overcome the separation of theory and practice (Flanagan, 1991c:19) as well as "the distance between researchers and practitioners" (International Encyclopaedia of Education, 1994, s.v. 'action research').

The term 'action research' is based on the work of the social psychologist Kurt Lewin in the 1940s (Kemmis, 1982:17). According to Lewin, if meaningful social theories are to be developed, they must address problems which are "grounded in the life circumstances of the inquirer" (ibid.:20). He believed that "advances in theory" (knowledge about practice) and "needed social changes" (practice) might "simultaneously be achieved" through action research (ibid.:13).

Action research involves participants in 'action research spirals' which entail repeating cycles of planning, acting, observing and reflecting on practice. The aim of the spiral is to change actions so as to improve practices, understandings and situations through the involvement of all those involved in all phases of the cycle (ibid.:14).

Action research is "open-minded" about what it counts as data (International Encyclopaedia of Education, 1994, s.v. 'action research') and entails keeping records such as diaries, photographs or recordings "to provide a basis for reflection" and "as a means of documenting observations" (Grundy & Kemmis, 1982:92) about what has been learnt about practices as well as about the action

research process itself (International Encyclopaedia of Education, 1994, s.v. 'action research').

Two views of action research are evident. One group (Schwab, 1969; Schon 1983) see action research as a means for individual practitioners to improve their professional practice within the "constraints of institutions and organisations" (International Encyclopaedia of Education, 1994, s.v. 'action research'). The other group believes that this approach is "problematic" in that it is "too individualistic" (ibid.) and believes that 'emancipatory' action research is a way of addressing social and educational problems and for changing society (ibid.). Since it is this latter which informs the transformative action reflection model for INSET, it requires further elaboration.

2.1 'Emancipatory' action research

In the 1980s, Carr & Kemmis (1986) articulated a rationale for emancipatory action research. They make a distinction between the interests of 'technical', 'practical' and 'emancipatory' action research which draws mainly from the ideas of the Frankfurt School, in particular from the work of Habermas (Wallace, 1987:108-9).

According to Carr & Kemmis (1986), the goal or "knowledge-constitutive interest" of 'technical' action research is to find 'technical' solutions to social and educational problems. The goal of 'practical' action research is to understand human actions. The goal of 'emancipatory' action research is to reveal the difference between the values and goals of social and educational systems and institutions and the ways in which their actual practices are constructed (Wallace, 1987:108). In other words, the rationale for 'emancipatory' approaches to action research is that they subscribe to critical social science's interest in liberating people from the "dictates of tradition and habit" (Kemmis, 1982:20).

'Emancipatory' action research is a collaborative process which involves participants in group reflection on practice and individuals in an action research

cycle or spiral which includes critical self-reflection on practice (Wallace, 1987:109). As far as possible, a participant in emancipatory action research:

plans thoughtfully, acts deliberately, observes the consequences of action systematically, and reflects critically on the situational constraints and practical potential of the strategic action being considered (Carr & Kemmis, 1986:40).

Thus 'emancipatory' action research is seen as a strategy for bringing about improvements in practice as well as the construction of critical theory through reflection (Carr & Kemmis, 1986:44). The idea is that participants might problematise their own unconscious and uncritical or "taken-for-granted" assumptions about their professional practice and the theories which guide their everyday practice (ibid.:42) and, through this process, free themselves from irrelevant or useless practices as well as from the constraints imposed by the values which underpin the social and educational practices within systems and institutions (International Encyclopaedia of Education, 1994, s.v. 'action research').

Through the establishment of "critical communities of enquirers" participants may develop "scientific discourses" (Habermas, 1974) and begin to construct themselves as agents of change (Carr & Kemmis, 1986:40). Thus emancipatory action research is seen as a cultural process similar to the idea of "cultural action for freedom" (cultural action which would bring about 'conscientization') (Freire, 1985:85) in that 'emancipatory' action researchers:

are understood as groups of people who participate systematically and deliberately in the processes of contestation and institutionalisation which are always at work in social and educational life, aiming to help in the improvement of social educational life by the reflective and self-reflective ways they participate in it (International Encyclopaedia of Education, 1994, s.v. 'action research').

Although 'outside' facilitators play a role in 'emancipatory' action research by acting as 'moderators' who help the group to reflect "without distortion", ultimately it is participants who 'own' the enquiry and it is the understandings of participants which are seen as crucial in shaping change (Wallace, 1987:109).

2.2 Action research and teacher education

The teacher-as-(action)-researcher movement developed in Britain during the 1980s and later spread to America and Australia (Walker, 1989b:50).

A number of university educational researchers have explored the notion of the teacher researcher in the professional development of pre- and in-service teachers. Indeed, it forms part of the curriculum of a number of teacher education courses, for example the 'Action Research in Curriculum Courses' offered by the School of Education in Deakin University's Open Campus Program in Australia, as well as in a number of teacher education courses in South Africa.

Action research is seen by some teacher educators as an appropriate approach to teacher education because it is believed to emphasise "the professional role of teachers" by assisting them as practitioners to "investigate the connections between their own theories of education and their day-to-day practices" in the classroom and encourage them to take responsibility for improving their practice themselves (International Encyclopaedia of Education, 1994, s.v. 'action research').

Some educationists believe that 'emancipatory' action research is a strategy which has the potential to assist teachers to develop a critical pedagogy and to become critical agents of change by contributing to social transformation through making education more meaningful, interesting and appropriate for their pupils (Wallace, 1987:109).

2.3. Teacher training and reflective teaching

Teacher training colleges tend to see research as the domain of universities and have generally not included the idea of action research in their courses or even to encourage critical self-reflection amongst teachers. However, the notion of reflective teaching or action reflection is increasingly coming to be accepted in current discourse on approaches to teacher education, particularly in South Africa. For example the 1996 National Teacher Education Audit on the Colleges

of Education identifies the lack of an adequate concept of the "integration of theory and practice which aims at the development of reflective practitioners" as one of the problems which underpin teacher education at colleges of education (Jaff et al., 1996:99).

The idea is that, in order to teach effectively, reflection must precede and follow action. However, as Adler (1991) points out, some important differences in perceptions of the notion of 'reflection' in this approach to teacher education are worth noting.

She identifies three different perspectives of teachers as 'reflective practitioners' (Adler, 1991:139), namely 'reflective teaching' (Cruikshank, 1987), 'reflection in action' (Schon, 1987) and 'reflection as critical inquiry' (Zeichner & Liston, 1987).

According to Adler, approaches to teacher education which are based on the first perspective of teachers as 'reflective practitioners', see reflection as "instrumental in enabling teachers to replicate teaching behaviours which are, as a result of empirical research, deemed to be effective" (Adler, 1991:140). Reflection in this approach tends to be based upon 'common-sense' or unconscious and uncritical pedagogical and theoretical understandings (ibid.:146). In other words 'praxis' is seen "as a form of technical expertise designed to achieve some externally related end" (Flanagan, 1991c:60).

A second perspective on reflection is evident in the book, *The Reflective Practitioner* (Schon, 1983), which argues that practice is essentially a sequence of problem-solving tasks. The idea is that, although practitioners may use theory to solve problems in practice, they have no direct interest in theory. Their only interest is in solving the particular problem with which they are faced.

This view is based on the idea that there are "no general theoretical solutions" to solving problems, "only solutions to particular local problems as they emerge". (Clandinin and Connelly, 1988:95). Teacher education based on this approach

encourages reflection on practice so that teachers "can begin to recognise good practice" and "think in the midst of acting" (Adler, 1991:141).

Adler argues that although this conception of 'reflection' treats practice as problematic, it does not question "wider contexts" such as "curriculum content or goals" (ibid.:132) or "the school structure itself" (ibid.:147). Instead the emphasis is on "doing the job effectively" and on "how particular teaching goals might best be reached" (ibid.).

According to Adler, the third view is evident in the work of Kenneth Zeichner (1981). Since it is this view which informs the model to be assessed in the study, a more detailed discussion of this view is provided below.

Whilst Zeichner accepts the importance of "technical proficiency" (skills) and "the need to respond to the specific situations of practice", he argues that 'praxis' is not simply "technical expertise" (Adler, 1991:146) or "a method to determine how to do something" (Flanagan, 1991c:60) or "conformity to general traditions or narrowly specified prescriptions for practice" (Carr & Kemmis, 1986:31).

Neither does his approach to reflection see 'praxis' as only a "matter of wise and prudent deliberation" (ibid.) such as the individual practitioner's ability to select appropriate practices within the existing classroom context (Adler, 1991:146). Instead he sees 'praxis' as including reflecting critically "about those contexts and the effects upon the human beings who function within them" (ibid.) so that:

curriculum goals are themselves open to question, as students are encouraged to consider their purposes within broad cultural contexts as well as classroom contexts. Students are encouraged to consider ethical and political consequences of curriculum and of pedagogical practices and in doing so, they are to consider the cultural and historical contexts in which schools, and they as teachers and learners, exist (ibid.).

In other words, the view is that the accumulation of understanding and skills alone will not impact on teachers' behaviour significantly unless critical reflection includes reflection upon "the way in which practices are structured by

institutionalised authority relations" (Flanagan, 1991c:26). However, according to Flanagan (ibid.:25), if an instrumental or "deterministic form of self-reflection" is to be avoided, "so that the self is envisaged in such a way that its improvement is a process of self-transcendence rather than self-reproduction" this approach must include a more 'transformative' role for teachers.

According to this view, the task of teacher education is to:

... develop prospective teachers' capacities for *reflective action* (Dewey, 1933), and to help them examine the moral, ethical and political issues, as well as the instrumental issues, that are embedded in their everyday thinking and practice (Zeichner, 1983:7).

It is this view which has contributed to the construction in South Africa of a transformative action reflection model for teacher education and INSET. The development of this model, its central claims and core assumptions, is described below.

3. THE DEVELOPMENT OF THE TRANSFORMATIVE ACTION-REFLECTION MODEL FOR TEACHER EDUCATION AND INSET IN SOUTH AFRICA.

In South Africa the second generation of neo-Marxist theory, namely critical social science and critical pedagogy, manifested itself in the mid 1980s in approaches to teacher education and INSET which are informed by action research methodologies.

3.1 'Emancipatory' action research as a potential strategy for developing a critical pedagogy

In the mid 1980s some teacher educators and NGOs in South Africa chose to use 'emancipatory' action research as a strategy "because of its political relevance at a time when the concept of People's Education for People's Power had recently emerged" and because they hoped it had the potential for developing a critical pedagogy (Deacon & Parker, 1991:106).

However, the experiences of these researchers and teacher educators was that, whilst action research methodologies were useful in that they contributed towards the development of the conceptual skills and processes necessary for teachers to reflect on their current practice (such as observing, analysing and interpreting), 'emancipatory' action research approaches that aimed to assist African teachers in developing a critical pedagogy seemed to be constrained by a number of factors (Walker, 1989a:9).

3.2 Critical analysis of constraints

Initially most of the analysis of these constraints focused on the structural conditions in African schools which were seen as not conducive to teachers experimenting with alternative teaching practices in their classrooms, for example large class sizes and the lack of teaching resources (Walker, 1988b:30; Walker, 1991b:7). In the 1980s these conditions were seen to be aggravated by the fact that programmes were operating "during a time of heavy repression" when "regular disruption of schooling" and "increased protest against the injustices of the apartheid system" was the norm (Flanagan, 1991d:3).

The critique was that:

While action research in South Africa can draw on a growing body of knowledge on the theory and implementation of action research (Unterhalter and Wolpe, 1989), we need to recognise that such work has developed in a context of relatively greater teacher autonomy, better educated teachers and a situation altogether less contested and volatile than our own. We need thus, to bear in mind that most of the literature does not problematise the structural conditions which enable or constrain democratic dialogue, collaborative work and critical classroom practices (Walker, 1989b:50).

By the late 1980s analysis of the constraints began to include a focus on human agency constraints, in particular the ways in which teachers themselves acted as agents of reproduction instead of agents of change.

According to this analysis, action research processes in South Africa whose interests were 'emancipatory' were constrained not so much by the structural conditions of schooling and schools as by the fact that:

By the end of ten or twelve years of schooling, and a further two years of teacher training, all under the control of the DET, most African teachers will have internalised a particular understanding of teacher behaviour which they then act out themselves in their own classrooms. So the dominance of transmission teaching with its concomitant emphasis on teacher-talk, drill and practice and rote-learning continues to hold sway and few questions are consciously posed by teachers regarding what and how they teach, and in whose interest (Walker, 1987:20).

According to this Marxist 'ideology critique' of African teachers' existing self-understanding of teaching and learning, because of their previous experience of schooling and teaching, teachers in ex DET/TBVC and Bantustan schools had been deprived of theoretical and pedagogical understanding of alternatives to transmission teaching (Flanagan, 1993c:5 & Walker, 1988b:30&35) and, as a result, tend to adopt traditional transmission models of teaching which over-emphasise "overtly behaviouristic methods" of teaching which limit the work and life chances of their pupils (Flanagan, 1993b:36).

3.3 The construction of the transformative action reflection model

Although the earlier 'interests' of action researchers had been 'emancipatory' in that they had contributed towards the development amongst action researchers of a more critical theory of schooling and philosophy of education (Flanagan, 1991c:iii), as far as the participating teachers were concerned, their 'interest' had in fact been 'technical' or 'practical' rather than 'emancipatory' (Deacon & Parker, 1991:114).

This realisation led to the view that approaches to teacher education and INSET in South Africa whose goals are 'emancipatory' needed to include a more 'transformative role' for the "teachers of the oppressed in South Africa" (Walker, 1989:50) by providing them with alternative, more appropriate theoretical and practical understanding of teaching and learning.

This view led to the construction of a model for teacher education and INSET which is based on the notion of transformative action reflection. Unlike action reflection/reflective teaching approaches to teacher education which try not to influence participants' understanding by involving teachers in the construction of theory through their reflection on practice, this model adopts a more "political approach" by working against "permitting the instrumentalism" of teachers from becoming the "dominant form of reflecting on practice" (Deacon & Parker, 1991:114) and emphasising relational learning and changing teachers' "current self-understandings" of learning and teaching. Instead of giving "equivalent value" to teachers' existing theories, the model both encourages teachers to reflect critically on their current understanding and emphasises an understanding of alternative, more cognitive theories (ibid.:112-114).

3.4. Central claims and assumptions of this model for teacher education and INSET

The central claim of this transformative action reflection model is that, if teachers themselves are to begin to construct more appropriate pedagogical practices for their pupils instead of simply applying new rules in instrumental or meaningless and inappropriate ways, they need to be empowered to reflect on their practice in more 'transformative' ways, in other words, in ways which will transform their existing teaching and learning practices. The claim is that INSET courses need to offer teachers "a superior, alternative conception" of teaching and learning which both "critiques current practice" and "informs the development of a new and better practice" (ibid.:112).

In other words, the construction of this model for INSET is based on the assumption that reflection upon practice alone will not necessarily lead to critique and that, in order for the impact on teaching behaviour to be meaningful and appropriate, teachers need both to understand why their current practice needs to change and to be empowered to reflect in more informed, theoretical and critical ways (Flanagan, 1991c:26).

The view is that teachers must be provided with alternative more cognitive theories of teaching and learning to reflect upon and to inform their practices or else they will reflect in an untheoretical and uncritical way (Deacon & Parker, 1991:113). However, although teachers need to have access to and control over alternative theoretical and pedagogical understandings of teaching and learning, actual pedagogical practices should not be imposed on teachers. Instead, teachers' pedagogical practices must grow out of experience which is classroom-based and problem-orientated (ibid.:112-113). Thus, although the model is underpinned by values and practices which it wants teachers to understand, it acknowledges the professional autonomy of teachers to act appropriately within particular contexts. The assumption of the model is that it is the teachers' ability to select and employ appropriate practices which will bring about improvement in the quality of teaching and learning in classrooms.

4. RÉSUMÉ OF THIS CHAPTER

The theoretical underpinnings of the transformative action reflection model for INSET are rooted in classical Marxist thought on the unity of theory and practice and the concept of critical self-reflection.

These two concepts contributed to the development of two main neo-Marxist subtraditions, namely that of the Frankfurt School's critical social theory and Paulo Freire's critical pedagogy. Critical social theory, critical pedagogy and 'emancipatory' action research methodologies are based on similar assumptions that people learn when they reflect on their actions; that people (in particular the oppressed of society) are both able and willing to change their understandings and behaviour "on the basis of new information" and to actively "seek information" which will assist them to make more prudent and appropriate judgements; that they "can be persuaded" to critically reflect on their taken-for-granted and uncritical assumptions and "act on the basis of these reflections" to bring about social transformation (ibid.:107).

In keeping with these three traditions of critical thought, reflective teaching or action reflection (enquiry-based) approaches to the professional development of teachers whose goals are 'emancipatory' assume that "humans are rational, reflective and creative beings" and that social transformation can be brought about through "analysis, understanding, reflection and praxis" (ibid.:107).

The second generation of neo-Marxist theory manifested itself in the 1980s in South Africa in enquiry-based approaches to teacher education which are informed by the notion of 'emancipatory' action research. By the late 1980s some teacher educators and researchers who were involved in these processes began to realise that reflection on practice alone did not necessarily lead to 'emancipation'. They recognised the need to emphasise a more 'transformatory' role for teachers by providing them with alternative pedagogical and theoretical understandings of teaching and learning. This view led to the construction of the transformative action reflection model for INSET in South Africa.

CHAPTER FOUR: THE SITE OF THE STUDY

The purpose of this chapter is to provide background information on and a brief description of the site of this study, an INSET programme based on the transformative action reflection model, which provides an exemplar or case study for the research.

1. THE PRIMARY EDUCATION PROJECT (PREP)

The Primary Education Project has developed an INSET course based on the theory that theory and practice are inseparable and that it is teachers' theoretical and practical understandings of the theories of teaching and learning which inform their classroom practice. Material for the Courses has been designed to encourage critical self-reflection.

1.1 Brief background and history of the Project

The PREP was established in 1987 by Wendy Flanagan, a tenured lecturer in the School of Education at the University of Cape Town (UCT) and is an extension of her work in primary education at the University (Flanagan, 1991b:29). Funding for the Project has been provided by private and overseas donor agencies (ibid.:27).

The Project's work focuses on the professional development of African primary school teachers, the aim being to assist teachers to improve the quality of teaching and learning in primary school classrooms (ibid.). The assumptions underpinning the PREP are that teachers can change, that they are capable of intellectualising their work and that they can take personal responsibility for improving the quality of their practice (ibid.:30).

The two main phases of the development of the Project are linked closely to the ongoing development of the project leader's own theoretical, practical and

political understandings and research into the professional development of teachers in South Africa.

Prior to lecturing at UCT, the project leader had had many years of practical experience as a primary school teacher, a remedial teacher and subject adviser. This work entailed working in House of Assembly, House of Representatives, House of Delegates and Department of Education and Training schools. The claim of the Project is that it was conceptualised and "grounded in the very real conditions that teachers experience in all sorts of classrooms across South Africa" (Flanagan, 1995c:back cover).

From April 1984 to March 1986, before the PREP was established, the project leader had conducted an action research study into improving her own classroom practice by working as a voluntary part-time primary school teacher. This study was conducted "within the broader struggle for a People's Education for People's Power" and formed part of her research for her PhD dissertation on the development of a critical pedagogy through critical self-reflection (Flanagan, 1991c:iii).

1.1.1 The first phase of the Project (1986 - 1993)

The first phase of the Project's work reflects the project leader's interest in 'emancipatory' action research as a potential strategy for the development of a critical pedagogy (Flanagan, 1991b:30-31).

This phase entailed testing the feasibility of using action research as a strategy for a 'bottom up' approach to the professional development of teachers (ibid.:30) in an attempt "to bridge the practice/theory divide" (ibid.:33). Action research was both the methodology that the university-based researchers adopted and the approach participating teachers were encouraged to adopt (Walker, 1989a:5).

The work involved researching in-service education as well as curriculum development in primary DET schools in the Western Cape and rural and farm schools in the Eastern Cape and KwaZulu-Natal (SAIDE, 1995:211).

The aim was to involve participating teachers "in developing new methods and resources, and in researching their own teaching so that they can improve it" (Flanagan, 1990b:preface). The research included giving teachers 'a say' in curriculum development through their participation in reading, testing, commenting on and evaluating curriculum material as it was developed by the Project (Flanagan, 1991b:29).

The role of people working in the Project was to act as facilitators who supported teachers by encouraging them to experiment with "different ways of teaching" and through videoing lessons so that teachers could "think and talk critically about their work" and ask "an observer to comment" (Flanagan, 1990a:preface). In other words, the "PREP tried not to tell teachers what to do; it wanted teachers to 'do it' for themselves" (Deacon & Parker, 1991:111).

By the late 1980s the project workers had found that, whilst the action research methodologies of the project workers had assisted teachers to improve their teaching practice in 'technical' and 'practical' instead of 'emancipatory' ways, the Project had not succeeded in facilitating teachers' 'transformation' of their own practice (Flanagan, 1991d:2; Walker, 1989b:53). These findings were further informed by the project leader's own research for her PhD dissertation (Flanagan, 1991c).

The assumptions underpinning this research are that "teachers are the central driving force in any meaningful development of a critical pedagogy" and that "teachers, acting as transformative intellectuals, can work towards socialist transformation" (ibid.:iii). The study focuses on "ways in which the educators themselves may become educated to take responsibility for their agency in transformation" (ibid.:iv).

The claim of the study is that the process of reflective teaching or action reflection depends upon 'the theoretic competence' (Flanagan, 1991c:25) of the teacher as practitioner and that the "site for the battle of power" is the "subjectivity of the individual practitioner" (ibid.:27). In other words, the study claims that it is teachers' practical and theoretical understandings of teaching and learning or conceptual 'consciousness' which enables them to take responsibility for selecting and employing appropriate practices or actions.

Ethnographic work in the PREP indicated that African teachers had been deprived of and lacked theoretical as well as practical knowledge of alternatives to transmission teaching (Flanagan, 1993c:5; Walker, 1988b:30 & 35) and that the 'consciousness' of African teachers had largely been formed by apartheid education (Bantu Education) and the philosophy of Fundamental Pedagogics (Flanagan, 1991b:35-8).

As a result of these findings, the focus of the Project's work began to shift from an emphasis on practice "at the expense of 'refining' understanding or theory" (Deacon & Parker, 1991:111) to an emphasis on developing teachers' professional competence through knowledge and understanding of theory as well as practice (Flanagan, 1993a:11-12; Flanagan, 1994:6).

The aim of INSET for PREP became to educate teachers so that they are empowered to intellectualise their work through critical reflection on their practice and to take responsibility for changing their practice through an understanding of critical educational theory (Flanagan, 1991b:37-9) and an understanding of "alternative forms of pedagogy" (Flanagan, 1991d:2).

1.1.2 The second phase of the Project (1993 - 1997)

The focus of much of PREP's earlier curriculum development work had been on the theory and practice of reading and writing instruction in DET primary schools, with particular reference to conditions in farm/rural schools (Flanagan, 1993c:2).

By 1993 the Project had developed a teacher development 'Pack' which focuses on the teaching of initial literacy.

The Pack is designed for use in distance education and "attempts to get teachers to intellectualise their work so that the children they teach become literate" (Flanagan, 1993c:2). Distance education was chosen because it allows teachers to "remain at the site at which change was to happen" (Flanagan, 1993a:1).

Most of the teachers with whom the Project had worked were "historically the most under-qualified teachers in the country" and the issue of "certification versus classroom practice" was a real one for these teachers (Flanagan, 1991d:2). The project leader felt that there was a "strong case for innovative attempts to link in-service projects to qualifications or salary notches" so that these teachers could receive recognition for their efforts (ibid.).

In 1993, the Project undertook a feasibility study into the possibility of instituting an accredited in-service diploma for Junior Primary teachers through distance education (Reeves, 1993). This feasibility study led to the development of a framework for a core curriculum for an INSET course for Reception Year to Grade 3 teachers to upgrade their qualification to M+3 through distance education and the implementation of pilot studies to trial this curriculum (PREP, 1995).

1.1.3 PREP'S INSET course

The goal of PREP's INSET course is to improve teachers' understandings so that they can take responsibility for improving their practice themselves and teach their pupils such that they can become independent, self-regulating learners (Flanagan, 1993a:13-14). The course claims that teachers can improve their teaching and can begin to select and employ the practices which best suit the particular needs of their pupils.

The assumption is that in order to begin to act on new ideas, change their classroom practice and construct a more qualitative and appropriate model for

teaching, teachers need to understand the theory of teaching and learning which informs their current practice as well as alternative more cognitive theories of teaching and learning.

PREP's distance education course tries to do this through its course material which has been designed to encourage teachers to reflect on their existing classroom practice and to critique their own weaknesses and strengths and by providing teachers with the "necessary psychological and intellectual support together with materials and resources which enable them to feel confident enough" to test their new understandings in the classroom (PREP, 1996:1).

For example, many of the course activities and assignments require teachers "to reflect on their own practice in the light of new information provided, relate this to their previous knowledge and experiment with new teaching approaches" (JET, 1995:7). The idea is that the new self-regulatory functions that the course anticipates teachers will acquire are mediated by activities in their study guides as well as other material such as classroom resources, assignments, and demonstrations and models of teaching (through the use of video and audio cassettes). These act as self-reflecting and self-regulating mechanisms so that teachers can progressively transform their teaching practice (Flanagan, 1993c:10).

Thus expectations are that it is the impact of the PREP courses on teachers' conceptual consciousness (theoretical and pedagogical understandings) which will bring about improvement in the quality of teaching and learning in classrooms. Through practical experimentation and critical reflection on their practice, teachers will begin to construct a pedagogy which will improve their pupils' conceptual understandings, skills and strategies thereby making education more worthwhile for their pupils.

2. THE CONTEXT OF THE STUDY

2.1 The PREP Courses

The PREP has developed four Courses for junior primary teachers:

- * Language and Learning;
- * Junior Primary Studies;
- * Education;
- * Mathematics.

Course material for each Course includes printed study material, video cassettes, audio cassettes and classroom resources. The study guides include practical tasks and activities designed to improve teachers' understanding and classroom practice. For the purposes of this study two of the Courses, namely the Language and Learning and Junior Primary Studies Courses are described.

2.1.1 The Language and Learning Course

This Course covers approximately 64 hours of study time and focuses on the integration of theory and practice in teaching reading. In its physical form, the material for the Course includes a study guide which structures teachers' learning as well as material from the PREP Resource Pack, namely - a prescribed book *Reading and writing in junior classes* by Wendy Flanagan; five of nine PREP Pack video cassettes; four of eight PREP Pack audio cassettes; classroom resources in the form of twenty story books in English and Afrikaans or an African language and ten sets of story charts (illustrations and text designed for front of class teaching) in English and Afrikaans or an African language.

2.1.2 The Junior Primary Studies Course

This Course covers approximately 50 hours of study time and places a strong emphasis on the integration of theory and practice in teaching Environmental Education in the junior primary phase, active learning, an integrated approach to the curriculum and classroom organisation. In its physical form, the material for the Course consists of a study guide (which makes reference to sections of the book, *Reading and writing in junior classes* by Wendy Flanagan); four video

cassettes including the video 'Theme Teaching' from the PREP Pack and ; a 'resource folder' (classroom resources which include pictures, posters and worksheets).

2.2 The pilot studies

In 1995/6 the course was tested in two pilot studies in KwaZulu-Natal and Gauteng. The pilot studies were set up at two distance education institutions, namely, Natal College of Education in Pietermaritzburg and VISTA University in Pretoria and started in May 1995 (SAIDE, 1995:211).

Both institutions decided to run three of the four core Courses in 1995, namely the Education, the Junior Primary Studies and Language and Learning Courses. (The Mathematics Course started in 1996). In addition to the core PREP Courses, teachers complete additional Courses offered by the accrediting institution so that all the existing criteria of the Committee on Teacher Education Policy (COTEP) for an M + 3 are met (SAIDE, 1995:211).

2.2.1 Co-ordinators and facilitators

Natal College of Education (NCE) appointed one full-time course facilitator and an existing staff member acted as course co-ordinator. VISTA University employed one full-time co-ordinator and one full-time facilitator (PREP, 1996:2).

The role of co-ordinators and facilitators includes regular school visits and classroom observation as well as face-to-face contact sessions at the institutions. Audio/video viewing takes place at centres nearer 'clusters' of teachers. In addition, teachers are encouraged to meet as often as possible with each other (ibid.:3 -4).

2.2.2 Assessment

Assessment of Courses matches the aim of the Course which is to improve teachers' understandings and practice in the classroom and includes an ongoing assessment of teachers' classroom competence. Assignments and examinations

are designed so as not to encourage rote learning and emphasise the link between theory and practice. Assessment of the PREP Courses consists of assignments (25%); examinations (50%); and classroom practice (25%) (SAIDE, 1995:212).

2.2.3 Teacher population

In May 1995, NCE registered 51 teachers and VISTA registered 74 teachers for the two year programme. All teachers are female primary school teachers who have passed std 10 (PREP, 1996:2, refer Appendix A).

The course is aimed at professionally qualified in-service junior primary teachers whose existing qualifications are at the (M + 2) level. However, the qualifications of many of the teachers who applied to do the course were not yet at this (M + 2) level and teachers at the (M + 1) level were also accepted on the course. These teachers have to complete PREP's four Courses as well as other necessary subjects for a Diploma in Education (III) (ibid.).

From data available the following table of teachers' qualifications on entering the course is provided (ibid.).

Table 2: Teachers' qualifications on registering for the INSET course

INSTITUTION	M + 1	M+ 2	M + 3	TOTAL
NCE	41	8	1	50*
VISTA	54	18	2	74**

* 9 teachers dropped out early in 1995.

** All of the 74 teachers registered with VISTA had a PTC (Primary Teachers' Certificate) and Matric. Eighteen teachers had SEC (Secondary Education Certificate) although they were practising Junior Primary teachers. One teacher who is a Junior Primary HOD has a BA degree.

The majority of these 124 teachers have at least 11-15 years of teaching experience. Approximately 32 teachers have between 16-20 years of experience and 19 have more than 20 years experience.

Most of the teachers are classroom teachers, six teachers hold the position of head of department or senior teacher, four teachers are deputy principals or principals and three teachers work as 'trainers' in an NGO project.

From the information available the following table indicates the range of standards and grades which the teachers taught in 1995:

Table 3: Range of standards/grades taught by teachers registered for the INSET course

	Grade 0	Grade 1/SSA	Grade 2/SSB	Std 1	Std 2	Std 3/4	Mixed classes
TOTAL	4	32	20	22	14	3	4

The majority of teachers are between forty and fifty years old, the next largest group are between thirty and thirty nine years of age and approximately 12 teachers are over fifty. None of the teachers are younger than 30.

Most of the teachers associated with the VISTA pilot study are Setswana speaking. The second and third largest groups associated with this pilot study are North Sotho and Zulu speaking respectively. A minority of teachers are Xhosa (3), Ndebele (1), Sepedi (2) and Tsonga (1) speaking. The majority of teachers associated with the NCE pilot are Zulu speaking. Of the remainder four are Afrikaans speaking, three English and two Xhosa speaking.

2.2.4 The schools

Teachers registered through NCE are based in 23 schools. The majority of these schools are ex-DET schools but a few schools are ex-House of Representatives and ex-KwaZulu schools. Schools are broadly clustered in Umbumbulu, Durban, Lidgeton, Balgowan, Howick, Hilton, Sobantu, Imbali, Plessislaer, Greytown, Umvoti, Richmond, Kokstad, Georgetdale and Hammarsdale.

Teachers studying through VISTA are based in 36 schools. The majority of these schools are ex-DET schools whilst a smaller proportion are ex-Bophutatswana

schools. Schools are broadly clustered in Atteridgeville, Mamelodi, Mabopane, Ga-Rankuwa and Mothutlung (PREP, 1996:3).

Teachers teach at farm/rural schools, peri-urban and urban schools. Some of the schools "have previously had little NGO/in-service input whilst others had had a lot of NGO input" (for example, some teachers in North-West Province had been exposed to the Primary Education Upgrading Project (PEUP); some teachers in Natal had been exposed to the Toyota Teach Project and; some teachers in Gauteng and the North-West Province had been exposed to the Molteno Project's *Breakthrough to Literacy* programme) (ibid.).

The majority of teachers teach classes of between 31 - 40 pupils. The smallest class size is 18 and the largest 80.

3. RÉSUMÉ OF THIS CHAPTER

The Primary Education Project's INSET course is an accredited distance education course for in-service junior primary teachers which is being piloted by VISTA University and Natal College of Education in 1995/6. The course provides the site for this study and is an example of a programme based on the transformative action reflection model.

PREP's INSET course lends itself to this particular assessment as the assumption of the course is that a qualitative impact on classroom practice cannot happen without impacting on teachers' understandings of learning and teaching. In other words, the assumption is that impacting on teachers' self-understanding and conception of cognition (conceptual consciousness) is necessary in order to improve the quality of teaching and learning in classrooms (Flanagan, 1991a:171).

The impact of two PREP Courses, the Junior Primary Studies and the Language and Learning Courses, on teachers' understanding and practice of the PREP

model will be assessed for the purposes of this study. Material for the two Courses has been designed to encourage critical self-reflection, to improve teachers' theoretical and pedagogical understandings and to integrate educational theory with classroom practice.

CHAPTER FIVE: RESEARCH METHODOLOGY

1. RESTATING THE AIM OF THE STUDY

The central concern of this study is to test the core assumptions underpinning a particular model for INSET, a model which predicts a certain relationship between consciousness (understanding) and action (behaviour).

According to the claims of the transformative action reflection model, it is critical reflection which creates conditions for the appropriate exhibition of skills which lead to improved action. Thus the aim of the study is to assess whether the relationship between critical reflection and action occurs as the transformative action reflection model predicts it will occur.

2. METHODS

In order to test the core assumptions of the INSET model, the design for this study entailed

- the reconstruction of the assumptions about teacher competence and teaching quality underpinning the model (see 2.1) (Mouton, 1996:114-118);
- matching the research design appropriately to this propositional knowledge by operationalising measures through which these core assumptions can be assessed (see 2.2) (ibid.:125-131).

2.1 Reconstructing the model's assumptions about teacher competence and teaching quality

According to the assumptions underpinning the model it is the impact of the PREP's INSET courses on teachers' understanding and practice, both in terms of teachers' technical practice (skills) and in terms of their ability to select and employ appropriate practices within a particular context, which will bring about improvement in the quality of teaching and learning in classrooms (Flanagan, 1995b:16).

The model assumes that the actions of teachers who both understand and know what they are supposed to do, will no longer be mechanical or instrumental. Instead such teachers will be able to reflect critically and act appropriately. In other words, the actions of teachers who demonstrate adequate understanding and skills should reflect their ability to act appropriately within a particular context and should therefore illustrate the effectiveness of the objectives of the model.

Thus the model's conceptualisation of *teacher competence* is based on the notion of demonstrable conceptual understanding and skills (teachers who can demonstrate that they both know and understand what to do). The model's conceptualisation of *teaching quality* is based on the notion of quality as something which is both intangible and context-dependent and which is therefore extremely difficult to measure through the use of explicit criteria.

2.2 Matching the research design appropriately to the assumptions of the model

Matching the research design appropriately to the assumptions of the model entailed operationalising measures which would make it possible to construct instruments or schedules of two different sorts, namely instruments/schedules

1. to test whether an INSET course based on this model impacts on:
 - a) teachers' *understanding* of the PREP model; and
 - b) teaching *practice* of the PREP model; and
2. to assess the impact for improvement in *teaching quality*.

Operationalising measures which would make it possible to infer and measure the impact on *understanding* and *practice* of the PREP model entailed:

- identifying conceptual *categories* derived from what teachers learn on the two PREP Courses (see 2.2.1);
- constructing a series of *vignettes* or descriptions of teachers' teaching which capture these conceptual categories (see 2.2.2);

- creating a *coding scheme* with *criteria* derived from the conceptual categories as well as *indicators* which allow for the impact on teachers' understanding of the model and behaviour (practice of the model) to be categorised and graded across a continuum of competence (see 2.2.3);
- integrating the *vignettes*, *criteria* and *indicators* into configurations which would make it possible to
 - * infer teachers' conceptual understanding of what they have learnt on the Courses (*vignettes*) and;
 - * measure the impact on teachers' understanding and practice of the model and identify which teachers possessed adequate understanding and skills (*criteria and indicators*) in terms of the model (see 2.2.4).

Operationalising measures which would make it possible to assess the impact for improvement in *teaching quality* entailed designing a schedule for use by independent experts to assess individual teachers' ability to select and employ appropriate practices (see 2.2.5)

Operationalising measures which would make it possible to infer and measure the impact of the Courses on teachers' understanding and practice of the PREP model

2.2.1 Identifying conceptual categories

Categories were derived from four sources:

1. An interview with the director of the project and overall editor of the curriculum material, Associate Professor Wendy Flanagan, on 24 July 1995, and a workshop on 18-19 April with the course presenters to establish the general claims as to what constitutes impact on understanding and practice (see Appendix D).
2. More explicit *categories* were drawn from -
 - * the specific objectives and key curriculum ideas in the Language and Learning and Junior Primary Studies Course material - in other words, what teachers actually learn on these Courses;
 - * some of the secondary literature which the course developers draw on;

- * curriculum ideas which form part of the Education Course but which have been included because of the overlap in the Courses. For example, criteria such as 'using collaborative talk and language for making sense of new learning' are not explicitly dealt with in the Language and Learning or the Junior Primary Studies Courses but have been included because they form part of the conceptual domain of all the Courses.

The *categories* selected for this study are based on theoretical and practical understandings and practices which should be recognisable (for example, through lesson observation) as opposed to understandings and practices which require ongoing monitoring or which rely on self-report. They are not discrete or atomistic but overlap and form interrelated parts of the 'conceptual whole' of the PREP Courses.

The following five *categories* are derived from the objectives of the Language and Learning Course:

- developing pupils' concept of print' (Flanagan, 1995d:9-21);
- teaching pupils to read independently (ibid.:2-21);
- developing a book culture (ibid.:14-21);
- teaching pupils to read for meaning (ibid.:21-41:51-52);
- encouraging pupils to interact with text (ibid.:33-34; Flanagan 1995a:84-99).

The following seven *categories* are derived from the objectives of the Junior Primary Studies Course:

- using a model for active learning which incorporates:
 - a) acknowledging pupils' prior knowledge by linking pupils' previous learning to new learning (Flanagan, 1995e:36-56)
 - b) using problem-solving activities/tasks (ibid.)
 - c) assisting pupils to develop the process skills necessary for active learning (ibid.);
- employing learner-centred responses (ibid.:1-82);

- adopting an enquiry-based approach through questioning (ibid.:57-161);
- using a collaborative approach to teaching and learning (Flanagan 1995a:84-99);
- using an integrated approach to knowledge and the curriculum (Flanagan, 1995e:57-154).

2.2.2 Constructing vignettes

Fourteen *vignettes* have been constructed for use in interviews with teachers (see Appendix F). Eight of the *vignettes* are descriptions of teachers teaching reading (based on the categories derived from the objectives of the Language and Learning Courses) and six are descriptions which relate to the teaching of Environmental Education / Environmental Studies (based on the categories derived from the Junior Primary Studies Course). A number of these descriptions were drawn from examples provided in course material, in particular from the Education Course.

Vignettes matched to each of the conceptual categories include one description or scenario which contains elements which typify a positive or 'ideal' conception representing those *practices* which, according to the explicit objectives of the Courses, are 'valued' by the course developers. In order to test for consistency in teachers' responses to questions about the *vignettes* in interviews, a second description has been constructed which typifies a negative conception representing those practices which the Project wants to replace.

For example, the following positive and negative vignettes have been constructed for the category 'developing a book culture':

In one of his reading lessons, a SSA (Grade 1) teacher, Mr Phoko, lets all the pupils in his class choose a book from the book corner. The whole class spends the lesson enjoying the books they have chosen. When they have finished with the book they have chosen, the children can select another book from the book corner. The pupils are allowed to discuss their books with each other. While the children are looking at their books, Mr Phoko works with individual children on their reading.

Mr Green teaches a Std 1 class. He uses the prescribed reader for all his reading lessons. In each lesson, he teaches the vocabulary and sentences in the reader. He does this for the whole year.

Some of the *vignettes* have been matched to more than one conceptual category. For example the following vignettes have been matched to the following categories:

- acknowledging pupils' prior knowledge by linking pupils' previous learning to new learning;
- using problem-solving activities/tasks;
- assisting pupils to develop the process skills necessary for active learning:

Mrs Appolis is teaching her first lesson on sheep to her Std 2 pupils. Her pupils sit quietly while she tells them:

"Sheep are important animals because they provide people with food and clothing. The hair of a sheep is called wool. Merino sheep are a type of sheep. They are called fine-woolled sheep. Another type of sheep are Karakul sheep. These are coarse-woolled sheep."

Miss Mxoli is teaching her Std 1 pupils about water. She wants her pupils to begin to think about water conservation. She starts the first lesson by asking the pupils to tell her what they know about water by asking them 'What do you use water for?', 'Who/what else needs water?' and 'Where do you think water comes from?' Miss Mxoli tells the children to work in pairs and write down the following:

1. All the places that they can think of where water can be found on the school property.
2. Where they think the water in each place comes from.
3. Where they think the water at each place goes to.

Her pupils discuss and note their observations and ideas in pairs.

Each set of *vignettes* for each of the Courses has been organised in random order on the presentation sheets used in interviews with the teachers (see 3.2.1.2 and Appendix F).

2.2.3 Creating a coding scheme

Creating a *coding scheme* which allowed for the impact on teachers' understanding and practice of the model to be categorised and graded across a continuum of competencies entailed:

- constructing *criteria* for assessing the impact of the two PREP Courses on teachers' understanding and practice of the PREP model; and
- formulating *indicators* to measure the degree of teacher competence against the criteria.

Criteria

Twenty four *criteria* in the form of skills or knowledge-based questions have been constructed for measuring the impact of the Courses on teachers' understanding and practice of the PREP model.

Twelve *criteria* have been constructed to assess the impact of the Courses on teachers' classroom *practice* of the model. Each of these twelve *criterion* consists of two conceptual fields. The first conceptual field of each of the *criterion* constructed to assess the impact on teachers' classroom *practice* identifies whether teachers' *practices* demonstrate that teachers are recognising:

- the active nature of learning;
- the social nature of learning;
- the affective foundation of learning;
- the holistic nature of learning;
- the central role of language for learning (Wells & Chang Wells, 1992:8).

The second conceptual field of these *criteria* redescribes the first field in terms of attributes which can be recognised in terms of teachers' classroom *practice* and are based on the conceptual categories (see 2.2) derived from what teachers actually learn on the Courses, for example, identifying whether teachers have learnt the skills necessary to develop their pupils' concept of print.

The following five *criteria* (comprised of these two conceptual fields) have been designed to assess the impact of PREP's Language and Learning Course on teachers' classroom *practice* of the PREP model:

1. Does the teacher recognise the holistic nature of learning by developing pupils' concept of print?
2. Does the teacher recognise the social nature of learning by teaching pupils to read independently?
3. Does the teacher recognise the affective foundation of learning by developing a book culture?
4. Does the teacher recognise the active nature of learning by teaching pupils to read for meaning?
5. Does the teacher recognise the central role of language for learning by encouraging pupils to interact with text?

The following seven *criteria* have been designed to assess the impact of the Junior Primary Studies Course on teachers' classroom *practice* of the model:

1. Does the teacher recognise the active nature of learning by using a model for active learning which incorporates acknowledging pupils' prior knowledge by linking previous learning to new learning?
2. Does the teacher recognise the active nature of learning by using a model for active learning which incorporates using problem-solving activities/tasks?
3. Does the teacher recognise the active nature of learning by using a model for active learning which incorporates assisting pupils to develop the process skills necessary for active learning?
4. Does the teacher recognise the social nature of learning by adopting an enquiry-based approach through questioning?
5. Does the teacher recognise the affective foundation of learning by employing learner-centred responses?
6. Does the teacher recognise the central role of language for learning by using collaborative talk and language for making sense of new learning?

7. Does the teacher recognise the holistic nature of learning by using an integrated approach to knowledge and the curriculum?

Each of the above *criteria* have been matched with *criteria* which have been constructed to assess the impact of the two Courses on teachers' *understanding* of the model. This second set of *criteria* are comprised of one conceptual field based on the conceptual categories already described in 2.2.1.

The following five *criteria* have been designed to assess the impact of the Language and Learning Course on teachers' *understanding* of the PREP model:

1. Does the teacher understand what is meant by developing pupils' concept of print?
2. Does the teacher understand what is meant by teaching pupils to read independently?
3. Does the teacher understand what is meant by developing a book culture?
4. Does the teacher understand what is meant by teaching pupils to read for meaning?
5. Does the teacher understand what is meant by encouraging pupils to interact with text?

The following *criteria* have been designed to assess the impact of the Junior Primary Studies Course on teachers' *understanding* of the PREP model:

1. Does the teacher understand what is meant by using a model for active learning which incorporates acknowledging pupils' prior knowledge by linking pupils' previous learning to new learning?
2. Does the teacher understand what is meant by using a model for active learning which incorporates using problem-solving activities/tasks?
3. Does the teacher understand what is meant by using a model for active learning which incorporates teaching pupils the process skills necessary for active learning?
4. Does the teacher understand what is meant by employing learner-centred responses?

5. Does the teacher understand what is meant by adopting an enquiry-based approach through questioning?
6. Does the teacher understand what is meant by using a collaborative approach to teaching and learning?
7. Does the teacher understand what is meant by using an integrated approach to knowledge and the curriculum?

Indicators

Three *indicators* of the kinds of impact on teachers' understanding and teaching practices of the model in terms of each criterion have been formulated so that the degree of teacher competence in terms of each of the criterion can be assessed.

For example, the following three *indicators* have been formulated to assess the degree to which teachers are recognising the active nature of learning by teaching pupils to read for meaning:

1. Teacher does not ask pupils questions about text as focus is mainly on the mechanical aspects of reading (for example reading accurately and with correct pronunciation).
2. Teacher questions pupils about the text but the answers to the questions are largely determined by the text/teacher. Teacher mainly treats text as a series of items of information to be correctly recalled or described.
3. Teacher questioning encourages pupils to develop the strategies which will assist them to construct meaning from text for themselves, for example teacher encourages pupils to:
 - predict what will happen next;
 - respond to text as it is being read;
 - question text;
 - sequence/retell/ summarise what they have read.

In other words, *indicators* have been formulated to measure the degree to which teachers are exhibiting mastery of the PREP model.

2.2.4 Integrating vignettes, criteria and indicators into configurations

Categories, vignettes, criteria and indicators have been integrated into configurations which would make it possible to

- infer the impact of the Courses on teachers' understanding of the model (*vignettes*) (see 2.2.4.1)
- measure the impact of the Courses on teachers' understanding and teaching practice of the model and to identify which teachers possess adequate understanding and skills (*criteria and indicators*) in terms of the model (see 2.2.4.2)

2.2.4.1 Designing an assessment schedule to infer the impact on teachers' understanding of the model

In order not to rely on self-report and to ensure that data collected on the impact of the Courses on each teachers' *understanding* of the model is comparable, an '*assessment schedule*' has been designed to infer the impact on teachers' *understanding* (see Appendix E). The schedule, which makes use of the *vignettes* constructed to capture the conceptual categories in action, was used in interviews with teachers (see 3.2.1.2).

The design of the schedule includes the following four *questions* formulated as probes to be used as a graded prompting system for the teachers in the interviews:

1. Describe the approach of this teacher in your own words.
2. What is your opinion about what the teacher is doing?
3. Do you think the teacher is doing a good job?
4. Why? (If answer is no). What should the teacher have done?

The design includes an *observation schedule* for the researcher to record information about the context (for example the level of disturbance during the interviews) and about teachers' actual engagement with the task (for example the number of times each vignette was reread; the level of teacher confidence in approaching the task, and the number of the prompt (question) at which closure was achieved).

The design also includes a section where the researcher can record the teacher's opinion of the practice described.

Prior to using the schedule in interviews with the sample of teachers selected for the study, the researcher tested the efficacy of the instruments in interviews with three practitioners and made a few minor adjustments to the vignettes and the schedule.

2.2.4.2 Designing instruments to measure the impact on teachers' understanding and teaching practice of the model

Two sets of *instruments* have been designed for measuring the impact on teachers' *understanding* and teaching *practice* of the model and for identifying which teachers possess adequate understanding and skills:

- (i) Instruments using the *criteria* constructed to assess the impact, in terms of the model, of the Language and Learning Course and the Junior Primary Studies Course on teachers' *understanding* of what they learn on the two Courses (see Appendix B).
- (ii) Instruments using the *criteria* constructed to assess the impact of the Language and Learning Course and of the Junior Primary Studies Course on teachers' classroom *practice* of the model (see Appendix C).

The design of these instruments makes use of the *indicators* which have been formulated to grade teachers' understanding and performance against the criteria. Each *criterion* and its three *indicators* has been printed on separate pages of the instruments. The three *indicators* for each criterion have been organised beneath the *criterion* on a continuum from left to right as illustrated below:

TEACHER UNDERSTANDING

LANGUAGE AND LEARNING			
DOES THE TEACHER UNDERSTAND WHAT IS MEANT BY DEVELOPING PUPILS' CONCEPT OF PRINT?			
VIGNETTES A & E			
1/2		3/4	
Indicator 1	Indicator 2	Indicator 3	

Indicators on the left of the instruments represent a theoretical and pedagogical model of teaching and learning which the Project wants to replace. *Indicators* on the right represent the theoretical and pedagogical model which the Project seeks to foster. *Indicators* in the middle of the continuum on the instruments indicate that teachers are in a developmental phase. They may not have sufficient knowledge of what is being taught on the PREP Courses or may not have developed sufficient skills to think and act in new ways. For example, teachers may be combining their existing theoretical and pedagogical model of teaching with more interactive, collaborative, enquiry-based and learner-centred approaches (Flanagan & Reeves, 1995).

Expectations are that, as the PREP Courses progress, teachers will progressively move away from the model which the Project hopes to replace and that there will be evidence of increasing consonance in teachers' *understanding* and classroom *practice* with the *indicators* as described on the right hand side of the instruments (*ibid.*).

A point scale consisting of *ratings* or scores for each of the indicators has been included on the instruments so that a teacher's personal *rating* for each of the criterion can be recorded. Although only three indicators for each criterion have been made explicit on the measuring instruments, the instruments consist of a 'compressed continuum' and a discrimination of two *ratings* exists within each category of indicators.

A *rating* of 1 or 2 indicates that no or very little learning has occurred and that the impact of the Course on teachers' theoretical and pedagogical understanding and/or practice of the model in terms of that particular criterion is completely inadequate. *Ratings* in the middle range (scores of 3 or 4) indicate that, whilst some learning has taken place, teachers' theoretical and pedagogical understanding and/or practice of the model in terms of the particular criterion are barely adequate and leave much to be desired. A *rating* of 5 or 6 indicates that

sufficient learning has taken place for the Course to claim that, in terms of that particular criterion, the Course has had an adequate impact on teachers' understanding and/or practice of the model. The instruments include a section for 'comments' where particular contexts or constraints can be noted.

As a pilot part of this study, prior to using the instruments to measure data collected for this study, the researcher tested the efficacy of the instruments in fieldwork which included interviewing teachers and observing them teaching in May, July and November 1995. The resulting empirical observations and findings during these visits were used to refine and adjust the indicators and the instruments for their final formulation for the collection of data for this study.

Operationalising measures which would make it possible to assess the impact for improvement in teaching quality.

2.2.4.3 Designing an instrument to assess teachers' ability to select and employ appropriate practices

An *instrument* has been designed for use by independent experts to assess individual teachers' ability to select and employ *appropriate practices* (see 3.2.2). The instrument consists of instructions for the experts (see Appendix I) and a schedule for assessing the *appropriateness of teacher's practice* in each lesson (see Appendix J).

Seven *items*, namely classroom organisation/management; use of materials/resources; pupil participation/involvement; teacher attitude; use and type of questioning; teacher responses and feedback to pupils; and explanation of new content/skills/concepts/items, which are not explicitly linked to what teachers learn on the PREP Courses have been listed on the schedule. Each *item* has been rated on a continuum consisting of a five-point *scale*, namely completely inappropriate practice, generally inappropriate practice, barely appropriate practice, appropriate practice and extremely appropriate practice. An *item* score of 1 indicates completely inappropriate practice and an *item* score of 5 indicates extremely appropriate practice. The totals of these ratings/scores have been

used to rank teachers' lessons for analysis of the quality of the impact on teachers' teaching (see 4.2).

In addition, the instructions request experts to record their ranking of teachers lessons according to their overall impression of the appropriateness of teacher's teaching on the top-right corner of the schedule so that the two sets of rankings (rankings according to the ratings on the schedule and rankings based on the experts' overall impression) could be compared in order to establish whether any of this data should be treated as aberrant data.

3. DATA SOURCES AND COLLECTION

At the student orientation courses in May 1995, the purpose of this research was explained to all the teachers participating in the course. All teachers at both pilot studies agreed to make themselves available should the researcher wish to observe their lessons and interview them.

Data on teachers' understanding and teaching practice has been obtained through direct *interviews* with teachers and through *classroom observation* of teaching practice by the researcher.

Access to schools and classrooms of PREP teachers was negotiated with school management and principals via the pilot institutions. The researcher had visited the sample of teachers and schools twice before the collection of data for this study so was known to the school principals and teachers and the teachers were familiar with the purpose and procedure of the visits. On each of these earlier visits the teachers had been reassured that the visits had nothing to do with their assessment for the course.

These visits formed part of the researcher's task of monitoring the pilot studies for the Primary Education Project. The first visit took place in May 1995 when the

pilot studies commenced and second visits to the schools were conducted in July/November 1995.

On these two visits unstructured interviews were conducted after teachers had been observed and videoed teaching. In the *interviews* teachers had been asked general questions, for example, questions about their approaches to teaching reading and their approach to junior primary teaching in general. The insights and data gained from these two visits in 1995 contributed to the researchers' background understanding and expectations as well as to the research design for this study, in particular to the design of the assessment schedule used in the interviews and the selection, development and refinement of the indicators for the two instruments for assessing the impact of the Courses on teachers' understanding and classroom practice of the model.

Data on teachers' understanding and teaching practice for this study was collected during visits of approximately two weeks to ten schools associated with the NCE (KwaZulu-Natal) and VISTA (Gauteng and North-West Province) pilot studies. Data was collected from two primary sources: *interviews*, which made use of the assessment schedule already described, and *classroom observation* which included videos of teachers' lessons. In addition some of the videos which had been taken in July/November 1995 were used for comparison of data on the impact on teaching practice.

3.1 Sample selected for the study

3.1.1 Teachers

The selection of the *sample of teachers* was constrained by the fact that the teachers are located in schools in Gauteng, North-West Province and KwaZulu-Natal and the researcher is based in Cape Town, which made travelling to schools costly. Given this and time constraints, the *sample of teachers* selected for the study was based on availability and access to schools at the time of the researcher's first scheduled visits in May 1995.

Initially a *random sample* of a total of 24 teachers had been selected for the study (12 teachers from each pilot study). However before the final data collection was completed 6 of these teachers had either dropped out of the course or did not complete examinations in January 1996.

As a result data on 18 teachers has been used for the study. Eleven teachers are from the VISTA pilot study and seven teachers are from the NCE pilot study. All the teachers in the sample are female primary school teachers. Sixteen of the teachers selected for the sample are classroom teachers, one teacher holds the position of 'senior' teacher and one teacher holds the position of Head of Department. The tables which follow provide details on the sample of teachers used in the study (see Appendix G).

Table 4 provides the existing qualifications of the sample of teachers on registration for the course:

Table 4: Sample teachers: existing qualifications

	M + 1	M + 2	M + 3
VISTA	6	4	1
NCE	5	2	0
TOTAL	11	6	1

As the table below indicates most of the teachers in the sample are between 40 and 50 years old. One teacher is more than 50 years of age.

Table 5: Sample teachers: age

	20 - 30	30 -39	40 - 50	50 +
VISTA	0	5	5	1
NCE	0	2	5	0
TOTAL	0	7	10	1

As illustrated on the following table most teachers in the sample have between 16 - 20 years of teaching experience.

Table 6: Sample teachers: number of years teaching experience

	0 - 9	10-15	16-20	21-30
VISTA	0	5	5	1
NCE	0	2	4	1
TOTAL	0	7	9	2

The table below shows that in 1996 most of the teachers in the sample taught Grade 1 and 2.

Table 7: Sample teachers: standards/grades taught

	Grade 0	Grade 1/ SSA	Grade 2/ SSB	Std 1	Std 2
VISTA	0	6	3	2	0
NCE	0	1	4	1*	1
TOTAL	0	7	7	3	1

* a combined Std 1 & 2 class.

3.1.2 The schools

Teachers selected for the *sample* are based in a total of ten *schools*. Two of the schools in the sample are rural/farm schools, six are based in urban areas and two in peri-urban areas.

Teachers in the sample who are studying through VISTA are based in six schools. Five of the schools associated with this pilot are ex-DET (Department of Education and Training) schools in Gauteng and one of the schools is an ex-Bophutatswana school in North-West Province. Teachers associated with the NCE pilot study are based in four schools in KwaZulu-Natal. Three of the schools are ex-DET schools and one school is ex-House of Representatives.

Pupil enrolment at the schools selected ranged from 250 pupils at a farm school to 1,200 pupils at the largest (urban) school. Pupil attendance at all schools except for one of the farm schools is reportedly good. All the schools included in the sample have feeding schemes.

All the schools with the exception of one of the two farm schools have electricity, telephones and running water. Only two of the schools had photocopying machines and only two schools had central school libraries. The physical facilities of nearly all of the schools in the sample (with the exception of the farm school described below) are in a reasonable condition and most schools look cared for with the physical facilities of the ex-House of Representative school noticeably better than any of the other schools (Teachers I, J and Q).

The worst conditions were apparent at one of the two farm schools which made use of a dilapidated farm house which was dark, cold and damp and lacked basic facilities such as adequate desks or seats for pupils, usable chalkboards or cupboards/storage space (Teacher O). Most of the schools have burglar bars but security appears to be a problem at many schools and a number of teachers reported that their classrooms had been broken into.

Classrooms are generally clean and cared for. Nearly all of the classrooms visited (with the exception of the farm school) have usable chalkboards, notice boards, cupboards, sufficient desks and adequate ventilation and lighting. One classroom was a temporary wooden structure which the teacher was using whilst a new classroom was being built (Teacher H).

Some teachers complained about the size of their classrooms which do not allow sufficient space for them to organise different activities/seating effectively. (One teacher, Teacher A, had 60 Std 1 and 2 pupils in her classroom). Gauteng, North-West Province and KwaZulu-Natal were all experiencing heavy rains at the time of the visits and some of the classrooms had leaks in their roofs.

Book corners were evident in 13 of the 18 classrooms, however some of the teachers used their cupboards as 'book corners' because "they needed to lock everything away at night".

The following table provides figures on the class size in 1996 of the sample selected. The size of most classes in the sample ranged between 30 - 50 pupils.

Table 8: Sample schools: class size

	20-30	30-39	40-50	51+
VISTA	1	6	2	2
NCE		2	5	
TOTAL	1	8	7	2

3.2 Data collection

3.2.1 Collection of data on the impact on teachers' understanding and teaching practice of the model

Collection of the data on the impact on teachers' *understanding* and teaching *practice* used for this study took place in February (VISTA) and March (NCE) 1996, one/two months after teachers had completed their examinations for Language and Learning, Junior Primary Studies and Education Courses in January 1996. Visits took place over a period of approximately 5 days at each pilot site. However, one teacher associated with the NCE pilot study, Teacher J, was on leave in March and the researcher was unable to visit another teacher associated with the VISTA pilot, Teacher O, in February because the farm school where she taught had been closed due to the heavy rains and a leaking roof. Data on these teachers was collected at the beginning of May.

Appointments for all the visits to the schools were pre-arranged by the facilitators from the pilot institutions. Between one and three teachers were visited per day. Data collection was carried out by the researcher who is currently an employee of the Primary Education Project and who is female, 'white', middle class, university educated and English-speaking. On some of these visits the researcher was accompanied by the facilitator from the pilot institution as well as other researchers involved in the Project.

3.2.1.1 Classroom observation

For the classroom observation, teachers had been asked to prepare one reading lesson and one Environmental Education lesson. However, some communication gaps were apparent in that some of the lessons observed focused on 'language across the curriculum' rather than Environmental Education or reading per se.

The lessons of seventeen teachers were watched before the teachers were interviewed. One teacher, Teacher F, had been robbed on her way to work and only arrived at school after her pupils had left. Due to time constraints, she had to be interviewed the day before the researcher observed her teaching.

All the lessons were recorded on videos by the researcher and copies of the videos were kept for later analysis (refer Appendix H). The researcher tried to be as unobtrusive as possible by setting up the video camera at the back or the side of the classroom. A constraint was the absence of electricity and/or working or accessible electric plugs in some classrooms. This meant that the researcher generally had to rely on rechargeable batteries and to conserve their power whenever possible. As a result the length of the videos of the lessons observed varied from between 15 minutes to one hour depending on the degree of interaction between the teachers and pupils. Nevertheless this was not seen as a major constraint as in many cases the researcher did not require more than ten minute segments for the analysis.

The language of instruction used in most of the lessons was either North Sotho, Setswana or Zulu. Some teachers used English as well as mother-tongue. The three ex-House of Representative teachers taught in English and one Std 1 and one Std 2 teacher taught their lessons in English. The researcher is English speaking and is not competent in any African languages. This meant that a multilingual Masters student in primary education had to be employed to assist the researcher by watching the video recordings of the lessons after the researcher had returned from the site and providing a verbal translation of the recordings. In addition small units of classroom interactions (generally less than

ten minutes in duration) were translated and transcribed and kept for data analysis. One constraint was that pupils' responses were not always audible on the videos. However, in most cases, teachers' responses to pupils made it possible to infer pupils' responses.

3.2.1.2 Interviews

Face-to-face interviews using the vignettes and the assessment schedules were conducted at the schools where the teachers teach. Interviews with each teacher were conducted by the researcher after the teacher had been observed teaching. Interviews took place in classrooms, school corridors and in staffrooms during the school day or during break. Generally pupils were not present in the classroom but occasionally pupils had to be present as no other arrangement could be made.

Although the researcher tried to ensure that teachers would not be disturbed during the interviews, this was difficult to organise. A number of interruptions did occur such as pupils or other teachers bringing messages to teachers. In addition the noise of heavy rain on the school roofs and outside created quite high disturbance on some of the visits. Further disturbances were caused by the fact that the heavy rain meant that pupils could not always be sent out into playgrounds during breaks.

Interviews took approximately 20-30 minutes. At the beginning of the interview respondents were given the presentation sheets of the vignettes (organised in random order, see Appendix F). The interviewer provided each teacher with the same information on the procedure which the interview would follow.

Each vignette was read to the respondent by the researcher. Teachers were asked the graded questions designed as prompts after each vignette had been read until closure was reached. The descriptions were in English and teachers responded to the questions in English which for fifteen of the eighteen teachers is not their mother tongue.

Some teachers had difficulty in understanding the vignettes on the first reading which meant that they had to be reread as many times as it took for teachers to feel comfortable that they had understood them. Some teachers reread the vignettes aloud themselves whilst others preferred to have the researcher reread them aloud. Some teachers asked questions of clarification about the descriptions. The interviewer responded to these questions by referring back to the vignettes.

The respondents had been expecting to be questioned in the interview and some of the teachers appeared anxious about the unfamiliar procedure and seemed to view the vignettes as some kind of 'test' which required them to identify the 'correct' or 'incorrect' methods. However, most of the teachers who were initially hesitant about discussing the vignettes grew more confident and reached closure sooner as they became more familiar with the procedure.

Because teachers sometimes changed their opinion as they responded to the questions or reread the vignettes, data on whether the respondent's opinion about the practice described was good or bad was not as useful or stable an indicator of teachers' understanding as the reasons which teachers gave for these opinions.

In order to record the responses as fully and accurately as possible, interviews were all tape recorded. The sound of heavy rainfall in the background and the softness of some teachers' voices affected the quality of some of these recordings. Nevertheless, adequate transcripts of interviews were made and kept for later analysis. In addition the researcher occasionally made brief notes while interviewing teachers.

3.2.2 Collection of data on the appropriateness of teachers' teaching

Obtaining data on the *appropriateness of teachers' teaching* entailed the use of the judgements of two *independent experts*. Selection of the experts is based on empirical criteria such as experience and recognition in the field. Both experts

are experienced junior primary (Reception Year - Grade 4) practitioners and both experts have experience in the field of teacher education at the tertiary level. The two experts were used to view the videos of teachers' lessons and to assess the appropriateness of teacher's teaching.

Each expert practitioner was provided with extracts of videos of two different groups of teachers each teaching two lessons. Selection of the first group of lessons is based on focused variables (in so far as all teachers are teaching the same standard and types of lessons). Selection of the second group of lessons is based on unfocused variables (in so far as teachers are teaching different types of lessons across different standards).

The two experts were asked to view the lessons on each of the videos provided and assess the appropriateness of the actions of the two different groups of teachers to the task and level of each of the lessons. As the language of instruction in most of the lessons is not English, and the experts were both English speaking, a multilingual translator was made available to assist them with translation. The first expert looked at eight lessons and the second expert looked at twelve lessons.

Each expert was provided with instructions and the specially constructed *schedule* (see 2.2.5) with items which included ratings on a continuum from 1 - 5 which they used whilst they were watching the lessons.

The appropriateness of the actions of teachers in the first (focused variable) group to the task and level of the lessons was assessed by the first of the independent experts. The group consists of four teachers teaching two lessons each. The group of lessons is focused in that all four teachers are teaching Grade 2 pupils and each teacher teaches a reading lesson using PREP Story Charts and a second lesson using topic teaching for environmental education/ environmental studies.

The appropriateness of the actions of teachers in the second (unfocused variable) group of lessons to the task and level of the lessons was assessed by the second independent expert. The second group of lessons consists of six teachers teaching two lessons each. The group of lessons is unfocused in that six teachers in this group teach lessons across different standards. Teachers were videoed teaching one reading lesson (which did not necessarily entail the use of the Story Charts) and a second lesson based on what teachers had learnt on the Junior Primary Studies Course.

In addition, after they had watched all lessons in each category (reading and environmental education/studies), they ranked the lessons according to their overall impression of the appropriateness of teachers' teaching. These rankings were used to validate data on the ranking of the teachers according to the totals of the scores the experts had given them. This was done in order to establish whether any of this data was aberrant.

4. DATA ANALYSIS AND INTERPRETATION

Analysis and interpretation of the data collected focuses on assessing the impact of the PREP Courses on teachers' *understanding* and classroom *practice* of the model and on assessing the impact for improvement in teaching *quality*.

4.1 Analysis of the impact of the PREP Courses on teachers' understanding and classroom practice of the model

Analysing the impact of the two Courses on teachers' competence according to the study's specific criteria entailed gathering qualitative and quantitative information through the use of the two instruments designed for measuring the impact on teachers' *understanding* and *practice* of the PREP model.

Data sources used for this analysis include transcripts of the audio recordings of teachers' responses to the questions from the assessment schedules about the vignettes (for analysis of the impact on teacher *understanding* of the model) and data from the videos of lessons as well as the short units of transcripts of

translations of teacher/pupil interactions from the video recordings (for analysis of the impact on teachers' classroom *practice* of the model).

The following were seen as constraints in terms of analysis and interpretation of teachers' responses to the questions about the vignettes:

- Teachers were interviewed and responded in English which, for all except for three of the teachers, is not their mother-tongue. Difficulty in interpreting and understanding the descriptions in the assessment schedules and in articulating and formulating appropriate responses was a constraint for most teachers.
- Teachers in general did not have a well-developed discourse for their explanations.
- In spite of reassurances by the researcher, some teachers still seemed to believe that the research was connected with their assessment for the course and tried to give desirable or 'correct' responses.
- Some inconsistencies in terms of teachers' responses are apparent in that teachers either gave contradictory responses for the two 'matching' vignettes or made contradictory statements in parts of the same response.

However, this has largely been overcome by the inclusion of negative and positive vignettes; the use of the graded prompting system; and the fact that teachers were able to read the vignettes as many times as they felt they needed to.

Inferring the impact on teachers' classroom *practice* of the model entailed studying the videos and the transcripts of teacher/pupil interactions at length and checking the researcher's perceptions and observations of the lessons with a multilingual Masters student in primary education who acted as an interpreter.

The impact on teacher *understanding* and classroom *behaviour* are analysed according to the criteria and indicators outlined in the measurement instruments. The method of analysis includes giving each teacher a rating or score based on

the continuum for the indicators for each of the criterion on both measuring instruments.

For the purposes of the analysis the researcher awarded each of the sample teachers one of a possible six ratings for each criterion on the instruments. The multilingual student's rating of teacher's classroom practice for each of the criterion was used to validate the researcher's ratings.

An interpretation of this analysis has been used to discuss the findings and to infer in what ways the Courses have impacted on teachers' *understanding* and classroom *practice* of the model.

Ratings have been used to explore the relationship between the impact on *understanding* and *behaviour* and to identify which teachers have most consistently demonstrated that, in terms of the model, they both understand and know what they are supposed to do. In order to see the effects of the impact on teachers' *understanding* on their *practice* of the model and to assess the claims of the INSET model, the results of the analysis have been fed into 3 X 3 matrices which correlate the impact on teachers' *understanding* with the impact on teaching *practice*.

4.2 Analysis of improvement in the quality of teaching

As already stated, the Project's definition of teaching 'quality' is based on the notion of quality as something which is both intangible (tacit) and context-dependent and which is consequently extremely difficult to measure through the use of explicit criteria. By implication, inferences about quality cannot be made from the study's 'mechanical' assessment of teachers' competence in terms of demonstrable conceptual understanding and skills based on the explicit criteria used in the study. Instead the model's assumption that improved pedagogical and theoretical understanding will bring about improvement in the quality of teaching is tested across a number of measures.

The scores allocated by the researcher in the study (which assess teachers' competence in terms of conceptual understanding and skills) have been correlated with:

- a) teachers' year marks as awarded by the pilot institutions which assess teachers' competence in more conventional academic terms¹ (used as an independent measure) and;
- b) the ratings of the two independent experts which assess teachers' competence in terms of the notion of craft competence (used as a measure of teachers' ability to employ appropriate practices)

The correlation between the three sets of scores have been computed using Spearman's rank order correlation.²

¹ The 'academic' year marks awarded to teachers by the pilot institutions are not entirely academic in the conventional sense as they do not only reflect teachers' theoretical knowledge. Teachers at both institutions wrote the same assignments and examinations, all of which were designed to test teachers' conceptual understanding and emphasise the link between theory and practice. Teachers' year marks also include a practical component where teachers' classroom competency is assessed by course facilitators.

However, there are two main reasons for not only using the teachers' academic results to test for the impact on teachers' *understanding* and *practice* in terms of the model and to test for improvement in teaching *quality*. Firstly, there is no guarantee that the course presenters (co-ordinators and facilitators) themselves understand the courses sufficiently for teachers' year marks to be used as reliable indicators of teachers' competency. Secondly, the instruments used in the study have been specifically designed to allow for a more rigorous assessment of the impact on teachers' understanding and skills to be made in terms of the model than the less explicit assessment of teachers' competence through their year marks would allow. In other words, the model assumes a particular relationship between action and conception and the instruments have been specially designed to distinguish the conceptual grid which the model would like to produce.

² Spearman's rank order correlation has been used to compute the correlation coefficient and determine whether there is any statistically significant correlation between two sets of ranked data based on the scores allocated. The formula for Spearman's rank-order correlation co-efficient (symbolised by rho or r_s) is

$$\rho = 1 - \frac{6\sum d^2}{n(n^2 - 1)}$$

where: n is the size of the sample.

d is the difference between the ranks for each pair.

(Mulder, 1987:76 & Neave, 1981:40)

Spearman's rank order correlation coefficient can assume any value from -1.00 to + 1.00 inclusive. -1.00 indicates perfect negative correlation. +1.00 indicates perfect positive correlation. 0 indicates no relationship between the two sets of data (Mason & Lind, 1993:478).

Testing the significance of the coefficient (rho) or (r_s) to establish the true value of the relationship between the two sets of ranks, entailed determining the critical value of (rho).

According to the assumptions of the transformative action reflection INSET model, it is the teachers' ability to make informed and appropriate decisions and to perform appropriate actions within a particular context which will bring about improvement in the quality of teaching and learning.

Since it is widely assumed by practitioners that forms of appropriate mediation are present in classroom interactions, should these forms of prudent judgement and appropriate actions on the part of the teacher be present in the lessons which have been video recorded, then an acknowledged master craftsperson should be able to recognise them.

Thus, if the claims of the model are correct, the expert practitioners should be able to see the demonstrable effect of improved pedagogical and theoretical understanding upon teachers' classroom practice. In other words, the effects should be evident in that teachers are able to reflect critically and exhibit prudent judgement through appropriate actions.

If the assumptions of the model are correct, it is likely that the two independent expert practitioners will judge the teachers' lessons in a way which correlates highly with the study's assessment of the inadequacy/adequacy of teachers' understanding and skills.

5. RÉSUMÉ OF THIS CHAPTER

The design and strategy for this study has been matched to the aim of the INSET model which is being assessed for the study.

Matching the design appropriately to the aim of the model entailed operationalising measures to test the assumptions of the model by making it possible to demonstrate whether the impact on teacher understanding and classroom practice of the PREP model can be said to be improvement in the quality of teaching.

Operationalising measures which would make it possible to infer and measure the impact of the Courses on teachers' understanding and practice of the PREP model entailed

- identifying conceptual categories;
- constructing vignettes
- creating a coding scheme; and
- integrating the vignettes, criteria and indicators into configurations

Four types of instruments/schedules have been developed for the study, namely:

- an assessment schedule which has been used to infer the impact of the two PREP Courses on teachers' *understanding* (which makes use of vignettes);
- two sets of instruments which have been used to measure the impact on teachers' *understanding* and *behaviour* (which make use of the criteria and indicators constructed for the coding scheme);
- an instrument, consisting of instructions and a schedule, which has been used by independent experts to assess teachers' ability to select and employ *appropriate practices*.

Data collection on teachers' understanding and practice of the model entailed classroom observation and interviews at the schools where a random sample of eighteen teachers teach. Obtaining data on improvement in the quality of teaching involved the use of two expert practitioners who observed videos of teachers' lessons and used the specially constructed schedule to rate the appropriateness of teachers' practices in two different groups of teachers' lessons.

Analysis of the data collected focuses on assessing the impact of the two Courses on teachers' understanding and classroom practice of the PREP model and assessing the impact for improvement in teaching quality. This consists of a quantitative and qualitative analysis.

The results of the analysis of the impact on teachers' understanding and practice have been fed into 3 X 3 matrices which correlate data on teachers' understanding with data on teachers' classroom behaviour. An interpretation of the data has been used to infer the impact of the Courses on teachers' understanding and practice of the model.

Analysis of improvement in the quality of teaching entailed using Spearman's rank order correlation to determine the degree of relationship between the data from the study (based on scores allocated by the researcher to measure the impact on teachers' understanding and behaviour in terms of the model) and

- a) teachers' year marks as awarded by the pilot institutions (teachers' academic results);
- b) the ratings of the two independent experts (teachers' ability to select and employ appropriate practices.)

The expectation of the study is that the combined ratings produced by testing teachers' insight (*understanding*) and actions (*behaviour*) will correspond reasonably well with the judgement of teachers' academic competence and the independent craft experts' judgement of the appropriateness of teachers' practices.

CHAPTER SIX: THE IMPACT OF THE PREP COURSES ON TEACHERS' UNDERSTANDING AND CLASSROOM PRACTICE OF THE MODEL

The impact of the PREP Courses on teachers' understanding and classroom practice of the model is analysed according to the criteria and indicators outlined in the measuring instruments. Each teacher has been given a score based on the ratings from the continuum for the indicators.

The impact analysis of teachers' understanding and practice of the model which follows includes examples (drawn from the audio recordings of the interviews and the video recordings of teachers' lessons) of evidence or incidences of 'inadequate', 'barely adequate' and 'adequate' pedagogical understanding and/practices in terms of the model. However, it was not always deemed useful and, indeed in some cases it was quite impossible, to include examples of inadequate understanding and practices as these were either totally inappropriate or completely absent.

1. ASSESSING THE IMPACT OF THE LANGUAGE AND LEARNING COURSE ON TEACHERS' UNDERSTANDING OF THE MODEL

Criteria which inform the indicators on the instruments for measuring the impact of the Language and Learning Course on teachers' understanding measure teachers' theoretical and pedagogical understanding of what is meant by:

- developing pupils' concept of print (see 1.1);
- teaching pupils to read independently (see 1.2);
- developing a book culture (see 1.3);
- teaching pupils to read for meaning (see 1.4);
- encouraging pupils to interact with text (see 1.5).

Teachers' engagement with and responses to the questions about the vignettes used for the interviews were used to infer the impact of what teachers learn on the Language and Learning Course on the sample of teachers' theoretical and practical understanding of literacy teaching and learning.

1.1. Developing pupils' concept of print

In Section One, Lesson Three of the Language and Learning study guide (Flanagan, 1995d:14-21) teachers are provided with an understanding of what is meant by a concept of print. The video 'Developing a concept of print' is provided to assist teachers in developing their understanding of the need to develop their pupils' concept of print.

According to the prescribed text for the Language and Learning Course, *Reading and writing in junior classes* (Flanagan, 1995c:21), having a concept of print includes knowing and understanding 'that written language is meaningful, not just squiggles on a page'; 'the directional rules of print, in what order we read'; 'the elements of printed language, e.g. words, sentences, letters, punctuation'; 'the sequence of a book, e.g. front of the book, title, cover.' However, the prescribed text emphasises that these conventions should not be taught out of context, instead 'children should have their attention drawn to these conventions while reading' (ibid.:22).

Teachers' responses to vignettes A and E from the assessment schedule (see Appendix E & F) were used to infer teachers' understanding of what it means to develop pupils' concept of print:

A

Mrs Ncube is teaching her SSB (Grade 2) class reading. She tells the whole class to read the sentences she has written on the blackboard. She uses a stick to point at each word as the children read. When the class gets 'stuck' on a word or hesitates, she tells the class what the word is and gets the class to repeat the word after her a number of times before continuing with reading the rest of the sentence.

E

Mr Ntuli's Std 1 class is having a reading lesson. He asks one of his pupils, Albertina, to read to him. Albertina uses her finger to point to each syllable of each word as she reads. Mr Ntuli says, "Read more quickly, Albertina. Try to read the whole sentence without pointing at each word."

The analysis which follows on Table 9 reveals the extent to which teachers understand what is meant by developing their pupils' concept of print:

Table 9: The extent to which teachers understand what is meant by developing their pupils' concept of print

INDICATOR	TEACHERS' SCORE	INTERPRETATION
<p>Teacher shows no/very little understanding of what is meant by developing a concept of print. Instead he/she views reading only as a decoding process where the most important thing is to get the sounds/words right and to read accurately with correct pronunciation.</p>	<p>Teacher O 2 1 teacher scores 2.</p>	<p>One teacher demonstrates inadequate understanding of what is meant by developing pupils' concept of print. (The interview with this teacher took place in May 1996, three months after teachers' had completed their Language and Learning examination).</p>
<p>Teacher shows some understanding of what is meant by developing pupils' concept of print by recognising that an approach to reading which focuses on phonics or teaching children to decode accurately does not develop their concept of print but encourages pupils to read word by word rather than encouraging them to read for meaning. Teacher shows little/no understanding that, in order to develop pupils' concept of print he/she needs to encourage them to read fluently with attention to punctuation and intonation instead of through imitating and repeating after the teacher.</p>	<p>Teacher H 3 Teacher D 3 Teacher K 3 Teacher A 3 Teacher E 4 Teacher C 4 Teacher Q 4 Teacher P 4 Teacher N 4 Teacher R 4 Teacher L 4 Teacher F 4 4 teachers score 3. 8 teachers score 4.</p>	<p>12 teachers demonstrate barely adequate understanding of what is meant by developing pupils' concept of print by recognising the need to read whole sentences or 'meaningful chunks' of text but showing little recognition of the need to encourage pupils to read extended text fluently and meaningfully.</p>
<p>Teacher shows understanding of what is meant by developing a concept of print by recognising that encouraging pupils to decode text by sounding every letter and reading each word separately in a sentence slows the reader and works against developing a concept of print and reading for meaning. Teacher recognises that in order to develop pupils' concept of print and to encourage them to read print meaningfully, pupils need to be encouraged to:</p> <ul style="list-style-type: none"> • read smoothly and at speed (fluently); • read whole sentences / meaningful chunks of texts/ ongoing / continuous / extended text; • think about how print works (for example by paying attention to punctuation and intonation). 	<p>Teacher M 5 Teacher G 5 Teacher B 5 Teacher I 5 Teacher J 5 5 teachers score 5. None of the teachers scored the maximum of 6.</p>	<p>5 teachers show adequate understanding of what is meant by developing pupils' concept of print.</p>

Some examples of teachers' responses which show their understanding of what is meant by developing their pupils' concept of print are provided below.

Evidence drawn from the transcripts of audio recordings of the interviews:

Example of a response which shows inadequate understanding

The following extracts from responses indicate that the teacher does not understand that pupils need to be encouraged to read 'meaningful chunks' of text fluently but believes that the most important thing is for pupils to get individual words and their pronunciation right:

'No, the teacher is using a good method because when you see that the children didn't understand well, can't say the word, ne? She tells them. She's using the right method by using a stick to ... point on each word. And the children ... can't remember ... say a word one time, you must tell them and they must repeat after her.'

"... when she (the pupil) read quickly she can (sic) pronounce other words correctly, she's going to say 'uh ... uh'."

Examples of responses which show barely adequate understanding

The following extracts from responses show adequate understanding of the need to encourage pupils to read 'meaningful chunks' or whole sentences rather than to read word by word but show inadequate understanding of the need to encourage pupils to read print fluently and for the teacher to encourage them to pay meaningful attention to punctuation and intonation:

'This child has been taught to read word by word - not the whole sentence. The teacher should have taught this child, I mean his class the whole sentence.'

'The teacher was trying to show the child that she must read fluently without pointing and that means that the eyes ... she should have taught the children the eye movement exercises.'

Examples of responses which show adequate understanding

The following responses show teachers' understanding of the need to teach pupils to read fluently and meaningfully through the use of extended (ongoing) text:

'... when Albertina pointed with her finger, this will result in stammering, reading words, not fluently. Now Mrs Ntuli did well in observing how Albertina learnt reading so that she may help her to promote her fluency.'

'... this teacher, the way she approaches her reading lessons, I see her not following the natural language approach - the children are reading and she is pointing at the words, that makes the children to hammer on the words, the children will not flow because she is pointing to the individual words, the children are going to gobble at the words, they will not read smoothly.'

'I think Mr (sic) Ntuli didn't teach the children an extended text ... that's why this child is now reading ... she (the teacher) shows the phonic approach that's why she's (the pupil) ... she's reading word by word. She's reading syllables.'

Conclusion:

This analysis reveals that most of the teachers in the sample have some understanding of what is meant by developing their pupils' concept of print by encouraging them to read whole sentences or 'meaningful chunks' of text rather than by sounding out each letter or reading each word separately. However, in the majority of cases this understanding of the model is barely adequate as it incorporates little/no recognition of the need to encourage pupils to pay meaningful attention to print, for example by encouraging them to read fluently (smoothly and at speed) with attention to punctuation, intonation and meaning rather than only through repeating whole sentences after the teacher and imitating the teacher.

1.2 Teaching pupils to read independently

In Section One, Lesson One and Two of the Language and Learning study guide (Flanagan, 1995d:2-14), teachers are provided with an understanding of the 'strategies good readers use when reading' (ibid.:6). The video 'What is reading' encourages teachers to improve their understanding of the reading process and of the skills and strategies used by independent readers.

According to the Language and Learning Course, teachers need to encourage pupils to develop strategies such as using their existing knowledge and experience to predict what comes next in a text and using contextual clues and cues (such as other words in the sentence, illustrations or reading to the end of a sentence) for identifying and understanding unfamiliar words so that they can become independent readers. The prescribed text for the Course states that 'if children have to keep relying on the teacher to tell them the words and the meaning, then they are not learning the reading skills necessary for independence' (Flanagan, 1995c:55).

Teachers' responses to vignettes B & F from the assessment schedule (see Appendix E & F) were used to infer teachers' understanding of what is meant by teaching pupils to read independently:

B

Mrs Green has asked one her Std 1 pupils, Winston, to come and read to her. Winston is reading from an illustrated story book. The sentence on page 4 of the book is '*Isaac did not see the monkey hiding behind the bush.*' When Winston gets to the word '*monkey*', he hesitates. He tries to sound out the letters but still can't work out what the word is. On the opposite page of the book there is an illustration of the monkey hiding behind some bushes with Isaac walking past. Mrs Green says, "Winston, skip the word. Carry on reading the rest of the sentence." When Winston has read the rest of the sentence, she says, "Now look at the picture and try to guess what the word is."

F

A Std 1 pupil, Thandi, is reading an illustrated story book aloud to her teacher, Mrs Nkosi. She is reading the sentence '*The boy shouted at the elephant.*' Thandi stops reading when she gets to the word '*elephant*'. She tries to sound out the letters but is still unable to work out what the word is. Mrs Nkosi tells her to repeat the sounds after her but Thandi still can't work out what the word is. Mrs Nkosi tells Thandi that the word is '*elephant.*' Thandi carries on reading.

The analysis which follows on Table 10 reveals the extent to which teachers understand what is meant by teaching pupils to read independently:

Table 10: The extent to which teachers understand what is meant by teaching pupils to read independently

INDICATOR	TEACHERS' SCORE	INTERPRETATION
Teacher shows no/very little understanding of what is meant by teaching pupils to be independent readers or of the need to develop the skills and strategies which will assist their pupils to become independent readers.	No teachers.	All respondents show some understanding of what is meant by teaching pupils to read independently.
Teacher shows some understanding of what is meant by teaching pupils to be independent readers by recognising the need to teach pupils teacher-directed skills (for example the teacher telling the pupils the correct word or directing pupils to use pictures as an aid for identifying words). Teacher shows little/no recognition of the need to teach pupils other strategies they need for reading independently.	Teacher M 3 Teacher A 3 Teacher E 3 Teacher D 3 Teacher O 3 Teacher P 3 Teacher H 3 Teacher R 3 Teacher L 4 Teacher K 4 Teacher G 4 Teacher F 4 Teacher Q 4 Teacher N 4 8 teachers score 3. 6 teachers score 4.	14 teachers demonstrate barely adequate understanding of what is meant by teaching pupils the skills to read independently by recognising that illustrations can be used as an aid but showing little/no recognition of the need to teach pupils other strategies they need to become independent readers.
Teacher shows understanding that if the pupils have to keep relying on the teacher to tell them the words and the meaning then they are not learning the reading strategies necessary for independence. Teacher shows understanding that, in order to read texts independently and self-correct, pupils need to be taught to use a variety of strategies, for example to: <ul style="list-style-type: none"> • use semantic (contextual) and syntactic (structural) clues and cues; • use prior knowledge and experience to predict. 	Teacher C 5 Teacher B 5 Teacher I 5 Teacher J 5 4 teachers score 5. None of the teachers scored the maximum of 6.	4 teachers show adequate understanding of what is meant by teaching their pupils to read independently.

Some examples of extracts from responses which show teachers' understanding of what is meant by teaching pupils to read independently are provided below.

Evidence drawn from transcripts of the audio recordings of the interviews:

Examples of responses which show barely adequate understanding

The following extracts from responses show teachers' understanding of the use of illustrations or pictures as an aid for reading independently:

'Okay this one is using sounds. She (the teacher) emphasised sounds instead of letting Thandi read for himself ... for herself and maybe look at the picture so that she may know what the word is.'

'She (the teacher) is doing a good job because she wanted the child to look at the picture, when the child looks at the picture, she tried to guess the word.'

'Because he should have ... taken the word "monkey", shown the child the word "monkey" ... the child must guess the word by seeing it on the picture.'

Examples of responses which show adequate understanding

The following extracts from responses show teachers' understanding of the need to teach pupils other strategies such as the contextual clues and cues they need to read independently:

'Now when Winston gets stuck with a word which he cannot read out and then when he is made to get past that word and ultimately be made to observe the picture, Winston can easily click the two, the monkey and the word monkey.'

'... I think that's good, allowing the child to read to the end of the sentence and also using the picture as a cue, as a clue or cue ...'

'If the child is trying to guess and predict I should think it was right to help the child, that was that word so that the child could continue reading ...'

'And then at the same time she's (the teacher) helping Winston to make clues about the ... about the text he's reading by looking at the picture and now make meaning from what you have read. And I should think that uh ... this teacher is, doesn't concentrate mainly on the right calling of words. What is important to me is what the child is reading, does it make sense.'

Conclusion:

This analysis reveals that most teachers have some understanding of what is meant by teaching their pupils to read independently by teaching them teacher-directed skills such as encouraging them to use pictures/illustrations as an aid. However, in most cases this understanding of the model is barely adequate because it incorporates little/no recognition of the need to teach pupils to use other strategies to read independently such as using their prior knowledge and experience or using contextual clues and cues from the text and illustrations to make informed guesses about unfamiliar words and to self-correct.

1.3 Developing a book culture

In Section One, Lesson Three (Flanagan, 1995d:14-21) and Section Three, Lesson One and Two of the Language and Learning study guide, teachers are provided with an understanding of the need to develop a book culture because 'each time that children work or play with written language they are developing their understanding of what written language does' (ibid.:17). In the prescribed text for the Language and Learning Course, teachers read that 'a child's first model of a reader is very often a teacher, and it depends very heavily on the teachers' attitude to reading as to whether a culture of reading is nurtured in the classroom or not' (ibid.:26).

The audio cassette 'Reading readiness' is provided to assist teachers in understanding the need to develop a reading culture and to introduce children to a wide variety of print and books as soon as possible. In particular, teachers are encouraged to use extended (authentic) text in "real" stories as opposed to contrived (inauthentic) text for the teaching of reading.

Teachers' responses to vignettes C & H from the assessment schedule were used to infer teachers' understanding what is meant by developing a book culture:

C

In one of his reading lessons, a SSA (Grade 1) teacher, Mr Phoko, lets all the pupils in his class choose a book from the book corner. The whole class spends the lesson enjoying the books they have chosen. When they have finished with the book they have chosen, the children can select another book from the book corner. The pupils are allowed to discuss their books with each other. While the children are looking at their books, Mr Phoko works with individual children on their reading.

H

Mr Green teaches a Std 1 class. He uses the prescribed reader for all his reading lessons. In each lesson, he teaches the vocabulary and sentences in the reader. He does this for the whole year.

The analysis which follows on Table 11 reveals the extent to which teachers understand what is meant by developing a book culture:

Table 11: The extent to which teachers understand what is meant by developing a book culture

INDICATOR	TEACHERS' SCORE	INTERPRETATION																								
<p>Teacher shows no/very little understanding of what is meant by developing a book culture. Teacher believes that reading material should be structured and graded according to a hierarchical order and that children must be 'ready' for books before they can handle books for themselves.</p>	<p>No teachers.</p>	<p>All teachers show some understanding of what is meant by developing a book culture.</p>																								
<p>Teacher shows some understanding of what is meant by developing a book culture by recognising the limitations of only using a prescribed reader to teach reading and by recognising the need for pupils to read a variety of texts. Teacher shows no/little recognition of the need for the teacher to provide pupils with a good selection of books or to encourage them to read by themselves for enjoyment and pleasure.</p>	<table border="0"> <tr><td>Teacher A</td><td>3</td></tr> <tr><td>Teacher E</td><td>3</td></tr> <tr><td>Teacher O</td><td>3</td></tr> <tr><td>Teacher P</td><td>3</td></tr> <tr><td>Teacher K</td><td>4</td></tr> <tr><td>Teacher F</td><td>4</td></tr> <tr><td>Teacher D</td><td>4</td></tr> <tr><td>Teacher Q</td><td>4</td></tr> <tr><td>Teacher I</td><td>4</td></tr> <tr><td>Teacher H</td><td>4</td></tr> <tr><td colspan="2">4 teachers score 3.</td></tr> <tr><td colspan="2">6 teachers score 4.</td></tr> </table>	Teacher A	3	Teacher E	3	Teacher O	3	Teacher P	3	Teacher K	4	Teacher F	4	Teacher D	4	Teacher Q	4	Teacher I	4	Teacher H	4	4 teachers score 3.		6 teachers score 4.		<p>10 teachers demonstrate barely adequate understanding of what is meant by developing a book culture by showing recognition of the need to expose pupils to a variety of texts but showing little/no recognition of the need to encourage them to see reading as something which is worthwhile and enjoyable.</p>
Teacher A	3																									
Teacher E	3																									
Teacher O	3																									
Teacher P	3																									
Teacher K	4																									
Teacher F	4																									
Teacher D	4																									
Teacher Q	4																									
Teacher I	4																									
Teacher H	4																									
4 teachers score 3.																										
6 teachers score 4.																										
<p>Teacher shows understanding of what is meant by developing a book culture by recognising that learning to read only from a class reader holds pupils back from becoming self-regulating and independent readers and that pupils need to be encouraged to see reading as a worthwhile activity and something that should be enjoyed and made habitual. Teacher recognises that, in order to promote a book culture he/she needs to provide pupils with the experience of:</p> <ul style="list-style-type: none"> • reading extended text; • reading a variety of texts/ books; • reading for pleasure and enjoyment; • handling, playing and reading books themselves; • selecting books for themselves. 	<table border="0"> <tr><td>Teacher M</td><td>5</td></tr> <tr><td>Teacher L</td><td>5</td></tr> <tr><td>Teacher G</td><td>5</td></tr> <tr><td>Teacher C</td><td>5</td></tr> <tr><td>Teacher B</td><td>5</td></tr> <tr><td>Teacher N</td><td>5</td></tr> <tr><td>Teacher R</td><td>5</td></tr> <tr><td>Teacher J</td><td>5</td></tr> <tr><td colspan="2">8 teachers score 5.</td></tr> <tr><td colspan="2">None of the teacher score a maximum of 6.</td></tr> </table>	Teacher M	5	Teacher L	5	Teacher G	5	Teacher C	5	Teacher B	5	Teacher N	5	Teacher R	5	Teacher J	5	8 teachers score 5.		None of the teacher score a maximum of 6.		<p>8 teachers demonstrate adequate understanding of what is meant by developing a book culture.</p>				
Teacher M	5																									
Teacher L	5																									
Teacher G	5																									
Teacher C	5																									
Teacher B	5																									
Teacher N	5																									
Teacher R	5																									
Teacher J	5																									
8 teachers score 5.																										
None of the teacher score a maximum of 6.																										

Some examples of extracts from teachers' responses which show teachers' understanding of what is meant by developing a book culture are provided below.

Evidence drawn from the transcripts of audio recordings of the interviews:

Examples of responses which show barely adequate understanding

The following extracts from teachers' responses show teachers' understanding of the need to use more than just a prescribed reader to teach reading but show no recognition of the teacher's role in encouraging pupils to read for pleasure:

'The children must read many books ... so that they will know how to read with understanding , get information for themselves.'

'That means the child has just been exposed, er um, to the class reader, there's no other books he's been exposed to. He's stagnating the child's vocabulary, because the child is only listening to what he's doing, he's not going out and extending his own vocab.'

'The teacher is doing a library ... reading ... is doing reading but in a library. This one, these children who are independent who can try to read for themselves, but those who are not independent, they are going to look only on the pictures throughout the book, but something will be in their minds.'

Examples of responses which show adequate understanding

The following extracts show teachers' understanding of the need to encourage pupils to read extended texts and to see reading as something which is enjoyable, interesting and purposeful:

'... there's so much more than just reading the prescribed reader, because the children, their own sentences, their own stories and reading lots of other things that interest them ...'

'... everybody is keeping ... is reading. There's no one who's idle. Then by doing so the pupils are allowed to discuss, everybody's telling the other his opinion about the book ...'

'This is a good method because children will be able to make their own choice of books and then they'll read to one another and then learn from one another and then she (the teacher) does well if she lets them choose other books and not hinder them from choosing books because learning is in process.'

'... I think it is also good, it helps you to assess the individual pupils as well and the others are busy enjoying reading at the same time ...'

'... and then this teacher actually has made reading something that is, uh, that continues across in the classroom. And there's no restriction that the children should read a particular book being read by the teacher. These children are just exploring to read on their own pace. They are reading books that they like.'

Conclusion:

Most teachers show some understanding of what is meant by developing a book culture by exposing their pupils to a variety of texts instead of only using a

prescribed reader. However, in many cases, this understanding of the model is barely adequate because it incorporates little/no recognition of the need for the teacher to provide pupils with a selection of books to read for pleasure or of the need to encourage them to see reading as something which is worthwhile and enjoyable.

1.4 Teaching pupils to read for meaning

Section Two, Lesson One and Two of the Language and Learning study guide provides teachers with an understanding of the language-experience approach and the bilingual approach, which are both approaches to teaching reading which 'always emphasise meaning first' (Flanagan, 1995d:33). These approaches are based on the view that 'we each make meaning differently according to the way we are learning to think and use language' (ibid.:35).

Section Three, Lesson One provides teachers with an understanding of the need to encourage pupils to read for meaning and of the kinds of strategies people employ to make sense of text. For example, the prescribed text for the Language and Learning Course emphasises the fact that developing 'the skill of prediction is very important in reading' for meaning (Flanagan, 1995c:51). The text also emphasises the need for teachers to provide pupils with the opportunity to try to make 'sensible guesses' as to what comes next in a text (ibid.:52).

The video 'Three approaches to teaching reading' assists teachers in understanding the need to encourage pupils to develop the strategies and skills they need to read for meaning.

Teachers' responses to vignettes D & G from the assessment schedule were used to infer teachers' understanding of what is meant by teaching pupils to read for meaning:

D

A SSA (Grade 1) teacher, Mrs Modise, is reading a story from a story book which has interesting illustrations to her class. After Mrs Modise has read each page, she shows the children the illustrations in the book. She reads the text to the children who listen quietly until the end of the story.

When she has finished reading the story, she asks her pupils the following questions to see if they can remember the facts: (The order in which she asks the questions follow the sequence of the story)

Mrs Modise:	Sipho - where was the boy in the story walking to?
Sipho:	The boy was walking to his grandmother.
Mrs Modise:	Yes - the boy was walking to his grandmother. What was he taking to his grandmother - Elizabeth?
Elizabeth:	A packet.
Mrs Modise:	What was he taking, Elias?
Elias:	A parcel.
Mrs Modise:	A parcel - but what was inside the parcel?
Elias:	A new dress.
Mrs Modise:	Class what was inside the parcel?
Whole class together:	A new dress.

G

Mr Africa is reading a story written in Zulu called 'The Lonely Giant' to his SSB (Grade 2) class. He shows the children the picture on the cover of the book and asks them what they think the story is about. He checks that the pupils understand what the word 'giant' means. Before he starts reading the text, he shows the class some of the pictures in the book and asks them what they think is going to happen. Whilst he is reading the book, he encourages his pupils to ask questions and to talk about what they think about the story. After he has finished reading the story, Mr Africa gives groups of pupils photocopies of the illustrations from the book (muddled up) and a set of the text (muddled up) and asks each group to sort the illustrations into the right order and match each piece of text to the picture.

The analysis which follows on Table 12 reveals the extent to which teachers understand what is meant by teaching their pupils to read for meaning:

Table 12: The extent to which teachers understand what is meant by teaching their pupils to read for meaning

INDICATOR	TEACHERS' SCORE	INTERPRETATION
Teacher shows no/very little understanding of what is meant by teaching pupils to read for meaning. Teacher believes that the focus of teaching reading should be on grapho phonics.	No teachers.	All teachers demonstrated some understanding of what is meant by encouraging pupils to read for meaning.
Teacher shows some understanding of what is meant by encouraging pupils to read for meaning by recognising the need for questions which tests pupils' comprehension of what they have read. Teacher shows little/no recognition of the need to develop the strategies which assist pupils to make meaning independently.	Teacher A 3 Teacher E 3 Teacher I 3 Teacher P 3 Teacher R 3 Teacher D 4 Teacher B 4 Teacher N 4 Teacher H 4 Teacher K 4 5 teachers score 3. 5 teachers score 4.	10 teachers demonstrate barely adequate understanding of what is meant by encouraging pupils to read for meaning by recognising the need to question pupils about text but showing little/no recognition of the need to teach pupils the strategies they need to make meaning from text.
Teacher shows understanding of what is meant by teaching pupils to read for meaning. Teacher understands that, for pupils to make meaning from text independently, he/she needs to encourage them to develop the strategies which will assist them to make meaning - for example to: <ul style="list-style-type: none"> • predict what is coming next; • respond to text as it is being read; • summarise what they have read. 	Teacher O 5 Teacher M 5 Teacher L 5 Teacher G 5 Teacher F 5 Teacher Q 5 Teacher C 6 Teacher J 6 6 teachers score 5. 2 teachers score 6.	8 teachers show adequate understanding of what is meant by teaching pupils to read for meaning.

Some examples of teachers' responses which show teachers' understanding of what is meant by teaching pupils to read for meaning are provided below.

Evidence drawn from the transcripts of audio recordings of the interviews:

Examples of responses which show barely adequate understanding

The following extracts show teachers' understanding of the need to question pupils to establish whether they are understanding text but shows inadequate understanding of the need to teach them the strategies they need to read for meaning independently:

'I think I may say it was wonderful for Mrs Modise because it said pupils listen to her quietly, they were following her while she reads, they understood the content of the books, in such a way they were able to answer all questions expect, except one boy, maybe he was absent-minded for some reason ...'

'Um, it's allowing the children to read with understanding, to see if the children really understood what they read. Comprehension also could be brought into the reading lesson.'

'I think that the approach of this teacher, it, it's an acceptable approach, since, er, she, she was using the listening, she wanted to train their listening, that's why she read the story to them and they were all listening. ... And then finally when she asked them questions, she's trying to find out as to whether they did comprehend what she was reading to them, did they really listen.'

Examples of responses which show adequate understanding

The following extracts show teachers' understanding of the need for the teacher to develop the strategies pupils need to construct meaning from text for themselves:

'That's also good, getting the children to think about what's going to happen next, it keeps them, like their cognitive, their thinking skills are being developed there because he's making them predict what is going to happen next.'

'... so I feel that she (the teacher) should have allowed, after perhaps reading the story, go back and ask the children, maybe individuals or groups to discuss what the sequence of the story according to the illustrations ... and the story would be the same story but maybe in their own words.'

'The teacher is trying to ... get the knowledge from the children that what they've been doing, they should predict ...'

'... and then he (the teacher) encouraged the children to predict what the book, what the book was going to tell them and then children were even given an opportunity to give the meaning of the words 'giant' ... the children were even asked to ask questions about, encouraged to ask questions about the text and they were also given an opportunity to talk about what they think the story is going to be all about. And then they were even given the opportunity to be divided into groups and to discuss ...'

Conclusion:

Most teachers show some understanding of what is meant by encouraging pupils to read for meaning by involving pupils in answering questions about the story/text. However, in most cases this understanding of the model is barely

adequate because it incorporates little/no recognition of the need to teach pupils a variety of strategies which assist them to read for meaning, such as predicting what comes next in the text and responding to text as it is read.

1.5 Encouraging pupils to interact with text

Section Two, Lesson Two and Three of the Language and Learning study guide provides teachers with an understanding of the language-experience approach which is 'based on the understanding that language is acquired by interacting (talking and listening and being) with people around us' (Flanagan, 1995d:33). The prescribed text for the Language and Learning Course provides a rationale for the language-experience approach which is that 'language is acquired and developed naturally when a child is part of a communicative process and when he or she is given the opportunity to participate in communication' (ibid.:33) and that 'the more opportunities a child is given to participate in the communicative process, and the more different these opportunities are, determine what a child is able to learn about the process' (Flanagan, 1995c:34).

The video 'Teaching reading with story charts' assists teachers in understanding the use of more interactive approaches to teaching reading.

Teachers' responses to vignettes D & G (see page 99) from the assessment schedule were used to infer teachers' understanding of what is meant by encouraging pupils to interact with text.

The analysis which follows on Table 13 reveals the extent to which teachers understand what is meant by encouraging pupils to interact with text:

Table 13: The extent to which teachers understand what is meant by encouraging pupils to interact with text

INDICATOR	TEACHERS' SCORE	INTERPRETATION
Teacher shows no/little understanding of what is meant by encouraging pupils to interact with text. Teacher believes that the emphasise of teaching reading should be on teaching the mechanical skills of reading and on the writing system and its symbols.	Teacher A 2 Teacher E 2 Teacher P 2 3 teachers score 2.	3 teachers demonstrate inadequate understanding of what is meant by encouraging pupils to interact with text.
Teacher shows some understanding of what is meant by encouraging pupils to interact with text by recognising that pupils should be encouraged to talk about text. Teacher shows no/little recognition of the need to encourage pupils to make sense of print by using their prior learning and their knowledge of language to talk about text.	Teacher R 3 Teacher O 3 Teacher M 3 Teacher D 3 Teacher N 3 Teacher H 4 Teacher L 4 Teacher K 4 Teacher F 4 Teacher B 4 Teacher I 4 5 teachers score 3. 6 teachers score 4.	11 teachers demonstrate barely adequate understanding of what is meant by encouraging pupils to interact with text by showing recognition of the need to engage pupils in discussing text but shows little/no recognition of the need to encourage pupils to use their prior knowledge and their knowledge of language to make sense of print.
Teacher shows understanding of what is meant by encouraging pupils to interact with text by recognising that reading is an interactive meaning-making process where prior knowledge determines the kind of interpretations pupils are able to make from text and understands that pupils need to be encouraged to use their prior knowledge and their knowledge of language to talk about text, make sense of print and create meaning from text.	Teacher G 5 Teacher C 5 Teacher Q 5 Teacher J 5 4 teachers score 5. None of the teachers score a maximum of 6.	4 teachers demonstrate adequate understanding of what is meant by encouraging pupils to interact with text.

Some examples of extracts from teachers' responses which show teachers' understanding of what is meant by encouraging pupils to interact with text are provided in the below.

Evidence drawn from transcripts of the audio recordings of the interviews:

Examples of responses which show inadequate understanding

The following extracts show no/little understanding of the need to encourage pupils to interact with text instead the teacher emphasises the need for the teacher to tell pupils what to do and think:

'This one is wrong. ... Because the children must see the pictures, must see the sentences, must able to, he (the teacher) must lead them to read by seeing.'

'I think this method is good because he (the teacher) start ... he started his lesson by reading the whole story and explained the story by illustrations to the class ...'

Examples of responses which show barely adequate understanding

The following extracts show teachers' understanding of the need to encourage pupils to discuss what they have already read rather than to interact with text as it is being read:

'You (the teacher) mustn't read the whole story first, you must read, and then the time when you read, you must ask the children the questions, not the repetition from the teacher, answer from the children, from the children - unless they are going wrong.'

'He (the teacher) didn't give chance for the children to talk in full (sentences) - just to develop their language, you see. Theirs (the pupils) was just to give the answers only and at the same time calling the whole class, you know, not raising up their hands, you know, individually. Now if the answer is in chorusing, if he was doing chorusing ... answering.'

'No I think she (the teacher) must show them (the pupils) the illustrations first before telling them the story so that they should understand ... they should think of the story first. They should personally think of the story.'

Examples of responses which show adequate understanding

The following extracts show teachers' understanding of the need to encourage pupils to use their own words to construct meaning from text as it is being read:

'This is a very interesting approach. This teacher makes pupils to predict and encourages thinking before reading. He allows pupils to discover whether they were right or wrong during reading.'

'But what I should comment here is the type of questioning, ... she (the teacher) was making the follow-up in questioning ... I can still criticise her because it seems as if she was just looking for something which the children they didn't give her.'

'I don't think the children, they are not really reading for enjoyment, it's more for facts, almost off by heart and even her questioning, she shouldn't question in a particular order ... they must be able to interpret in their own words.'

Conclusion:

Most teachers have some understanding of what is meant by encouraging pupils to interact with text by recognising that pupils need to be engaged in discussing what they have read. However, in most cases, this understanding of the model is barely adequate because it incorporates little/no recognition of the need to assist pupils to use their prior knowledge and their knowledge about language to talk about text as they read, to make sense of print and to create meaning from text.

1.6 Summary of the impact of the Language and Learning Course on teachers' understanding of the model

A summary of the impact of the Language and Learning Course on teachers' understanding of the model is provided on Table 14 which follows. The table provides the percentage of the sample of teachers' who demonstrate adequate, barely adequate and adequate understanding for each of the dimensions of the Course.

Table 14: Summary of the impact of the Language and Learning Course on teachers' understanding of the model

CRITERIA	PERCENTAGE OF TEACHERS WHO DEMONSTRATE INADEQUATE UNDERSTANDING	PERCENTAGE OF TEACHERS WHO DEMONSTRATE BARELY ADEQUATE UNDERSTANDING	PERCENTAGE OF TEACHERS WHO DEMONSTRATE ADEQUATE UNDERSTANDING
developing a book culture	-	55,56%	44,44%
teaching pupils to read for meaning	-	55,56%	44,44%
developing a concept of print	5,56%	66,67%	27,78%
teaching pupils to read independently	-	77,78%	22,22%
encouraging pupils to interact with text	16,67%	61,11%	22,22%
OVERALL PERCENTAGE	4,44%	63,33%	32,22%

The table reveals that the dimensions of the Course which have had the most impact on teachers' understanding are:

- understanding what is meant by developing a book culture;
- understanding what is meant by teaching pupils' to read for meaning.

The table also reveals that the dimensions which have had the least impact are:

- understanding what is meant by teaching pupils to read independently; and
- understanding what is meant by encouraging pupils to interact with text.

Further discussion and reflection on the distribution of the impact on teachers' understanding of the model is included in an analysis of the data in section 5 of this chapter on page 172.

2. ASSESSING THE IMPACT OF THE JUNIOR PRIMARY STUDIES COURSE ON TEACHERS' UNDERSTANDING

Criteria which inform the indicators on the instrument for measuring the impact of the Junior Primary Studies Course on teachers' theoretical and practical understanding of teaching environmental education (EE) and related subjects measure teachers' understanding of what is meant by:

- using a model for active learning (see 2.1) which incorporates:
 - a) acknowledging pupils' prior knowledge by linking pupils' previous learning to new learning (see 2.1.1);
 - b) using problem-solving activities/tasks (see 2.1.2);
 - c) assisting pupils to develop the process skills necessary for active learning (see 2.1.3);
- employing learner-centred responses (see 2.2);
- adopting an enquiry-based approach through questioning (see 2.3);
- using a collaborative approach to teaching and learning (see 2.4);
- using an integrated approach to knowledge and the curriculum (see 2.5).

Teachers' engagement with and responses to the vignettes of teachers' teaching of EE and related subjects have been used to infer the impact of the Junior Primary Studies Course on teachers' theoretical and practical understanding of approaches to teaching EE.

2.1 Using a model for active learning

Section Two, Lesson Three of the Junior Primary Studies study guide (Flanagan, 1995e:Part 1,36-56) focuses on providing teachers with a clear understanding of the difference between rote learning and active learning and provides teachers with an understanding of active learning in terms of a model which incorporates:

- a) acknowledging pupils' prior knowledge by linking pupils' previous learning to new learning (see 2.1.1);
- b) using problem-solving activities/tasks (see 2.1.2);
- c) assisting pupils to develop the process skills necessary for active learning (see 2.1.3).

In order to measure teachers' understanding of what is meant by using a model for active learning, the instrument measures teachers' understanding of the aspects of the model listed above.

2.1.1 Acknowledging pupils' prior knowledge by linking pupils' previous learning to new learning

Section Two, Lesson Three (Flanagan, 1995e:Part 1,36-56) of the Junior Primary Studies study guide provides teachers with an understanding of the ways in which learners 'use previous ideas' to explain new experiences (ibid.:42).

Teachers' responses to vignettes I & L from the assessment schedule (see Appendix E & F) were used to infer whether teachers' understanding of a model for active learning incorporates acknowledging pupils' prior knowledge by linking their previous learning to new learning:

I

Mrs Appolis is teaching her first lesson on sheep to her Std 2 pupils. Her pupils sit quietly while she tells them:

"Sheep are important animals because they provide people with food and clothing. The hair of a sheep is called wool. Merino sheep are a type of sheep. They are called fine-woolled sheep. Another type of sheep are Karakul sheep. These are coarse-woolled sheep."

L

Miss Mxoli is teaching her Std 1 pupils about water. She wants her pupils to begin to think about water conservation. She starts the first lesson by asking the pupils to tell her what they know about water by asking them 'What do you use water for?', 'Who/what else needs water?' and 'Where do you think water comes from?' Miss Mxoli tells the children to work in pairs and write down the following:

1. All the places that they can think of where water can be found on the school property.
2. Where they think the water in each place comes from.
3. Where they think the water at each place goes to.

Her pupils discuss and note their observations and ideas in pairs.

The analysis which follows on Table 15 reveals the extent to which teachers understanding of active learning incorporates acknowledging pupil's prior knowledge by linking previous learning/ideas to new learning:

Table 15: The extent to which teachers' understanding of what is meant by using a model for active learning incorporates acknowledging pupil's prior knowledge by linking pupils' previous learning/ideas to new learning.

INDICATOR	TEACHERS' SCORE	INTERPRETATION
Teacher shows no/ very little understanding of the need to acknowledge pupils' prior knowledge or of the need to link pupils' previous learning to new learning.	Teacher P 2 1 teacher scores 2.	One teacher demonstrates inadequate understanding of a model for of active learning which incorporates recognising pupils' prior learning.
Teacher shows some understanding that pupils bring prior knowledge and experience to the learning situation. Teacher shows little/no recognition of the need to link the previous experience of pupils to new learning.	Teacher K 3 Teacher F 3 Teacher E 3 Teacher O 3 Teacher D 3 Teacher N 3 Teacher H 3 Teacher C 4 Teacher R 4 Teacher A 4 Teacher M 4 Teacher L 4 7 teachers score 3. 5 teachers score 4.	12 teachers demonstrate barely adequate understanding of a model for active learning by recognising the need to acknowledge pupils' prior knowledge but show little/no recognition of the need to link this learning to new learning.
Teacher shows understanding that pupils bring what they already know to the learning situation (prior knowledge) and recognises the need to link the experience of pupils to new learning.	Teacher G 5 Teacher B 5 Teacher Q 5 Teacher I 5 Teacher J 5 5 teachers score 5. None of the teachers scored the maximum of 6.	5 teachers demonstrate adequate understanding of a model for active learning which incorporates acknowledging pupils' prior knowledge by linking it to new learning.

Some examples of extracts from teachers' responses which show teachers' understanding of the need to acknowledge pupils' prior knowledge by linking it to new learning are provided below.

Evidence drawn from transcripts of the audio recordings of the interviews:

Example of a response which shows inadequate understanding

The following extract shows very little understanding of what it means to recognise pupils' prior knowledge; instead, the teacher indicates that pupils have no prior learning/experience and that the teacher is the only 'authority' who has 'the knowledge':

'There's no teaching aids, the children, they don't know anything about, like the town pupils, they don't know even sheep, what is a sheep, so the teacher must bring teaching aids so that the children see and feel the sheep, the skin of the sheep.'

An example of a response which show barely adequate understanding

The following extract shows the teacher's understanding of the need to acknowledge pupils' prior knowledge and experience but inadequate understanding of the need to link this knowledge to new concepts:

'An old method, because it's sort of book learning. Because I don't know whether she is ... whether the teacher can know whether all the children are familiar with sheep. Because how do uh ... if you present a lesson, you really have to make it depend that the children, ... teaching for instance sheep, you find a lot of children don't know what a sheep is, they can er, confuse it with a goat, and then the child is going to stay in her mind with the goat and the sheep being one and the same thing, ja.'

Examples of responses which show adequate understanding

The following responses show teachers' understanding of the need to link previous learning and experience with new learning:

'She's not going from the known ... she's just going straight into facts, like something has just been thrown at the child ...'

'The children are not really given a chance to contribute much and many of them, say for example, in town, don't even know what a sheep looks like ...'

'... And "The hair of the sheep is called wool." Fine, but it doesn't look like the wool that they see their mothers using, or, or the jerseys they wear and stuff like that. ... (she should) discuss it with them so that each child is going to bring their own set of ideas on where they, you know, on what sheep is all about.'

'She (the teacher) has spoon-feeding these children. The children know the sheep and they know about the sheep. She should give them chance to discuss the sheep and help when needed.'

2.1.2 Using problem-solving activities/tasks

Section Two, Lesson Three (Flanagan, 1995e:Part 1,36-56) of the Junior Primary Studies study guide provides teachers with an understanding of a model for active learning which 'sees learning as a change of ideas' (ibid.:43). Activities in the guide encourage teachers to provide their pupils with the opportunity to test 'old ideas against new experiences' (ibid.:41) through the use of problem-solving tasks/activities.

Teachers' responses to vignettes I & L (see pages 107-108) from the assessment schedule were used to infer whether teachers' understanding of active learning incorporates using problem-solving activities or tasks.

The analysis which follows on Table 16 reveals the extent to which teachers' understanding of active learning incorporates using problem-solving activities/ tasks:

Table 16: The extent to which teachers' understanding of what is meant by using a model for active learning incorporates using problem-solving activities/tasks

INDICATOR	TEACHERS' SCORE	INTERPRETATION
Teacher shows no/ very little understanding of the shortcomings of rote learning or of the need for pupils to be actively involved through problem-solving activities.	Teacher M 2 Teacher O 2 2 teachers score 2.	2 teachers demonstrate inadequate understanding of a model for active learning which incorporates problem-solving tasks/activities.
Teacher shows some understanding of the shortcomings of rote learning and recognises that pupils should be actively involved if learning is to be meaningful. Teacher shows no/little understanding that active learning occurs through problem-solving tasks/activities when pupils change their ideas or test and develop new ideas.	Teacher F 3 Teacher A 3 Teacher E 3 Teacher J 3 Teacher D 3 Teacher B 3 Teacher P 3 Teacher H 3 Teacher R 4 Teacher L 4 Teacher K 4 Teacher C 4 Teacher I 4 Teacher N 4 8 teachers score 3. 6 teachers score 4.	12 teachers demonstrate barely adequate understanding of a model for active learning by recognising the need for pupils to be actively involved in learning but show little/no recognition of the role of problem-solving tasks/ activities in developing and changing pupils' understanding.
Teacher shows understanding of the difference between rote learning and active learning by recognising that active learning occurs when pupils change their ideas or test new ideas and develop conceptual understanding through problem-solving activities/tasks.	Teacher G 5 Teacher Q 5 2 teachers score 5. None of the teachers score a maximum of 6.	2 teachers demonstrate adequate understanding of a model for active learning which incorporates problem-solving tasks/activities.

Some examples of extracts from teachers' responses which show their understanding of what is meant by using problem-solving activities/tasks are provided below.

Evidence drawn from transcripts of the audio recordings of the interviews:

Examples of responses which show inadequate understanding

The following extracts show no understanding of the need for pupils to be actively involved in learning instead teachers indicate that the role of pupils is to passively listen to the teacher:

'I think Mrs Appolis explained to the children what the sheep is and then what do they get from sheep and what ... every, everything what is happening in this, they, she even tells them that there are other types of sheep.'

'She (the teacher) should have shown them the picture of the sheep and asked them, so that they can know how ... and learn about the sheep, before telling them everything.'

Examples of responses which show barely adequate understanding

The following extracts show teachers' understanding of the limitations of rote learning and the need for pupils to be actively involved in learning but show no recognition of the need to engage pupils in tasks which develop problem-solving skills:

'She (the teacher) was feeding the children, she didn't want to suck the information from the children, you know, because the children, he (sic) could have asked them questions, now he wasn't doing that, he was just spoon-feeding them, you know, the information.'

'... the teacher-centred method. She (the teacher) didn't give her pupils time, time to share ideas, just to talk or to find their selves what she provides us with.'

Examples of responses which show adequate understanding

The following extracts show teachers' understanding of the role of problem-solving tasks/activities in developing conceptual understanding:

'Here she's (the teacher) allowing the children to think for themselves, to explore and discover things, work out solutions and in so doing they will find out, they will discover so much more about water.'

'... she (the teacher) gave children a time to give her what they already know and the lesson was interesting because she was not spoon-feeding the children and then, by asking them to discuss in pairs, children got chance to learn from one another things they did not know.'

2.1.3 Assisting pupils to develop process skills

Section Two, Lesson Three (Flanagan, 1995e:Part 1,36-56) of the Junior Primary Studies study guide provides teachers with an understanding of the process skills or higher order thinking skills such as observing, hypothesising, predicting, investigating, interpreting and communicating which are necessary for active learning (ibid.:46).

Teachers' responses to vignettes I, L (see pages 107-108) and N which follows were used to infer whether teachers' understanding of active learning incorporates assisting pupils to develop the process skills necessary for active learning:

N

Mrs Kuzwayo is teaching her Std 1 class about plants. In this lesson she is dealing with roots. She has introduced the pupils to the topic and has told them about the two types of roots, fibrous and tap roots. She divides her class into groups of 5 pupils and tells each group to collect one weed with its roots from outside. Each group has to look at their weed carefully and discuss which type of root they think their weed has. She asks each group what they have decided. The following is an extract from the discussion with one group:

Zonke:	Some of our group think our weed has tap roots.
Mrs Kuzwayo:	Why do some of you think that, Ann?
Ann:	Because there is one big white root in the middle.
Mrs Kuzwayo:	Why did the others say it had fibrous roots?
Nzukie:	Because it has many roots.
Mrs Kuzwayo:	Patience - how do you know whether a plant has a tap root?
Patience:	It has a main root with smaller roots coming from the main root.
Mrs Kuzwayo:	What do you think now Nzukie?
Nzukie:	I think it is a tap root.

The analysis which follows on Table 17 reveals the extent to which teachers' understanding of active learning incorporates teaching pupils the process skills necessary for active learning:

Table 17: The extent to which teachers' understanding of what is meant by using a model for active learning incorporates teaching pupils the process skills necessary for active learning

INDICATOR	TEACHERS' SCORE	INTERPRETATION
Teacher shows no/very little understanding of the need for pupils to think and learn with understanding or of the need to teach pupils the thinking and learning skills necessary for active learning.	No teachers.	All teachers demonstrate some understanding that active learning involves pupils in thinking.
Teacher shows some understanding what is meant by encouraging pupils to think and learn with understanding but shows no/little understanding of what is meant by teaching pupils to be active learners by assisting them to develop the process skills necessary for independent learning.	Teacher F 3 Teacher A 3 Teacher E 3 Teacher D 3 Teacher O 3 Teacher B 3 Teacher P 3 Teacher N 3 Teacher C 4 Teacher H 4 Teacher R 4 Teacher M 4 Teacher L 4 Teacher K 4 Teacher G 4 8 teachers score 3. 7 teachers score 4.	15 teachers demonstrate understanding a model for active learning by recognising the need for pupils to be actively involved in thinking but show little/no recognition of the need to develop the process skills necessary for active learning.
Teacher shows understanding of what is meant by developing the thinking and learning (process) skills pupils need to be independent and active learners - in particular prediction, hypothesising, observation and investigation skills.	Teacher Q 5 Teacher I 5 Teacher J 5 3 teachers score 5. None of the teachers score the maximum of 6.	3 teachers demonstrate adequate understanding of a model for active learning which incorporates assisting pupils to develop process skills.

Some examples of extracts from teachers' responses which show their understanding of a model for active learning which incorporates teaching pupils the process skills necessary for active learning are provided below.

Evidence drawn from transcripts of the audio recordings of the interviews:

Examples of responses which show barely adequate understanding

These extracts show teachers' understanding of the need for learning to be meaningful to pupils and for pupils to be engaged in thinking about what is being taught:

'It is good to let the children to find what you are doing, what you are talking about, let them see in front of them and then touch.'

'This method is very good ma'am because they have seen the root - the different kinds of roots and they have examined it. They saw that they are a bit different.'

'Yes, this teacher's approach is good, the children are able to discover themselves some of the things, they are not taught ... they are not from the teacher, they are able to experience them themselves as they were experimenting the roots.'

Examples of responses which show adequate understanding

The following extracts show teachers' understanding of the need to assist pupils to develop the more intangible process skills necessary for active learning such as observing and comparing:

'I think this is a very good approach because the children are actually seeing what they are talking about and it's good also, they can actually distinguish between the two.'

'Well she is allowing them to discover things for themselves in this lesson on roots and allowing them to compare - so in actual fact I feel that this helps the children, that they are going to compare ideas ...'

Conclusion:

Most teachers in the sample have some understanding of a model for active learning which incorporates recognising pupils' prior experience and knowledge by asking pupils what they already know about what is being taught. Most teachers understand the importance of learning with understanding and recognise that, if learning is to be meaningful, pupils need to be actively engaged in thinking.

However, in terms of the model, most cases teachers' understanding of active learning is barely adequate because it incorporates no/little recognition of the need to link the prior learning and experiences of pupils to new concepts as opposed to new content. Most of the teachers' understanding incorporates little/no recognition of the role of problem-solving tasks/activities in encouraging

abstract thinking and in changing and developing pupils' ideas and conceptual understanding. Most teachers' understanding incorporates little/no recognition of the need to assist pupils to develop cognitive skills (such as prediction, hypothesising and observation) necessary for independent problem-solving.

2.2 Employing learner-centred responses

Section Four, Lesson Five of the Junior Primary Studies study guide provides teachers with an understanding of what is meant by employing learner-centred approaches to teaching and learning and of the need to 'praise, encourage and appreciate' pupils' efforts (Flanagan, 1995e:Part 2,80) and take their attempts seriously because 'children learn best when they feel confident and good about themselves' (ibid.:73).

Teachers' responses to vignettes J and N from the assessment schedule were used to infer teachers' understanding of what is meant by employing learner-centred responses:

J	
When Mrs Appolis is finished she asks her Std 2 pupils the following questions:	
Mrs Appolis:	Why are sheep important to people, Simon?
Simon:	Because they give people food and clothes.
Mrs Appolis:	Because they give people food and clothes. Class, why are sheep important to people?
Whole class:	Because they give people food and clothes.
Mrs Appolis:	Agnes, what is the hair of a sheep called?
Agnes:	The hair of a sheep is called wool.
Mrs Appolis:	Good. Who can name two types of sheep?
Sizwe:	Fine-woolled.
Mrs Appolis:	(ignores this answer) Mzobz, what are the two types of sheep?
Mzobz:	Merino.
Mrs Appolis:	Merino and karakul. Class, what are the two types of sheep?
Whole class:	Merino and karakul.

N

Mrs Kuzwayo is teaching her Std 1 class about plants. In this lesson she is dealing with roots. She has introduced the pupils to the topic and has told them about the two types of roots, fibrous and tap roots. She divides her class into groups of 5 pupils and tells each group to collect one weed with its roots from outside. Each group has to look at their weed carefully and discuss which type of root they think their weed has. She asks each group what they have decided. The following is an extract from the discussion with one group:

Zonke:	Some of our group think our weed has tap roots.
Mrs Kuzwayo:	Why do some of you think that, Ann?
Ann:	Because there is one big white root in the middle.
Mrs Kuzwayo:	Why did the others say it had fibrous roots?
Nzokie:	Because it has many roots.
Mrs Kuzwayo:	Patience - how do you know whether a plant has a tap root?
Patience:	It has a main root with smaller roots coming from the main root.
Mrs Kuzwayo:	What do you think now Nzukie?
Nzukie:	I think it is a tap root.

The analysis which follows on Table 18 reveals the extent to which teachers understand what is meant by employing learner-centred responses:

Table 18: The extent to which teachers understand what is meant by employing learner-centred responses

INDICATOR	TEACHERS' SCORE	INTERPRETATION
Teacher shows no/very little understanding of what is meant by employing learner-centred responses .	Teacher D 1 Teacher P 2 1 teacher scores 1. 1 teacher scores 2.	2 demonstrate inadequate understanding of what is meant by employing learner-centred responses.
Teacher shows some understanding of what is meant by employing learner-centred responses by recognising the need to encourage and make pupils feel confident about answering questions. Teacher shows no/little recognition of the need to use learner-centred responses to encourage pupils to think about their thinking.	Teacher M 3 Teacher L 3 Teacher K 3 Teacher F 3 Teacher A 3 Teacher E 3 Teacher B 3 Teacher N 3 Teacher H 3 Teacher R 3 Teacher C 4 Teacher O 4 Teacher G 4 Teacher J 4 10 teachers score 3. 4 teachers score 4.	14 respondents demonstrate barely adequate understanding of what is meant by employing learner-centred responses by recognising the need to encourage pupils to feel confident as learners but shows no/little recognition of the role teachers' responses play in developing pupils' metacognitive skills.
Teacher shows understanding of what is meant by employing learner-centred responses by recognising the need for responses which encourage pupils to feel confident about answering questions and by recognising that learner-centred responses can be used to encourage pupils to think about their thinking, to learn how to ask questions themselves as well as to assist the teacher to establish how pupils are thinking and understanding.	Teacher I 5 Teacher Q 6 1 teacher scores 5. 1 teacher scores 6.	2 teachers demonstrate adequate understanding of what is meant by employing learner-centred responses.

Some examples of extracts of teachers' responses which show teachers' understanding of what is meant by employing learner-centred responses are provided below.

Evidence drawn from transcripts of the audio recordings of the interviews:

An example of a response which shows inadequate understanding

This extract shows no/little understanding of what is meant by employing learner-centred responses:

'It means they are just reciting because the children are supposed to repeat what she is saying which is very wrong. Must ... should show the children this type of wool so that they understand better.'

Examples of responses which show barely adequate understanding

The following extracts show teachers' understanding of the need to encourage pupils to feel confident about answering questions but show inadequate understanding of the need to encourage pupils to think about their responses:

'You mustn't ignore - that's what I have said. She must encourage the child (by saying), 'That's good, but let's hear it from other one.'

'And then ignoring some of the children when they make mistakes is not encouraging, it make these people, next time to be shy of making any attempt, even if they make mistakes they have to be acknowledged that they have tried, you know, they have to be motivated, not ignored.'

'So poor Sizwe, she didn't give him, er, ignoring him instead of trying to encourage him, or get someone to help him along, I don't think that's good, ignoring him.'

Examples of responses which show adequate understanding

The following extracts show teachers' understanding of the need to take pupils responses seriously and to encourage them to think about their thinking:

'... they must give their reasons for why they think it is a certain root and not the other.'

'Basically the teacher shouldn't have ignored the answer, the child's answer, she should have explained.'

Conclusion:

Most teachers have some understanding of what is meant by employing learner-centred responses by encouraging pupils to feel confident about answering questions. However, in most cases this understanding of the model is barely adequate as it incorporates little/no recognition of the role which the teachers' responses play in encouraging pupils to think about their thinking and in assisting the teacher to establish how the pupils are thinking and understanding.

2.3. Adopting an enquiry-based approach through questioning

In Section Two, Lesson Three of the Junior Primary Studies study guide, teachers are provided with an understanding of enquiry-based approaches to learning. Section Four, Lesson Two of the Junior Primary Studies study guide provides teachers with an understanding of the need to help their pupils develop cognitively and to find out what children really know and understand through 'talking to them and listening to them' (Flanagan, 1995e:Part 2,15).

Teachers' responses to vignettes J and N (see pages 117-118) from the assessment schedule were used to infer teachers' understanding of what is meant by adopting enquiry-based approaches through questioning.

The analysis which follows on Table 19 reveals the extent to which teachers understand what is meant by adopting an enquiry-based approach through questioning:

Table 19: The extent to which teachers understand what is meant by adopting an enquiry-based approach through questioning

INDICATOR	TEACHERS' SCORE	INTERPRETATION
Teacher shows no/very little understanding of what is meant by adopting an enquiry-based approach through questioning or of the need to ask questions which stimulate pupils thinking as opposed to only asking questions which test pupils' memory.	Teacher D 1 Teacher M 2 1 teacher scores 1. 1 teacher scores 2.	2 teachers demonstrate inadequate understanding of what is meant by adopting an enquiry-based approach through questioning.
Teacher shows some understanding of what is meant by adopting an enquiry-based approach through questioning by recognising the need for questions which actively engage pupils in providing descriptions. Teacher shows little/no recognition of the need to ask questions which require pupils to explain why they think what they think and how they know what they know or to interpret ideas.	Teacher P 3 Teacher N 3 Teacher H 3 Teacher K 3 Teacher F 3 Teacher A 3 Teacher E 3 Teacher C 4 Teacher L 4 Teacher O 4 Teacher G 4 Teacher R 4 7 teachers score 3. 5 teachers score 4.	12 teachers demonstrate barely adequate understanding of what is meant by adopting an enquiry-based approach by showing recognition of the need to question pupils but showing no/little recognition of the need to teach pupils to justify their responses.
Teacher shows understanding of what is meant by adopting an enquiry-based approach through questions which stimulate pupils' thinking such as how and why questions. Teacher recognises the need to use questions to encourage pupils to interpret others' ideas or to test/justify their own ideas and explain their thinking and understanding.	Teacher B 5 Teacher I 5 Teacher J 5 Teacher Q 6 3 teachers score 5. 1 teacher scores 6.	4 teachers demonstrate adequate understanding of what is meant by adopting an enquiry-based approach through questioning.

Some examples of extracts from teachers' responses which show teachers' understanding of what is meant by adopting an enquiry-based approach through questioning are provided below.

Evidence drawn from transcripts of the audio recordings of the interviews:

Example of a response which show inadequate understanding

The following extract shows little understanding of what is meant by using an enquiry-based approach through questioning:

'Then they (the pupils) should have told her (the teacher) what they think the sheep is and what do they think its work is and then she should have tell them the story she is telling them now and then asked them the questions.'

Examples of responses which show barely adequate understanding

These extracts show teachers' understanding of questioning which requires pupils to recall content or to provide descriptions but shows inadequate understanding of the need to encourage pupils to justify and explain their thinking:

'He (the teacher) has space for er, thinking questions and he have a good idea of having the children to observe the roots of the plants, not talking about something that they cannot see ...'

'This teacher's approach ... she, she gave the children chance to, you know, by introducing the lesson to them and show how it goes about it, and the children were able to answer back whilst she was asking questions.'

'She's (the teacher) making rote, she's using rote learning, just telling the children, she tell everything and they don't take part.'

Examples of responses which show adequate understanding

The following extracts show teachers' understanding of what is meant by using an enquiry-based approach through questioning which stimulates pupils' thinking and which encourages them to justify and explain their answers:

'Here again, the teacher uses the approach of chorusing, the chorusing approach, it's not very effective when individual answers could be given so that one could get the idea as to what other children are thinking, what they know, what they, is their feeling ...'

'... the whole class shouldn't have been questioned because you don't know which child didn't understand what's going on.'

'... and they realised from the continuous questioning of the teacher that their roots were ... that he had to agree in the end ... with the teacher - that was his decision.'

'... she (the teacher) has allowed them (the pupils) to work in groups and to have discussions so they can contradict one another, and if they do, they must give their reasons for why they think it is a certain root and not the other.'

Conclusion:

Most teachers have some understanding of what is meant by adopting an enquiry-based approach through questioning which actively engages pupils in

providing descriptions. However, in most cases this understanding of the model is barely adequate as it incorporates little/no recognition of the role which questioning plays in encouraging self-directed learning or in teaching pupils how to interpret ideas or to test/justify their own ideas and explain their thinking and understanding of abstract concepts as opposed to explaining their understanding of new content.

2.4 Using a collaborative approach to teaching and learning

Section Four, Lesson Seven of the Junior Primary Studies study guide provides teachers with an understanding of the importance of 'collaborative' learning through group work where children 'talk to each other, listen to each other and share ideas' (Flanagan, 1995e:Part 2,97).

The video 'Classroom organisation for group teaching' is provided to assist teachers in understanding how group work assists teachers to encourage collaborative learning.

Teachers' responses to vignettes J and N (see pages 117-118) from the assessment schedule were used to infer teachers' understanding of what is meant by using a collaborative approach to teaching and learning.

The analysis which follows on Table 20 reveals the extent to which teachers understand what is meant by using a collaborative approach to teaching and learning:

Table 20: The extent to which teachers understand what is meant by using a collaborative approach to teaching and learning

INDICATOR	TEACHERS' SCORE	INTERPRETATION
Teacher shows no/ very little understanding of what is meant by collaborative learning or of the need to engage pupils in 'collaborative talk'.	Teacher D 1 1 teacher scores 1.	1 teacher demonstrates inadequate understanding of what is meant by using a collaborative approach to teaching and learning.
Teacher shows some understanding of what is meant by using a collaborative approach to teaching and learning by recognising the need to encourage pupils' to participate in discussions through group work. Teacher demonstrates little/no recognition that language and thinking go together or of the need to encourage 'collaborative talk' so that pupils can develop the language necessary to think purposefully and independently and to express their thinking and learning.	Teacher L 3 Teacher K 3 Teacher A 3 Teacher P 3 Teacher H 3 Teacher E 4 Teacher C 4 Teacher O 4 Teacher I 4 Teacher N 4 Teacher R 4 Teacher M 4 Teacher J 4 Teacher G 4 5 teachers score 3. 9 teachers score 4.	14 teachers demonstrate barely adequate understanding of what is meant by using a collaborative approach to teaching and learning by showing recognition of the need for pupils to be involved in group work but show little/no recognition of the need to assist pupils to develop their thinking and language skills through 'collaborative talk'.
Teacher shows understanding of what is meant by using a collaborative approach to teaching and learning by recognising that the language that children use shows what they are thinking and what they have understood. Teacher recognises the need to encourage 'collaborative talk' so that pupils can develop the language necessary to think purposefully and express their thinking and learning in their own words.	Teacher F 5 Teacher B 5 Teacher Q 5 3 teachers score 5. None of the teachers score the maximum of 6.	3 teachers demonstrate adequate understanding of what is meant by using a collaborative approach to teaching and learning.

Some examples of extracts from teachers' responses which show their understanding of what is meant by using a collaborative approach to teaching and learning are provided below.

Evidence drawn from transcripts of the audio recordings of the interviews:

Example of a response which show inadequate understanding

This extract shows no understanding of what is meant by using a collaborative approach to teaching and learning or even of the need to encourage pupils to participate in discussion:

'This teacher should have shown them these kinds or these two types of wool - Merino and Karakul so that they must understand better.'

Examples of responses which show barely adequate understanding

The following extracts show teachers' understanding of the need for pupils to be involved in group work but show inadequate understanding of the need to provide pupils with opportunities to develop the language necessary to express their thinking and understanding:

'She's doing well, because she ordered the children to go and pick up one root and they come along with the root, each and every group is having a root and she's looking at the groups and each and every group are looking at the root, they are able to cut this root therefore when they have the discussion they are able to ... to answer all the questions because they see ...'

'This teacher was helping the kids to work in a co-operative way, ja. And then the one who was wrong was, the one who was unable to give the correct answer was let to be able to see what was right, ja.'

Examples of responses which show adequate understanding

The following extracts show teachers' understanding of the need to engage pupils in 'collaborative talk' which assists them to think purposefully and discuss their understanding in their own words:

'... so in fact I feel that this helps the children, that they're going to compare ideas and discuss things with one another.'

'His was just to get answers from the children, by asking them, you see. Now the thing is he didn't just, you know, give other children, the chance to participate, they just needed chorusing, whole class, they should chorus whereby now he could have done it, you know, individually ...'

'... and the children were able to answer back whilst she was asking questions. I think the method which she tried to use was a bit suitable for them and they could understand everything and they worked even in groups and thereafter activities were done.'

Conclusion:

Most teachers have some understanding of what is meant by using a collaborative approach to learning and teaching through encouraging pupils to participate in discussions and group work. However, in most cases this understanding of the model is barely adequate as it incorporates little/no

recognition of the role of 'collaborative talk' in assisting pupils to develop the language necessary for pupils to think purposefully and to express their thinking and learning in their own words.

2.5 Using an integrated approach to knowledge and the curriculum

In Section One, Lesson Two of the Junior Primary Studies study guide teachers are provided with an understanding of the idea of interdependence and the ways in which 'everything is related to everything else' (Flanagan, 1995e:Part 1, 10). Section Two, Lesson Two of the Junior Primary Studies study guide focuses on providing teachers with an understanding of theme teaching and of the ways in which subjects can be linked through topics or 'integrated studies' (ibid.:32). The overall approach of the environmental education section of Junior Primary Studies study guide encourages a holistic conception of knowledge and the curriculum. In addition, the Language and Learning Course promotes the use of language and reading across the curriculum.

The video 'Theme teaching' is provided to assist teachers in developing their understanding of using an integrated approach to the curriculum through the use of topics or themes.

Teachers' responses to vignettes K and M from the assessment schedule were used to infer teachers' understanding of what is meant by using an integrated approach to knowledge and the curriculum:

K

Mrs Ramotsho has organised her Environmental Education program for her SSB class (Grade 2). She has decided to cover the theme 'plants' in the first term. The following is her lesson plan for the first week:

- | | |
|--------|--|
| Day 1. | Taking the pupils out into the school grounds and around the neighbourhood to observe and discuss what is growing in the area. |
| Day 2. | Letting pupils take weeds from the school grounds. Observing the weeds and listing the different parts of the weeds. Talking about their observations and ideas. |
| Day 3. | Art based on what they have observed of the weeds/other plants. Singing a song about plants/crops. |
| Day 4. | Telling the story of 'Jack and the Beanstalk' |
| Day 5: | Drama/play based on what pupils have observed/learnt about plants. |

M

Mr Moledi follows his SSA (Grade 1) timetable exactly every day. Each lesson is 30 minutes long. The timetable for Monday is:

1st period	Religious Education
2nd period	Maths
3rd period	Reading
BREAK	
4th period	Health
5th period	Handwriting
6th period	Music
BREAK	
7th period	Physical Education

The analysis which follows on Table 21 reveals the extent to which teachers understand what is meant by using an integrated approach to knowledge and the curriculum:

Table 21: The extent to which teachers understand what is meant by using an integrated approach to knowledge and the curriculum

INDICATOR	TEACHERS' SCORE	INTERPRETATION
<p>Teacher shows no/ very little understanding of what is meant by using an integrated approach by showing no recognition of the use of theme teaching. Teacher views knowledge as consisting of self-contained 'packages' which must be taught as separate subjects and presented as information or facts to be learned one after the other.</p>	<p>Teacher D 1 Teacher N 2 Teacher H 2</p> <p>1 teacher scores 1. 2 teachers score 2.</p>	<p>3 teachers demonstrate inadequate understanding of what is meant by using an integrated approach to knowledge and the curriculum.</p>
<p>Teacher shows some understanding of what is meant by using an integrated approach by recognising the need to use themes or topics for teaching. Teacher shows no/little recognition of the need to develop pupils' understanding of the relationship between things.</p>	<p>Teacher M 3 Teacher L 3 Teacher A 3 Teacher I 3 Teacher P 3 Teacher E 4 Teacher C 4</p> <p>5 teachers score 3. 2 teachers score 4.</p>	<p>7 teachers demonstrate barely adequate understanding of what is meant by using an integrated approach to knowledge and the curriculum by recognising the need to use themes and topics but shows no/little recognition of the need to develop pupils' understanding of the integrated nature of knowledge.</p>
<p>Teacher shows understanding of what is meant by using an integrated approach to knowledge and the curriculum by recognising the interrelated nature of knowledge and the need to emphasise the embedded contextual/holistic nature of knowledge through for example:</p> <ul style="list-style-type: none"> • the use of themes and topics; • developing pupils' understanding of the relationship between things; • an integrated approach to the curriculum. 	<p>Teacher O 5 Teacher K 5 Teacher G 5 Teacher F 5 Teacher B 5 Teacher Q 5 Teacher R 5 Teacher J 5</p> <p>8 teachers score 5. None of the teachers score the maximum of 6.</p>	<p>8 teachers demonstrate adequate understanding of what is meant by using an integrated approach to the curriculum and knowledge.</p>

Some examples of extracts from teachers' responses which show their understanding of what is meant by using an integrated approach to knowledge and the curriculum are provided below.

Evidence drawn from transcripts of the audio recordings of the interviews:

Examples of extracts which show inadequate understanding

This teacher's response shows no/little understanding of what is meant by using an integrated approach. Instead the teacher indicates that teaching must be contained in one subject:

'Here this approach the teacher is mixing the lessons, you must teach one lesson until the children do understand it well ...'

Examples of responses which show barely adequate understanding

The following extracts show that teachers understand the value of topic teaching but show little understanding of the need to emphasise the interrelated nature of knowledge:

'She's (the teacher) using theme ... theme method ... across the curriculum.'

'Theme teaching is involved here in this approach because here they (the pupils) are going to sing a song about planting crops, talking that is the development of children, language development ...'

'Oh they (the teacher/s) are correlating the lesson with the seeds. That's why they (the pupils) sing a song.'

Examples of responses which show adequate understanding

The following extracts show teachers' understanding of the need to emphasise the holistic and contextual nature of knowledge:

'... this approach of the teacher is good because it goes across the curriculum and then it included in all other subjects, ... it also gives the child, the children, encourage the children that teaching is not done in the classroom only.'

'This is a fine, a fine approach which she has used because at least she tried, you know, to make his lesson across the curriculum ...'

'They do practical and theory so it's a good thing and even the subjects here they correlate.'

'This is theme teaching and then I can see that the plants are discussed through the curriculum ...'

Conclusion:

Most teachers show some understanding of what is meant by using an integrated approach to knowledge and the curriculum through the use of topic teaching in their lessons. However, in many cases this understanding of the model is barely adequate as it incorporates little/no recognition of the need to develop pupils' understanding of the holistic relationship between things or of the holistic nature of knowledge for example through the use of themes across the curriculum.

2.6 Summary of the impact of the Junior Primary Studies Course on teachers' understanding of the model

A summary of the impact of the Junior Primary Studies Course on teachers' understanding is provided on Table 22 below. The table provides the percentage of teachers who demonstrate inadequate, barely adequate and adequate understanding in terms of the criteria on the schedules.

Table 22: Summary of the impact of the Junior Primary Studies Course on teachers' understanding

CRITERIA	PERCENTAGE OF TEACHERS WHO DEMONSTRATE INADEQUATE UNDERSTANDING	PERCENTAGE OF TEACHERS WHO DEMONSTRATE BARELY ADEQUATE UNDERSTANDING	PERCENTAGE OF TEACHERS WHO DEMONSTRATE ADEQUATE UNDERSTANDING
acknowledging pupils' prior knowledge by linking pupils' previous learning to new learning	5,56%	66,67%	27,78%
using an integrated approach to the curriculum and knowledge	16,67%	38,89%	44,44%
adopting an enquiry-based approach through questioning	11,11%	66,67%	22,22%
assisting pupils to develop process skills	0	83,33	16,67%
using a collaborative approach to teaching and learning	5,56%	77,78%	16,67%
employing learner-centred responses	11,11%	77,78%	11,11%
using problem-solving tasks/ activities	11,11%	77,78%	11,11 %
OVERALL PERCENTAGE	8,73%	69,84%	19,84 %

This table reveals that the dimensions of the Course which have had the most impact on teachers' understanding are:

- understanding what is meant by using an integrated approach to the curriculum and knowledge; and
- understanding what is meant by acknowledging pupils' prior knowledge by linking pupils' previous learning to new learning.

The dimensions of the Course which have had the least impact on teachers' understanding are:

- understanding what is meant by using a collaborative approach to teaching and learning;
- understanding what is meant by using problem-solving tasks or activities; and
- understanding what is meant by employing learner-centred responses.

Further discussion and reflection on the distribution of the impact of the different dimensions of the Course on teachers' understanding of the model has been included in an analysis of the data in section 5 of this chapter on page 172.

3. ASSESSING THE IMPACT OF THE LANGUAGE AND LEARNING COURSE ON TEACHERS' CLASSROOM PRACTICE OF THE MODEL

The impact of the PREP Courses on teachers' classroom practice of the model has been inferred through observation of the video recordings of teachers' lessons and from the short units of transcripts of teacher/pupil interactions.

The assumptions of the two PREP Courses as to what constitutes 'good' practices inform the criteria used to measure the impact of the Courses on teachers' practice of the model. The three indicators, which have been constructed for each of the criterion, describe what would/would not be present or observed in the context of a lesson if teachers are/are not applying these practices.

Practices which inform the criteria to measure the impact on teachers' practice of teaching reading indicate whether teachers are recognising:

- the active nature of learning;
- the social nature of learning;
- the affective foundation of learning;
- the holistic nature of learning;
- the central role of language for learning (Wells & Chang Wells, 1992:8).

The Language and Learning Course is underpinned by the following assumptions of what constitutes good practices in teaching reading:

- developing pupils' concept of print (see 3.1);
- teaching pupils to read independently (see 3.2);
- developing a book culture (see 3.3);
- teaching pupils to read for meaning (see 3.4);
- encouraging pupils to interact with text (see 3.5).

3.1. Developing pupils' concept of print

According to PREP most teachers in South Africa have been 'drilled in quite overtly behaviouristic, specific methods for the initial teaching of reading' (Flanagan, 1993b:36) and tend to adopt very 'mechanistic' approaches to teaching reading (Flanagan, 1990a:1). The experience of the Project is that, for the initial teaching of reading teachers tend to use almost exclusively phonic (matching letter sounds to the alphabet) and look-and-say methods (teaching word recognition through the names of objects that can be illustrated, for example 'dog'). As a result pupils are taught to see reading as repeating isolated sounds, words and sentences and, because pupils are not encouraged to expect print to make sense, they do not develop a concept of print.

Section One, Lesson Three of the Language and Learning study guide (Flanagan, 1995d:9-21) encourages teachers to experiment with different ways of developing their pupils' concept of print. Teachers learn that reading is not only 'about being able to identify the words or make the sounds' (Flanagan, 1995d:3). It is not just a decoding process where the most important thing is to get the sounds/words right and to read accurately with correct pronunciation. Having a concept of print means being able to read print meaningfully and fluently.

The analysis which follows on Table 23 reveals the extent to which teachers are recognising the holistic nature of learning by developing pupils' concept of print by encouraging them to read fluently with attention to meaning:

Table 23: The extent to which teachers are recognising the holistic nature of learning by developing pupils' concept of print

INDICATOR	TEACHERS' SCORE	INTERPRETATION
Pupils spend most of their time decoding or repeating after the teacher. Teaching approach encourages 'finger pointing' at each word and 'barking' at text (reading word by word). Pupils not encouraged to make sense of print.	No teachers.	All lessons observed show some evidence of teachers trying to develop pupils' concept of print.
Teacher develops pupils' concept of print to some extent by focusing on reading whole sentences/meaningful chunks' of text but emphasis is mainly on getting pupils to repeat after the teacher or imitate the teacher instead of teaching pupils to read fluently with attention to meaning, punctuation and intonation.	Teacher L 3 Teacher K 3 Teacher A 3 Teacher E 3 Teacher D 3 Teacher O 3 Teacher H 3 Teacher R 4 Teacher Q 4 Teacher P 4 Teacher N 4 Teacher G 4 Teacher C 4 7 teachers score 3. 6 teachers score 4.	13 lessons show some evidence that teachers are trying to develop pupils' concept of print.
Teacher develops pupils' concept of written language and its functions by teaching pupils to expect print to make sense by encouraging them to read whole sentences/ 'meaningful chunks' of text as fluently as possible with attention to meaning, punctuation and intonation.	Teacher M 5 Teacher F 5 Teacher B 5 Teacher I 5 Teacher J 6 4 teachers score 5. 1 teacher scores 6.	5 lessons show evidence that teachers are trying to develop pupils' concept of print.

Some examples of the ways in which teachers are developing pupils' concept of print in their lessons are provided below.

Evidence drawn from the video recordings of teachers' lessons:

Example of barely adequate practice

Example 1 is of a teacher getting pupils to read whole sentences fluently by reading after her:

Teacher : Let us start reading from the beginning.
 (She points to the first picture)
 "In the middle of the night." Read after me.
 Pupils: "In the middle of the night."
 Teacher : "The children were sleeping on the bed."
 Pupils: "The children were sleeping on the bed."

Examples of adequate practice

Examples 2 and 3 are of teachers encouraging pupils to read whole sentences fluently by paying attention to meaning, punctuation and intonation:

Example 2

Teacher : Now I want one of you to read these two sentences without stopping. Just read like it is one long sentence. Nancy, listen carefully. I want you to read just like when you are talking - "When Cookie was one year old, she spilled the oil." When you read, you must try to read smoothly, just like when you are talking. You must not go "When ... Cookie ... was ... one ... year ..." You don't talk like that do you?

Example 3

Pupils : (reading) "On Thursday, the bees, zzz-zzz-zzz as the leopard is trying to sleep."
 Teacher : Right, when you read, you must take note of reading signs like the commas, the full stop and others.

Conclusion:

From the evidence available it seems that most teachers are trying to develop their pupils' concept of print by encouraging them to read whole sentences/ 'meaningful chunks' of text instead of emphasising individual syllables (phonics) or reading word by word. However, in most cases this practice of the model is barely adequate because the emphasis is mainly on getting pupils to repeat after the teacher or imitate the teacher instead of teaching pupils to read fluently with attention to meaning, punctuation and intonation.

3.2. Teaching pupils to read independently

According to the Language and Learning Course (Flanagan, 1995d:11-21), if children are to become self-regulating and independent readers, teachers need to teach them strategies such as prediction and the use of contextual clues and cues (such as other words in the sentence or illustrations) for reading independently so that they are able to make 'informed guesses' when they come across an unfamiliar word and are able to 'self-correct' when they misread text.

The analysis which follows on Table 24 reveals the extent to which teachers are recognising the social nature of learning by teaching pupils the strategies and skills necessary for independent reading:

Table 24: The extent to which teachers are recognising the social nature of learning by teaching pupils to read independently

INDICATOR	TEACHERS' SCORE	INTERPRETATION																																
<p>Teacher focuses on teaching skills such as sound/symbol (phonics), word recognition and memorising skills. Teacher does not teach pupils other strategies and skills for reading independently besides sounding out words and word recognition.</p>	<p>No teachers.</p>	<p>All lessons observed show evidence that teachers are trying to teach pupils some of the skills they need to read independently.</p>																																
<p>Teacher encourages pupils to read independently to some extent but the emphasis is mainly on teaching teacher-directed skills (for example, where pupils are taught to rely on the teacher to tell them what words are or where the teacher directs the pupils to use pictures as an aid for identifying words) rather than on teaching pupils to use other strategies which assist them to read independently.</p>	<table border="0"> <tr><td>Teacher M</td><td>3</td></tr> <tr><td>Teacher L</td><td>3</td></tr> <tr><td>Teacher K</td><td>3</td></tr> <tr><td>Teacher A</td><td>3</td></tr> <tr><td>Teacher E</td><td>3</td></tr> <tr><td>Teacher O</td><td>3</td></tr> <tr><td>Teacher P</td><td>3</td></tr> <tr><td>Teacher H</td><td>3</td></tr> <tr><td>Teacher R</td><td>3</td></tr> <tr><td>Teacher G</td><td>4</td></tr> <tr><td>Teacher F</td><td>4</td></tr> <tr><td>Teacher C</td><td>4</td></tr> <tr><td>Teacher D</td><td>4</td></tr> <tr><td>Teacher Q</td><td>4</td></tr> <tr><td>Teacher I</td><td>4</td></tr> <tr><td>Teacher N</td><td>4</td></tr> </table> <p>9 teachers score 3. 7 teachers score 4.</p>	Teacher M	3	Teacher L	3	Teacher K	3	Teacher A	3	Teacher E	3	Teacher O	3	Teacher P	3	Teacher H	3	Teacher R	3	Teacher G	4	Teacher F	4	Teacher C	4	Teacher D	4	Teacher Q	4	Teacher I	4	Teacher N	4	<p>16 of the lessons observed show some evidence that teachers are trying to teach pupils some of the (teacher-directed) skills they need to read independently.</p>
Teacher M	3																																	
Teacher L	3																																	
Teacher K	3																																	
Teacher A	3																																	
Teacher E	3																																	
Teacher O	3																																	
Teacher P	3																																	
Teacher H	3																																	
Teacher R	3																																	
Teacher G	4																																	
Teacher F	4																																	
Teacher C	4																																	
Teacher D	4																																	
Teacher Q	4																																	
Teacher I	4																																	
Teacher N	4																																	
<p>Teacher teaches pupils the strategies and skills they need to read independently, for example:</p> <ul style="list-style-type: none"> • using contextual cues and clues for identifying and understanding unfamiliar words (reading to the end of the sentence using picture clues and then guessing the word, using other words in the story); • using prior knowledge and experience to predict what comes next in a text. 	<table border="0"> <tr><td>Teacher B</td><td>5</td></tr> <tr><td>Teacher J</td><td>5</td></tr> </table> <p>2 teachers score 5. None of the teachers score 6.</p>	Teacher B	5	Teacher J	5	<p>2 lessons show evidence of teachers trying to teach pupils the skills and strategies they need to read independently.</p>																												
Teacher B	5																																	
Teacher J	5																																	

Some examples of the ways in which teachers are teaching pupils the strategies and skills necessary for independent reading are provided below.

Evidence drawn from the video recordings of teachers' lessons:

Examples of barely adequate practice

Example 1 and 2 are of teachers directing pupils to use pictures as an aid for reading independently:

Example 1

- Teacher : All right. Now we continue with the next picture. (She hangs the next picture up on the board). What do you think we will see on the next picture?
- Pupil: Bees.
- Teacher : What is new in this picture?
- Pupils: Bees.
- Teacher : How many bees?
- Pupils: Three.

Example 2

- Teacher : ... What do you see on those pictures? What do you see? Temba?
- Pupil: I see the tape recorder.
- Teacher : You see the tape recorder. Point to the tape recorder. I want to see it, point to it. (Pupils point to the picture of the tape recorder in the reader).

An example of adequate practice

Example 3 is of a teacher encouraging pupils to use prior knowledge to predict what comes next in the text:

- Teacher : Now, what were they going to do next? Was Mr Muller going to do something?

Conclusion:

From the evidence available, it seems that most teachers are trying to teach their pupils to become independent readers by directing them to use pictures as an aid for reading. However in most cases teachers' practice of the model is barely adequate because teachers are not teaching pupils other strategies which they need to read independently, such as reading to the end of the sentence, using picture clues and then guessing the word or using other words in the story or prior knowledge and experience to predict what comes next in a text.

3.3 Developing a book culture

According to the perceptions of the Project most pupils and teachers in ex DET/TBVC and Bantustan schools are embedded in a culture which does not see story books as important and the mechanistic approach to the teaching of reading which prevails usually entails the use of inauthentic and contrived texts which do not encourage pupils to see reading as a satisfying activity. The view of the Project is that, as a result, pupils struggle to make the transfer to real reading situations (Flanagan, 1990a).

The PREP Language and Learning Course encourages teachers to actively develop a book culture by helping children to understand how books work, allowing easy access to as many books as possible and by encouraging reading for pleasure and enjoyment right from the start (Flanagan, 1995d:14-21).

Teachers are encouraged to provide pupils with 'as rich a reading environment as possible' by providing them with story and other books, story telling and reading, read-along-together stories, using their own words for reading activities and reading across the curriculum (Flanagan 1995d:8).

Section One, Lesson Three (ibid.:14-21) and Section Three, Lesson One and Two of the Language and Learning study guide (ibid.:4-51) encourages teachers to experiment with developing a book culture. In addition teachers are provided with 20 story books and 10 sets of story charts (large pictures with extended text for front of class teaching) in English and mother tongue to use in their classrooms.

The analysis which follows on Table 25 reveals the extent to which teachers are recognising the affective foundation of learning by developing a book culture by encouraging pupils to read for pleasure:

Table 25: The extent to which teachers are recognising the affective foundation of learning by developing a book culture

INDICATOR	TEACHERS' SCORE	INTERPRETATION
Teacher uses dull texts/stories with contrived texts which are sequentially based for the teaching of mechanical skills and which are of little interest to pupils.	Teacher K 2 1 teacher scores 2.	1 lesson shows no evidence of the teacher trying to develop a book culture in her classroom.
Teacher uses texts/stories with extended text which are designed to encourage pupils to enjoy reading but tends not to use them support pupils as readers or in ways which encourage them to read for enjoyment and pleasure.	Teacher A 3 Teacher E 3 Teacher I 3 Teacher P 3 Teacher H 3 Teacher M 4 Teacher D 4 Teacher O 4 Teacher Q 4 5 teachers score 3. 4 teachers score 4.	9 lessons show some evidence that teachers are trying to develop a book culture.
Teacher uses meaningful and engaging texts/stories with predictable (extended) text to support the pupils as readers and encourages pupils to read for enjoyment and pleasure. Teacher him/herself shows genuine excitement about reading.	Teacher L 5 Teacher R 5 Teacher B 5 Teacher C 5 Teacher N 5 Teacher G 5 Teacher F 5 Teacher J 5 8 teachers score 5. None of the teaches score a maximum of 6.	8 lessons show evidence that teachers are trying to develop a book culture.

Some examples of the ways in which teachers are developing a book culture are provided below.

Evidence drawn from the video recordings of teachers' lessons

Examples of inadequate practice

Of the eighteen lessons observed, only three teachers used prescribed readers for teaching reading in these particular lessons. (However, there was evidence in two of the classrooms that pupils were exposed to a variety of texts and books in other lessons and that pupils had access to books from the classroom book corner).

Examples of barely adequate practice

Teachers used the PREP story charts to teach reading in nine of the lessons observed. One teacher made use of a picture book to tell her pupils a story. Two teachers had created their own story charts (pictures and text). One of these teachers used one of the PREP story books to create story charts and the other teacher used one of her own story books to make a set of charts. Two teachers made use of the illustrations in picture books in their environmental studies lesson. In two other lessons, teachers used the pupils' own words to make sentences for teaching reading. However there was little evidence of teachers encouraging their pupils to see reading as something which is interesting and enjoyable.

Examples of adequate practice

In eight lessons there was evidence of teachers trying to encourage their pupils to read for pleasure and to make reading more interesting and authentic for their pupils by reading with expression by, for example, imitating sounds.

Conclusion:

From the evidence available, it seems that most teachers are trying to develop a book culture by using a variety of texts including extended text to teach reading rather than only using a prescribed reader with contrived (inauthentic) text. However in many cases this practice of the model is barely adequate because teachers are generally not encouraging pupils to read for enjoyment and pleasure by showing genuine excitement about reading themselves and by providing pupils with the opportunity of handling, playing and reading books and selecting books for themselves.

3.4 Teaching pupils to read for meaning

Section Two of the Language and Learning Course encourages teachers to assist their pupils to see that reading is a purposeful and meaningful activity and to teach their pupils the skills and strategies they need to read for meaning, for example using pictures/illustrations as a strategy for reading for meaning (Flanagan, 1995d:29-41).

Teachers on the Course are provided with sets of story charts (pictures and text for front of class teaching) in English and mother-tongue and are encouraged to use the story charts to experiment with the language experience and bilingual approaches to teaching reading.

The analysis which follows on Table 26 reveals the extent to which teachers are recognising the active nature of learning by teaching pupils the skills and strategies they need to read for meaning:

Table 26: The extent to which teachers are recognising the active nature of learning by teaching pupils to read for meaning

INDICATOR	TEACHERS' SCORE	INTERPRETATION
Teacher does not ask pupils questions about text as focus is mainly on the mechanical aspects of reading (for example reading accurately and with correct pronunciation).	Teacher H 1 Teacher P 2 1 teacher scores 1. 1 teacher scores 2.	2 lessons show no evidence of teachers' trying to teach pupils the strategies and skills they need to read for meaning.
Teacher questions pupils about the text but the answers to the questions are largely determined by the text/teacher. Teacher mainly treats text as a series of items of information to be correctly recalled or described.	Teacher K 3 Teacher A 3 Teacher E 3 Teacher O 3 Teacher R 3 Teacher B 4 Teacher I 4 5 teachers score 3. 2 teachers score 4.	7 lessons show some evidence of teachers trying to teach pupils the skills they need to read for meaning.
Teacher questioning encourages pupils to develop the strategies which will assist them to construct meaning from text for themselves, for example teacher encourages pupils to: <ul style="list-style-type: none"> • predict what will happen next; • respond to text as it is being read • question text; • sequence / retell / summarise what they have read. 	Teacher C 5 Teacher D 5 Teacher M 5 Teacher L 5 Teacher F 5 Teacher Q 5 Teacher N 5 Teacher G 5 Teacher J 6 8 teachers score 5. 1 teacher scores 6.	9 lessons show evidence that teachers are trying to teach pupils the skills and strategies they need to read to read for meaning.

Some examples of the ways in which teachers are teaching pupils the skills and strategies they need to read for meaning are provided below.

Evidence drawn from the video recordings of teachers' lessons:

An example of inadequate practice

Example 1 is of a teacher who is encouraging her pupils to repeat after her rather than encouraging them to think about the meaning of the text:

- Teacher : (She puts up another picture chart and reads whilst pointing to the words). Right, "they looked everywhere for honey."
 Pupils: (Repeat after the teacher) "They looked everywhere for honey."

Example of barely adequate practice

Example 2 is of a teacher testing pupils' comprehension of the text:

- Teacher : Right, answer in full sentences. Who is going to the moon? Don't shout it out. Yes, Annabel?
 Pupil: (inaudible)
 Teacher: How did the rocket go?
 Pupil: (inaudible)
 Teacher: And?
 Pupil: (inaudible)
 Teacher: Right, what did it pass?

Examples of adequate practice

Example 3 is of a teacher encouraging pupils to predict what will happen next:

- Teacher: Right. Cody says that the elephant is too heavy for that swing. And what do you think will happen to the swing?
 Pupil: It will break.

Example 4 is of a teacher encouraging a pupil to summarise a story sequentially:

- Teacher: Happy tell us the story with the events in the correct order. (Pupil comes to the front to look at the illustrations from a PREP Story Chart, 'My sister Cookie').
 Pupil: Cookie spills the oil. (Pupil moves to the next picture). Cookie throws the shoes in the toilet. (He moves to the next picture). (inaudible) (Moves to the next picture). Then she cut the doll's hair. And then she paints the dog and the door and the clothes. (Moves to the last picture). She goes to school and the teacher is shouting at her.

Example 5 is of a teacher encouraging pupils to respond to text as it is being read:

- Teacher : After that the shepherds sat down to rest and they fell asleep. (She shows them some pictures from the book). While they were sleeping, they saw something shining very brightly at them. What do you think that thing was?

Conclusion:

It seems that most teachers are trying to teach pupils to read for meaning by questioning them about what they have already read. However, in many cases teachers' practice of the model is barely adequate because teachers are generally not assisting pupils to develop the strategies which will assist them to

construct meaning from text independently, for example encouraging pupils to predict what will happen next and to respond to and question text as it is being read (rather than testing pupils comprehension after the text has been read) and to sequence/ retell/summarise what they have read.

3.5 Encouraging pupils to interact with text

Section Three of the PREP Education Course provides teachers with examples of interactions between teachers and pupils where by 'stopping the story when asked to, going back to earlier pages by request', allowing their pupils to 'talk at will during the reading lesson', supporting pupils' 'attempts to clarify the story' and allowing pupils 'to comment critically on the story', teachers assist their pupils to 'develop the language necessary to express their thinking' and teach their pupils 'that they learn about language from reading' (Flanagan, 1995a:89). In other words the Course provides teachers with examples of teachers and pupils involved in 'collaborative talk' where teachers concentrate on 'developing the children's language competence' (ibid.:91).

The analysis which follows on Table 27 reveals the extent to which teachers are recognising the central role of language for learning to read by encouraging pupils to interact with text:

Table 27: The extent to which teachers are recognising the central role of language for learning by encouraging pupils to interact with text

INDICATOR	TEACHERS' SCORE	INTERPRETATION
<p>Teacher dominates discussion of text and there is little or no pupil participation in terms of interacting with text. Teacher does not encourage pupils to talk about the text. Instead teacher expects pupils to passively receive content 'transmitted' by the text.</p>	<p>Teacher H 1 Teacher P 2 Teacher A 2 Teacher E 2</p> <p>1 teacher scores 1. 3 teachers score 2.</p>	<p>4 lessons show no/little evidence of teachers trying to encourage pupils to interact with text.</p>
<p>Teacher encourages some pupil participation and interaction with text but this is mainly for them to communicate what they have already read or know rather than to use their own language to make meaning from texts. Teacher explains new vocabulary but this is usually done out of context (for example before reading a text).</p>	<p>Teacher M 3 Teacher K 3 Teacher R 3 Teacher D 3 Teacher I 3 Teacher O 3 Teacher B 4 Teacher Q 4 Teacher N 4 Teacher F 4 Teacher L 4 Teacher G 4</p> <p>6 teachers score 3. 6 teachers score 4.</p>	<p>12 lessons show some evidence of teachers trying to encourage pupils to interact with text.</p>
<p>Teacher actively facilitates children's construction of meaning from text by engaging pupils in collaborative talk (talk about their thinking/understanding) about text with teacher and peers. Pupils encouraged to use their own words to respond to text and express their thinking about and understanding of text. Teacher provides pupils with new vocabulary in the context of the text so that pupils can talk about and explain their thinking and what they have understood.</p>	<p>Teacher C 5 Teacher J 5</p> <p>2 teachers score 5. None of the teachers score the maximum of 6.</p>	<p>2 lesson show evidence of teachers trying to use 'collaborative talk' to encourage pupils to interact with text.</p>

Some examples of the ways in which teachers are trying to encourage pupils to interact with text through 'collaborative talk' are provided below.

Evidence drawn from the video recordings of teachers' lessons:

An example of inadequate practice

Example 1 is of a teacher who is not encouraging her pupils to interact with text but is encouraging them to passively accept whatever the text or teacher tells them:

Teacher : When you go out in the field you will find vultures gathered around a carcass eating it. Let's say there was a horse lying dead there, the vultures will come and eat it ... While the leopard was sleeping, after being bothered by the snake, then came the vultures. (She imitates the sound that vultures make). Then the leopard said, "Oh my God, when am I going to rest?" I will read again. "Thirdly, the vultures came and made their screaming noises." (She imitates the sounds made by the vultures). "The leopard tried once again to sleep." Now you are all going to read. (She points to the sentences on the board).

An example of barely adequate practice

Example 2 is of a teacher encouraging pupils to communicate what they have already read or know:

Teacher : ... I said why did she spill the oil, what was she doing, how did she do it?
 Pupil: She was playing around.
 Teacher: Good, all of you!
 Pupils: She was playing around.

Examples of adequate practice

Example 3 is of a teacher trying to encourage pupils to respond to text:

Teacher: Butter and bread. Here is the butter and here is the bread. Do you think that's enough for the giant?
 Pupils: No.
 Teacher: Does he want something else? (She shows them the next picture). What does he want? (They all put up their hands). Yes, Thabang?
 Pupil: He is wanting some honey.
 Teacher: So the people are going to get the honey, what are they doing here?
 Pupil: They want some honey.
 Teacher: They want some honey for the giant. Where are they looking for the honey?
 Pupil: In the chimney.
 Teacher: In the chimney of the stove. Yes, Letogang?
 Pupil: In the water.

Conclusion:

From the evidence available it seems that most teachers are trying to encourage pupils to interact with text by encouraging some pupil participation through pupils communicating what they already know or have already read and by providing them with some of the vocabulary they need to do this. However, in most cases this practice of the model is barely adequate because teachers are generally not

facilitating 'collaborative talk' which both encourages pupils to use their own words to express their responses to and thinking or understanding of text as it is actually being read and which provides them with the vocabulary they need to talk about and explain their thinking and what they have understood from the text.

3.6 Summary of the impact of the Language and Learning Course on teachers' classroom practice of the model

A summary of the impact of the Language and Learning Course on teachers' classroom practice is provided on Table 28 below. The table provides the percentage of the sample of teachers whose lessons demonstrated evidence of inadequate, barely adequate and adequate practices.

Table 28 Summary of the impact of the Language and Learning Course on teachers' classroom practice of the model

CRITERIA	PERCENTAGE OF TEACHERS WHO DEMONSTRATE INADEQUATE PRACTICE	PERCENTAGE OF TEACHERS WHO DEMONSTRATE BARELY ADEQUATE PRACTICE	PERCENTAGE OF TEACHERS WHO DEMONSTRATE ADEQUATE PRACTICE
developing a book culture	5,56%	50%	44,44%
teaching pupils to read for meaning	11,11%	38,89%	50%
developing a concept of print	-	72,22%	27,78%
teaching pupils to read independently	-	88,89%	11,11%
encouraging pupils to interact with text	22,22%	66,67%	11,11%
OVERALL PERCENTAGE	7,78%	63,33%	28,89%

The table reveals that the dimensions of the Course which have had the most impact on teachers' classroom behaviour are:

- recognising the active nature of learning by teaching pupils to read for meaning; and
- recognising the affective nature of learning by developing a book culture.

The dimensions which have had the least impact on teachers' classroom practice are:

- recognising the social nature of learning by teaching pupils to read independently; and
- recognising the central role of language for learning by encouraging pupils to interact with text.

Further discussion and reflection on the distribution of the impact of the different dimensions and how they compare to the distribution of the different dimensions of the impact on teachers' understanding of the model has been included in an analysis of the data in section 5 of this chapter on page 172.

4. ASSESSING THE IMPACT OF THE JUNIOR PRIMARY STUDIES COURSE ON TEACHERS' CLASSROOM PRACTICE OF THE MODEL

The Junior Primary Studies Course emphasises teaching for conceptual understanding and is underpinned by the following assumptions of what constitutes good teaching practice:

- using a model for active learning which incorporates:
 - recognising pupils' prior knowledge by linking pupils' previous learning to new learning (see 4.1.1),
 - using problem-solving activities/tasks (see 4.1.2),
 - assisting pupils to develop process skills (see 4.1.3);
- employing learner-centred responses (see 4.2);
- adopting an enquiry-based approach through questioning (see 4.3);
- using collaborative talk and language for making sense of new learning (see 4.4);
- using an integrated approach to knowledge and the curriculum (see 4.5).

These practices form criteria on the instruments to measure the impact of the Course on teachers' classroom practice in teachers' teaching of EE and related subjects and indicate whether teachers are recognising:

- the active nature of learning;

- the social nature of learning;
- the affective foundation of learning;
- the holistic nature of learning;
- the central role of language for learning (Wells & Chang Wells, 1992:8).

4.1 Using a model for active learning

In order to measure whether teachers are using a model for active learning, criteria measure whether teachers' practice incorporates each of the three aspects of the model listed above.

4.1.1 Acknowledging pupils' prior knowledge by linking pupils' previous learning to new learning.

Section Two, Lesson Three of the Junior Primary Studies study guide focuses on changing the learning situation for active learning and provides teachers with a model which recognises that 'when children are faced with something new, they search around and use previous experiences in trying to understand the new and unfamiliar.' The guide provides teachers with at least three examples of ways in which 'old ideas might be linked' to new learning (Flanagan, 1995e:Part 1,41-42).

The analysis which follows on Table 29 reveals the extent to which teachers are recognising the active nature of learning by using a model for active learning which incorporates acknowledging pupils' prior knowledge by linking previous learning to new learning:

Table 29: The extent to which teachers are recognising the active nature of learning by using a model for active learning which incorporates acknowledging pupils' prior knowledge by linking their previous learning to new learning

INDICATOR	TEACHERS' SCORE	INTERPRETATION
Teacher shows no acknowledgement of pupils' prior learning and experience.	Teacher O 2 1 teacher scores 2.	One lesson shows very little evidence of the teacher acknowledging pupils' prior knowledge.
Teacher shows some acknowledgement of pupils' prior learning and experience by asking them what they already know about what is being taught. Teacher does not assist pupils to link previous learning to new learning.	Teacher M 3 Teacher F 3 Teacher C 3 Teacher D 3 Teacher B 3 Teacher P 3 Teacher N 4 Teacher H 4 Teacher R 4 Teacher A 4 Teacher E 4 Teacher G 4 Teacher L 4 Teacher K 4 6 teachers score 3. 8 teachers score 4.	14 lessons show some evidence of teachers acknowledging pupils' prior knowledge.
Teacher acknowledges pupils' prior knowledge by encouraging pupils to use their previous experience to try to understand and make sense of new learning.	Teacher Q 5 Teacher I 5 Teacher J 5 3 teachers score 5. None of the teachers score the maximum of 6.	3 lessons show evidence of teachers linking pupils' previous learning to new learning.

Examples of some of the ways in which teachers are acknowledging pupils' prior knowledge and linking previous learning to new learning are provided below.

Evidence drawn from the video recordings of teachers' lessons:

An example of barely adequate practice

Example 1 is of a teacher acknowledging pupils prior knowledge but not linking it to new learning:

- Teacher : Have you seen houses like these?
 Pupils: Yes, teacher.
 Teacher : Okay, this hut is used for cooking and this one for sleeping. Does Grandma's house have tiles on the floor?
 Pupils: No.
 Teacher: What does it have?
 Pupils: The floor is made with clay.

An example of adequate practice

Example 2 is of a teacher trying to encourage pupils to use previous knowledge to make sense of new learning:

- Teacher: Right, Michael said something that's interesting as well. Water is also important for the animals. Which animals were you thinking about Michael? Which animals need water?
 Pupil: (inaudible)
 Teacher: Right, now all animals need water, but he's naming the animals that live in the water. Say it so that they can all hear, name the animals that will not survive if they don't live in water.
 Pupil: Sharks, dolphins, whales and fishes ...
 Teacher: Right, so he's named sharks, dolphins and fishes ...
 Pupil: And whales.
 Teacher: They would die because they cannot live on the land, they cannot live like we can live on the land, they need to live in the water, so if there was no water those animals would all ...?
 Pupils: Die.
 Teacher: And what would be left on this world, the plants would be dead, the animals would die, we would die from thirst, and what would be left?
 Pupils: Nothing.

4.1.2 Using problem-solving activities/tasks

The model for active learning provided in Section Two, Lesson Three of the Junior Primary Studies study guide encourages teachers to recognise that '**understanding** is created by the development and change of ideas' and that 'once an existing idea has been linked, its usefulness in 'really explaining the new experience has to be tested in a problem-solving situation' (Flanagan, 1995e:Part 1,42-44).

The analysis which follows on Table 30 reveals the extent to which teachers are recognising the active nature of learning by using problem-solving activities/tasks:

Table 30: The extent to which teachers are recognising the active nature of learning by using a model for active learning which incorporates using problem-solving activities/tasks

INDICATOR	TEACHERS' SCORE	INTERPRETATION
Teacher uses talk and chalk methods to explain new learning. All learning is 'processed' through the teacher and pupil learning is through memorising facts through rote and repetition. Teacher organises activities ("occupational tasks") merely to keep pupils busy so that he/she can teach a small group of pupils.	Teacher M 2 1 teachers scores 2.	1 lesson shows very little evidence of the teacher using problem-solving activities.
Teacher explains new learning by organising show and tell demonstrations which require some problem-solving but which are used mainly in ways that require pupils to acquire and recall a quantity of knowledge or repeat what they already know rather than to develop new concepts.	Teacher K 3 Teacher F 3 Teacher A 3 Teacher E 3 Teacher D 3 Teacher O 3 Teacher B 3 Teacher P 3 Teacher G 3 Teacher N 4 Teacher H 4 Teacher R 4 Teacher I 4 Teacher L 4 Teacher C 4 Teacher J 4 9 teachers score 3. 7 teachers score 4.	16 lessons show some evidence of teachers using problem-solving activities.
Teacher involves pupils in problem-solving activities/tasks to change their ideas and to test or develop new ideas (understand new concepts).	Teacher Q 5 1 teacher scores 5. None of the teachers score the maximum of 6.	1 lesson shows evidence of the teacher using problem-solving tasks/activities to develop new concepts.

Some examples of the ways teachers are using problem-solving activities/tasks are provided below.

Evidence drawn from the video recordings of teachers' lessons:

An example of barely adequate practice

Example 1 is of a teacher using a show and tell demonstration to teach content and vocabulary:

- Teacher: Let me show you maize (She goes to the corner and fetches a maize plant). This is maize. Can you all see it?
 Pupils: Yes.
 Teacher: Maize is divided into three parts. (Points to the root). You see, these are ... what do you call this part? (Several children put up their hands). Yes?
 Pupil: Roots.

An example of adequate practice

Example 2 is of a teacher trying to use problem-solving to develop pupils' understanding of new ideas/concepts:

- Teacher: ... Good, Travis said we need water to water our plants. What would happen Travis if we did not give our plants water?
 Pupil: Die
 Teacher: Travis?
 Pupil: Die.
 Teacher: They would die. Er, Travis said if we do not water our plants, they would die. What would cause them to die? Why would they die?
 Pupil (inaudible)
 Teacher: We're not giving them water, where's the water going to when we pour it in? To the ...?
 Pupils: Roots.
 Teacher: And where are the roots of the plant?
 Pupils: Down, down.
 Teacher: She's saying down, but down where?
 Pupils: Sand.
 Teacher: Or the soil, and if the soil is hard and dry the roots are not going to feed the plant because the plants are fed from the ...?
 Pupils: Roots.
 Teacher: So when we water our plants the water goes into the soil, that's all that lovely sand, that lovely soft sand that we plant in and then the roots start feeding the plant, the roots start feeding the plants from the soil and that's how our plants grow, but they will not grow if they do not have ...?
 Pupils: Water.

4.1.3 Assisting pupils to develop the process skills necessary for active learning

Section Two, Lesson Three of the Junior Primary Studies Course (Flanagan, 1995e:Part 1,36-56) encourages teachers to develop the process skills necessary for active learning. Activities throughout the course material encourage teachers to spend time helping their pupils to develop the ability to observe, predict, hypothesise, investigate and communicate their thinking.

The analysis which follows on Table 31 reveals the extent to which teachers are recognising the active nature of learning by assisting pupils to develop the process skills necessary for active learning:

Table 31: The extent to which teachers are recognising the active nature of learning by using a model for active learning which incorporates assisting pupils to develop the process skills necessary for active learning

INDICATOR	TEACHERS' SCORE	INTERPRETATION
Teacher does not assist pupils to develop the process skills necessary for active learning.	Teacher D 2 Teacher K 2 2 teachers score 2.	2 lessons show very little evidence of teachers trying to develop pupils' process skills.
Teacher assists pupils to develop some process skills but focuses on teacher-directed skills (for example "looking" instead of observing), rather than the process skills that enable pupils to solve problems independently.	Teacher M 3 Teacher G 3 Teacher A 3 Teacher E 3 Teacher C 3 Teacher O 3 Teacher B 3 Teacher P 3 Teacher N 3 Teacher H 4 Teacher R 4 Teacher L 4 Teacher F 4 Teacher I 4 9 teachers score 3. 5 teachers score 4.	14 lessons show some evidence of teachers trying to assist pupils to develop process skills.
Teacher assists pupils to develop the process/ thinking skills necessary for independent and active learning, for example the ability to: <ul style="list-style-type: none"> • observe objects or situations; • propose possible explanations (hypothesise) for events/situations; • make predictions based on their existing understanding and knowledge; • investigate the predictions they have made. 	Teacher Q 5 Teacher J 5 2 teachers score 5. None of the teachers score the maximum of 6.	2 lessons show evidence of teachers trying to assist pupils to develop the process skills necessary for active learning.

Some examples of how teachers are trying to assist pupils to develop the process skills necessary for active learning are provided below.

Evidence drawn from the video recordings of teachers' lessons:

An example of barely adequate practice

Example 1 is of a teacher teaching her pupils to 'look' at concrete examples rather than developing the more cognitive process skill of observation:

- Teacher : ... So today, we are going to discuss the weather. Now we are going to look outside and you are going to tell me how the weather is. Will somebody open the door for me please? (A child opens the door). Now tell me how is the weather today. (The pupils put up their hands). Zandile, how is the weather today?
- Pupil: It is hot.
- Teacher: Zandile says it is hot today, do you agree with her? What do you think?
- Pupil: It is cold.
- Pupil: It is raining.
- Teacher: Yes, he is right, it is raining outside.

Examples of adequate practice

Examples 2 and 3 are of teachers assisting pupils to develop process skills such as observation (by 'comparing') and hypothesising:

Example 2:

- Teacher: Good, what colour did we see on the peach leaves, on top?
- Pupils: Green.
- Teacher: (shows them a peach leaf) And what is the difference between the two sides of the leaf? How is the colour of this side?
- Pupils: Dark green.
- Teacher: And the other side?
- Pupils: Light green.

Example 3:

- Teacher: And on your way to school, what have you noticed along the way? With the trees?
- Pupil: (inaudible)
- Teacher: Some of the trees are ...?
- Pupils: Bare.
- Teacher: Bare and what else?
- Pupil: (inaudible)
- Teacher: I can't hear.
- Pupil: The leaves are falling down.
- Teacher: The leaves are falling down. Are they just falling?
- Pupil: (inaudible)
- Teacher: Right. It's been very windy. Especially last night, did you notice the wind?

Conclusion:

Most lessons show evidence of teachers using a model for active learning which incorporates acknowledging pupils' prior learning and experience by asking them what they already know about what is being taught. The majority of lessons show

evidence of teachers using some problem-solving activities to assist pupils to acquire and recall a quantity of knowledge and vocabulary or repeat what they already know about the content of what is being taught. Lessons generally show evidence of teachers trying to develop teacher-directed skills for active learning such as "looking" (instead of observing).

However, in most cases these practices are barely adequate in terms of the model as there is no/little evidence of teachers encouraging pupils to use their previous experience to try to understand and make sense of new concepts rather than content. Neither is there much evidence of teachers engaging pupils in problem-solving activities or tasks which encourage abstract thinking, change their ideas or test and develop new ideas. There is also little evidence of teachers developing the process/ thinking skills necessary for independent problem-solving, for example the ability to observe objects or situations; propose possible explanations (hypothesise) for events/situations; make predictions based on their existing understanding and knowledge and; investigate the predictions they have made.

4.2 Employing learner-centred responses

Section Four of the Junior Primary Studies Course (Flanagan, 1995e:Part 2,1-82) encourages teachers to use approaches which make pupils feel confident and good about themselves as learners. Activities throughout the guide encourage teachers to ask pupils for clarification or explanations about how they got their answers or why they think what they do in order to establish how pupils are thinking and understanding.

The analysis which follows on Table 32 reveals the extent to which teachers are recognising the affective foundation of learning by employing learner-centred responses:

Table 32: The extent to which teachers are recognising the affective foundation of learning by employing learner-centred responses

INDICATOR	TEACHERS' SCORE	INTERPRETATION
Teacher only acknowledges pupils' answers when they present the 'correct' answer to the teacher's questions.	Teacher D 2 Teacher H 2 2 teachers score 2.	2 lessons show very little evidence of teachers employing learner-centred responses.
Teacher encourages pupils to answer questions by acknowledging most pupils' answers but tends not to ask pupils for clarification or explanations about how they got their answers or why they think what they do.	Teacher M 3 Teacher L 3 Teacher K 3 Teacher F 3 Teacher A 3 Teacher E 3 Teacher B 3 Teacher P 3 Teacher N 3 Teacher R 3 Teacher O 3 Teacher G 4 Teacher C 4 Teacher I 4 11 teachers score 3. 3 teachers score 4.	14 lessons show some evidence of teachers employing learner-centred responses.
Teacher takes all pupils' attempts seriously by responding appropriately to each pupil's answer by asking for clarification or explanations about how they got their answer or why they think what they do in order to establish how they are thinking and understanding. For example, asking, 'How do you know that?' and 'Why do you think that?'	Teacher J 5 Teacher Q 6 1 teacher scores 5. 1 teacher scores 6.	2 lessons show evidence of teachers using learner-centred responses to develop pupils' metacognitive skills.

Some examples of learner-centred responses employed by teachers are provided below.

Evidence drawn from the video recordings of teachers' lessons:

An example of inadequate practice

Example 1 is of a teacher only acknowledging pupils' responses when they give the desired answers or when their answers are 'correct':

Teacher: There is something very important that God has created and we can't live without it. What is that thing?
 Pupil: It's water.
 Teacher: Very good. All of you, what is it?
 Chorus: It's water.

An example of barely adequate practice

Example 2 is of a teacher encouraging pupils to feel confident about answering questions but not responding appropriately by asking pupils to justify or explain their answers:

Teacher: Right, Moraba has already said that God created water. What do you think is the most important thing that God has created.
 Pupil: The flowers.
 Teacher: Flowers, what else?
 Pupil: Tomatoes.
 Pupil: Bread.
 Teacher: Did God actually bake bread? What is bread made from?
 Pupil: Flour.
 Pupil: And water.
 Teacher: Good, water is the most important creation.

An example of adequate practice

Example 3 is of a teacher responding appropriately to pupils' responses by asking pupils to explain their answers:

Teacher: ... I'm saying, if there was no water. The plants wouldn't survive, they would all dry up and die, the animals, besides the animals that Michael named, these are animals that live in water. What would happen to the other animals that live on the land?
 Pupils: Die.
 Teacher: Why? Michelaine?

Conclusion:

From the evidence available it seems that most teachers are employing learner-centred responses by acknowledging pupils' answers and encouraging pupils to feel confident about answering questions. However, in most cases this practice of the model is barely adequate because teachers are generally not using learner-centred responses to establish how pupils are thinking and understanding by asking them for clarification or explanations about how they got their answers or why they think what they do.

4.3. Adopting an enquiry-based approach through questioning

Activities in the Junior Primary Studies study guide encourage teachers to ask their pupils questions which stimulate their thinking, such as 'how' and 'why' questions. For example Activity Two, "Thinking about renewable resources", (Flanagan, 1995e:Part 1,94) instructs teachers to 'design questions' such as 'Why are they doing this?' and 'What would happen if they didn't look after their soil, fish, wood?'

The analysis which follows on Table 33 reveals the extent to which teachers are recognising the social nature of learning by adopting an enquiry-based approach through questioning:

Table 33: The extent to which teachers are recognising the social nature of learning by adopting an enquiry-based approach through questioning

INDICATOR	TEACHERS' SCORE	INTERPRETATION
<p>Teacher questioning of pupils restricted to drill and practice format, labelling or closed questions (for example yes/no). Textbook/ teacher pre-determines answers to all questions. For example, Teacher: "This is a karakul sheep. What is it?" and "Do we get wool from Merino sheep?"</p>	<p>Teacher D 1 Teacher M 2 Teacher P 2</p> <p>1 teacher scores 1. 2 teachers score 2.</p>	<p>3 lessons show no/very little evidence of teachers adopting an enquiry-based approach through questioning.</p>
<p>Teacher employs some questioning which stimulates pupils' thinking but questions generally limited to questions which require a description from pupils, for example: Teacher: "How does the farmer get wool from his sheep?" and those questions where pupils have to give 'correct' answers/answers pre-determined by the textbook or teacher, for example, Teacher: "Which sheep do we get wool from?"</p>	<p>Teacher K 3 Teacher F 3 Teacher A 3 Teacher E 3 Teacher O 3 Teacher N 3 Teacher H 3 Teacher G 3 Teacher R 4 Teacher L 4 Teacher C 4 Teacher I 4 Teacher B 4</p> <p>8 teachers score 3. 5 teachers score 4.</p>	<p>13 lessons show some evidence of teachers adopting an enquiry-based approach through questioning.</p>
<p>Teacher employs a variety of questioning techniques but focuses on open-ended questions which stimulate pupils' thinking. For example asking:</p> <ul style="list-style-type: none"> • how and why questions; • questions which require pupils to interpret; • pupils to justify their answers; • questions which encourage self-directed learning (finding answers to their questions in other ways instead of expecting the teacher to have all the answers, for example, using the contribution they are able to make from their prior knowledge and background understanding) • questions which teach pupils how to ask questions for themselves. For example: Teacher: "Show me something that is made of wool. Why do you think this and how do you know?" 	<p>Teacher Q 5 Teacher J 6</p> <p>1 teacher scores 5. 1 teacher scores 6.</p>	<p>2 lessons show evidence of teachers adopting an enquiry-based approach through questioning.</p>

Some examples of teachers adopting an enquiry-based approach through questioning are provided below.

Evidence drawn from the video recordings of teachers' lessons:

An example of inadequate practice

Example 1 is of a teacher using closed questions and labelling:

Teacher: Here is grass, can you all see it?
 Chorus: Yes
 Pupil: And the trees.
 Teacher: Yes, come and show us the tree here. (Picks up something and shows it to the class). What is this?
 Chorus: It is a tree.

An example of barely adequate practice

Example 2 is of a teacher asking pupils for a description:

Teacher: Look outside. If you look outside, what can you tell me? What can you see? How is the weather outside?
 Chorus: It is cloudy.
 Teacher: Look carefully, is it really cloudy?
 Chorus: No.
 Teacher: Look there, what do you see? How is the sky?
 Chorus: It is shining. It is bright.

An example of adequate practice

Example 3 is of a teacher asking how and why questions and questions which encourage self-directed learning:

Teacher: Charmaine, why do you think water is important. What do you think water is important for?
 Pupil: For bathing.
 Teacher: Right, she says for bathing. And if you do not bath what will happen to you?
 Pupil: (inaudible)
 Teacher: She said she would smell, you'd be dirty, and each day if you didn't bath, you'd get more and more dirt on your body until ... what would happen to you, Michael?

Conclusion:

It seems that most teachers are trying to employ an enquiry-based approach through questioning which requires a description from their pupils. However, in most cases this practice of the model is inadequate because teachers are not focusing on asking 'how' and 'why' questions or questioning which requires pupils to interpret or which encourages self-directed learning such as finding answers in other ways besides expecting the teacher to have all the answers or questioning which requires pupils to justify their answers.

4.4. Using a collaborative approach to teaching and learning

The PREP Education Course provides teachers with transcripts of interactions between teachers and pupils where the teacher engages pupils in 'collaborative talk' which shows pupils 'that we use language to help us think and that we ourselves construct knowledge through our own thinking and inquiring' (Flanagan, 1995a:97).

The analysis which follows on Table 34 reveals the extent to which teachers are recognising the central role of language for learning through the use of collaborative talk and language for making sense of new learning:

Table 34: The extent to which teachers are recognising the central role of language for learning through the use of collaborative talk and language for making sense of new learning

INDICATOR	TEACHERS' SCORE	INTERPRETATION
<p>Teacher dominates classroom discussion and controls pupils' learning by telling pupils what to do and think. Little or no pupil participation through use of pupils' own words for learning. Teacher expects pupils to passively receive and memorise facts/content 'transmitted' by the teacher/textbook through listening and reading. Pupils not encouraged to communicate their learning, thinking or understanding in their own words.</p>	<p>Teacher P 2 Teacher D 2 Teacher O 2</p> <p>3 teachers score 2.</p>	<p>3 lessons show very little evidence of teachers using a collaborative approach to teaching and learning through using 'collaborative talk' for making sense of new learning.</p>
<p>Teacher dominates most discussion but encourages some pupil participation through involving pupils in answering questions. However, this is mainly for pupils to communicate what they already know rather than to use their own words to express their own thinking and to make new meaning for themselves. Teacher provides pupils with some of the vocabulary they need to explain what they have learnt.</p>	<p>Teacher M 3 Teacher L 3 Teacher K 3 Teacher G 3 Teacher A 3 Teacher E 3 Teacher B 3 Teacher N 3 Teacher H 3 Teacher R 3 Teacher F 4 Teacher C 4 Teacher Q 4 Teacher I 4</p> <p>10 teachers score 3. 4 teachers score 4.</p>	<p>14 lessons show some evidence of teachers using a collaborative approach to teaching and learning through 'collaborative talk'.</p>
<p>Teacher actively facilitates children's construction of knowledge by engaging pupils in collaborative talk (talk about their thinking/ answers) with teacher and peers. Pupils encouraged to use their own words to express their thinking and to make sense of new learning. Teacher assists pupils to do this by providing them with new language/terms so that they can talk about what they understand or explain their thinking.</p>	<p>Teacher J 5</p> <p>1 teacher scores 5. None of the teachers score the maximum of 6.</p>	<p>1 lesson shows evidence of the teacher using a collaborative approach to teaching and learning through the use of 'collaborative talk' and language to make sense of new learning.</p>

Some examples of teachers using collaborative talk and language for making sense of new learning are provided below.

Evidence drawn from the video recordings of teachers' lessons:

An example of inadequate practice

Example 1 is of a teacher dominating and controlling pupils' learning by encouraging rote learning:

- Teacher: You call these roots fibrous roots. Fibrous roots. I want to show you that here. Fibrous roots. (Puts maize plant down and scratches through the papers on her desk. She finds a small card with writing on it and puts it up on the board. She points to the card). Fibrous roots.
- Pupils: Fibrous roots.
- Teacher: Fibrous roots.
- Pupils: Fibrous roots.

An example of barely adequate practice

Example 2 is of a teacher encouraging pupils to communicate what they already know rather than to express their own thinking:

- Teacher: And what is the colour of the stop light?
- Pupils: Red.
- Teacher: Good. (She puts a picture of the traffic robot on the board). What does the red one tell you to do?
- Pupils: Stop.
- Teacher: Which one tells you to go?
- Pupils: The green one.

An example of adequate practice

Example 3 and 4 show teachers encouraging pupils to use their own words to express their thinking and assisting pupils to learn the terms/language they need to talk about their thinking:

Example 3:

- Teacher: ... Something ... what's happening here? (Points to picture).
- Pupil: The birds are flying.
- Teacher: Where are they going?
- Pupil: To warmer places.
- Teacher: They are going to warmer places. Right, there's another word for it, we don't say the birds are flying to warmer places, we say the birds are migrating. What's the other word?
- Pupils: Migrating.

Example 4:

- Teacher 4: Right, so what can we call that, those plants that grow in the sea? He said there's grass that grows in the sea, what do we call that?
- Pupils: Seaweed.
- Teacher 4: Seaweed. You find them at the bottom of the sea. I just want to show you some of the animals that need water. Right (pages through the book - holds up book). Here we have different types of fish.
- Pupil: That's a turtle.
- Teacher 4: That's a turtle. Turtles live in the water as well.

Conclusion:

From the lessons observed it seems that most teachers are trying to use a more interactive and collaborative approach to teaching and learning by encouraging some pupil participation in discussions and through answering questions. However, in most cases teachers' practice of the model is barely adequate because teachers are generally not engaging pupils in 'collaborative talk' which encourages them to use their own words to express their thinking and to make sense of new learning. Neither are teachers assisting pupils to do this by providing them with new language / the terms they need to talk about what they understand or to explain their thinking.

4.5. Using an integrated approach to knowledge and the curriculum

The Junior Primary Studies Course encourages teachers to experiment with an integrated approach to the curriculum through the provision of classroom materials which emphasise the interrelated nature of knowledge and through the inclusion in the Course of information on a number of topics such as 'soil', 'water', 'plants' for the teaching of environmental education (Flanagan, 1995e:Part 1,57-154).

The analysis which follows on Table 35 reveals the extent to which teachers recognise the holistic nature of learning by using an integrated approach to knowledge and the curriculum:

Table 35: The extent to which teachers recognise the holistic nature of learning by using an integrated approach to knowledge and the curriculum

INDICATOR	TEACHERS' SCORE	INTERPRETATION
Teacher presents knowledge as separate and unrelated "packages" (subjects/ information) consisting of facts to be learnt one after the other.	Teacher M 2 Teacher D 2 Teacher H 2 3 teachers score 2.	3 lessons show very little evidence of teachers using an integrated approach to knowledge and the curriculum.
Teacher emphasises the inter-related nature of knowledge and the curriculum to some extent through the use of topic teaching but mostly presents knowledge as information consisting of facts to be learnt one after the other.	Teacher P 3 Teacher A 3 Teacher O 3 Teacher N 3 Teacher B 4 Teacher I 4 Teacher L 4 Teacher K 4 Teacher G 4 Teacher E 4 Teacher R 4 4 teachers score 3. 7 teachers score 4.	11 lessons show some evidence of teachers using an integrated approach to knowledge and the curriculum.
Teacher emphasises the inter-related nature of knowledge and the curriculum, for example: <ul style="list-style-type: none"> • by developing pupils' understanding of the relationship between things; • giving pupils the experience of looking at the world in different ways; • helping pupils to realise the explanations should be tentative because there is always the possibility of an alternative explanation; • presenting knowledge as changing and debatable rather than fixed; • formulating lesson plans around the use of themes across the curriculum. 	Teacher F 5 Teacher Q 5 Teacher C 5 Teacher J 6 3 teachers score 5. 1 teacher scores 6.	4 lessons show evidence of teachers using an integrated approach to knowledge and the curriculum.

Some examples of how teachers are employing an integrated approach to knowledge and the curriculum are provided below.

Evidence drawn from the video recordings of teachers' lessons:

Examples of barely adequate practice

In almost all the lessons observed, teachers were teaching topics. The following are the topics used in the lessons - soil (3 lessons), litter, housing, families (2 lessons), colours and traffic lights, weather (2 lessons), Creation, plants, birds, water (2 lessons), seasons and, domestic/wild animals. However in most of the lessons the teacher presented knowledge as information consisting of facts to be learnt one after the other.

Examples of adequate practice

A number of teachers tried to incorporate reading across the curriculum in their lessons, and some lessons showed evidence of teachers using themes across the curriculum.

Conclusion:

From the evidence available, most teachers are trying to employ an integrated approach to knowledge and the curriculum through the use of topic teaching. However, in most cases this practice of the model is barely adequate because, in general teachers are not:

- emphasising the interrelated nature of knowledge and the curriculum or formulating lesson plans around themes which develop pupils' understanding of the relationship between things;
- giving pupils much experience of looking at the world in different ways;
- helping pupils to realise that their explanations should be tentative because there is always the possibility of an alternative explanation;
- presenting knowledge as changing and debatable rather than fixed.

4.6 Summary of the impact of the Junior Primary Studies Course on teachers' classroom practice of the model

A summary of the impact of the Junior Primary Studies Course on teachers' classroom practice of the model is provided on Table 36 below. The table provides the percentages of the sample of teachers whose lessons show evidence of inadequate, barely adequate and adequate practice.

Table 36: Summary of the impact of the Junior Primary Studies Course on teachers' classroom practice of the model

CRITERIA	PERCENTAGE OF TEACHERS WHO DEMONSTRATE INADEQUATE PRACTICES	PERCENTAGE OF TEACHERS WHO DEMONSTRATE BARELY ADEQUATE PRACTICE	PERCENTAGE OF TEACHERS WHO DEMONSTRATE ADEQUATE PRACTICE
acknowledging pupils' prior knowledge by linking pupils' previous learning to new learning	5,56%	77,78%	16,67%
using an integrated approach to the curriculum and knowledge	16,67%	61,11%	22,22%
adopting an enquiry-based approach through questioning	16,67%	72,22%	11,11%
assisting pupils to develop process skills	11,11%	77,78%	11,11%
using a collaborative approach to teaching and learning	16,67%	77,78%	5,56%
employing learner-centred responses	11,11%	77,78%	11,11%
using problem-solving tasks/ activities	5,56%	88,89%	5,56%
OVERALL PERCENTAGE	11,9%	76,19%	11,9%

The table reveals that the dimensions of the Course which have had the most impact on teachers' classroom behaviour are:

- recognising the holistic nature of learning by using an integrated approach to the curriculum and knowledge; and
- recognising the active nature of learning by acknowledging pupils' prior knowledge by linking pupils' previous learning to new learning.

The dimensions which have had the least impact are:

- recognising the central role of language for learning by using a collaborative approach to teaching and learning;
- recognising the active nature of learning by using problem-solving tasks or activities; and

- recognising the affective nature of learning by employing learner-centred responses.

Further discussion and reflection on the distribution of the impact of the different dimensions on teachers' classroom practice and how they relate to the distribution of the different dimensions of the impact on teachers' understanding of the model is included in an analysis of the data in the section which follows.

5. ANALYSIS OF DATA ON THE IMPACT OF BOTH COURSES ON TEACHERS' UNDERSTANDING AND CLASSROOM PRACTICE OF THE MODEL

Overall data from this chapter reveals that the extent of the impact on teachers' understanding and classroom behaviour in terms of the model are reasonably consistent across a number of dimensions.

The Tables 14 (page 105) and 28 (page 148) reveal that the two dimensions of the Language and Learning Course which have had the most impact on teachers' understanding and classroom behaviour, namely developing a book culture; and teaching pupils to read for meaning, are consistent across both dimensions.

The tables also reveal that the dimensions of the Language and Learning Course which have had the least impact on teachers' understanding and behaviour, namely teaching pupils to read independently; and encouraging pupils to interact with text, are again consistent across both dimensions.

Tables 22 (page 131) and 36 (page 171) reveal that the dimensions of the Junior Primary Studies Course which have had the most impact on teachers' understanding and classroom behaviour, namely using an integrated approach to the curriculum and knowledge; and acknowledging pupils' prior knowledge by linking pupils' previous learning to new learning, are also consistent across both dimensions.

The two tables also reveal that the dimensions of the Junior Primary Studies Course which have had the least impact on teachers' understanding and practice

of the model, namely using problem-solving tasks or activities; employing learner-centred responses; and using a collaborative approach to teaching and learning, are consistent across both dimensions.

Tables 37 and 38 which follow below summarise the data provided in this chapter and provide the percentage of teachers who show evidence of inadequate, barely adequate and adequate skills and understanding in terms of the model.

Table 37: Summary of the impact of the Language and Learning Course on teachers' understanding and classroom practice of the model

	PERCENTAGE OF TEACHERS WHO DEMONSTRATE INADEQUATE UNDERSTANDING/ SKILLS	PERCENTAGE OF TEACHERS WHO DEMONSTRATE BARELY ADEQUATE UNDERSTANDING/ SKILLS	PERCENTAGE OF TEACHERS WHO DEMONSTRATE ADEQUATE UNDERSTANDING/ SKILLS
UNDERSTANDING	4,44%	63,33%	32,22%
PRACTICE	7,78%	63,33%	28,89%

Table 38: Summary of the impact of the Junior Primary Studies Course on teachers' understanding and classroom practice of the model

	PERCENTAGE OF TEACHERS WHO DEMONSTRATE INADEQUATE UNDERSTANDING/ SKILLS	PERCENTAGE OF TEACHERS WHO DEMONSTRATE BARELY ADEQUATE UNDERSTANDING/ SKILLS	PERCENTAGE OF TEACHERS WHO DEMONSTRATE ADEQUATE UNDERSTANDING/ SKILLS
UNDERSTANDING	8,73%	69,84%	19,84%
PRACTICE	11,9%	76,19%	11,9%

Data from these tables reveals that overall the Language and Learning Course has had greater impact on teachers' understanding and practice of the model than the Junior Primary Studies Course. A possible explanation for this may be that, because most of the material in the Language and Learning Course had been developed over a longer period and tested extensively during the six years

of the Project's earlier curriculum development work on the PREP Pack, this Course was better able to address the needs of the teachers than the Junior Primary Studies Course. Another possible explanation could be that both the teachers and the course implementers at the pilot institutions may have placed more emphasis on literacy teaching than on environmental education and may see literacy teaching as being more important than environmental education or, teachers may have felt more confident about experimenting with and changing this aspect of their teaching.

Data from these tables also indicates that there is remarkable consistency in the extent of the impact on teacher understanding and skills across both dimensions of understanding and practice of the model in the Language and Learning Course. However, some disjuncture is evident in the extent of the impact across both dimensions of understanding and practice of the model in the Junior Primary Studies Course. In other words the data indicates that a number of teachers demonstrate that they have learnt more in terms of understanding than they have learnt in terms of skills or that they have learnt more in terms of skills than they have in terms of understanding of the model.

Furthermore, data from the tables reveal that, although the PREP Courses have managed to effect significant changes in teachers attitudes and skills, the majority of teachers in the sample demonstrate barely adequate understanding and practice of the model in each of the Courses. Thus, although there is strong evidence that the PREP Courses are leading teachers to think and act in different ways, only a small band of teachers in the sample have achieved adequate mastery of the model.

There are a number of possible explanations for this. Firstly, it may be unrealistic to expect teachers to obtain mastery of the PREP model after only one year and they may still be developing the necessary understanding and skills. Secondly, the school environment or the system in which teachers operate may not sufficiently support and help sustain changes in teachers' understanding and

practice of the PREP model. For example, school principals may not support teachers in making the changes, or conditions in schools, such as the lack of secure storage for resources, may act as constraints. Other possible explanations are teachers' engagement with or interpretation of the course material; the quality of most of the teachers' previous experience of schooling and teaching; and the quality of most of the teachers' previous training.

Additional factors which may limit the impact of the Courses on teachers' understanding and practice of the PREP model could be that the course presenters may not share the assumptions of the model, or they may not be sufficiently competent as classroom facilitators. Alternatively, the presentation of the INSET Courses (for example, the video/audio presentations) may act as a constraint. However, the fact that few teachers demonstrate the study's anticipated (adequate) levels of understanding and skills in terms of the model could be the fault of the study itself in that the criteria and indicators developed to measure the impact may have set expectations which are not realisable. While this is plausible, since these expectations have been derived from the expectations of the Courses themselves, it does not impair the conclusions drawn here.

6. RÉSUMÉ OF THIS CHAPTER

This chapter provides an analysis of the impact of two of PREP's INSET Courses on teachers' understanding and classroom practice of the model. The analysis includes examples (drawn from teachers' responses to questions about the vignettes used in the interviews and observation of teachers' lessons) of evidence or incidences of 'inadequate', 'barely adequate' and 'adequate' pedagogical understanding and practices of the PREP model.

The analysis provides a precise statement of what individual teachers on the course are/are not able to do in relation to the objectives of the Courses and reveals the extent to which teachers are/are not understanding and are/are not practising different dimensions of what they learn on the two PREP Courses.

**CHAPTER SEVEN:
CORRELATION OF DATA ON TEACHERS' UNDERSTANDING AND
CLASSROOM PRACTICE OF THE MODEL AND AN ANALYSIS OF
IMPROVEMENT IN THE QUALITY OF TEACHING**

**1. CORRELATION OF DATA ON THE IMPACT ON TEACHERS'
UNDERSTANDING AND CLASSROOM PRACTICE OF THE MODEL**

According to the assumptions of the INSET model impacting on understanding and practice is equally important.

The 3 X 3 matrices below have been used to correlate data on the impact of each Course on teachers' understanding of the model for each of the criterion on the measuring instrument with data on corresponding criterion on the impact on teachers' classroom practice of the model. The shaded areas indicate congruency between teachers' understanding and classroom behaviour.

1.1 Correlation of data on the Language and Learning Course

The matrices which follow on pages 177 - 181 correlate data on the impact on teachers' understanding and classroom behaviour in terms of the model for each of the criterion on the measuring instruments for the Language and Learning Course.

Matrix 1: Developing pupils' concept of print

		UNDERSTANDING		
		Inadequate 1-2	Barely adequate 3-4	Adequate 5-6
CLASSROOM PRACTICE	Inadequate 1-2	Teacher O	Teacher F	Teacher G
	Barely adequate 3-4	Teacher O Teacher G	Teacher A Teacher C Teacher D Teacher E Teacher K Teacher L Teacher N Teacher P Teacher Q Teacher R Teacher H	
	Adequate 5-6	Teacher F		Teacher B Teacher M Teacher I Teacher J

Comment:

According to Matrix 1, the classroom behaviour of two teachers, Teacher G, Teacher F and Teacher O, is not congruent with their understanding of what is meant by developing their pupils' concept of print. Two of these teachers' lessons show evidence that they have learnt some or most of the skills which they need to develop their pupils' concept of print, however their responses in the interviews show inadequate or barely adequate understanding of what is meant by developing pupils' concept of print. In other words, these two teachers demonstrate that they know more about how to do what they are supposed to do than they understand about what they are supposed to do. Four teachers, Teacher B, Teacher M, Teacher J and Teacher I show evidence of having adequate understanding and skills.

Matrix 2: Encouraging pupils to read independently

		UNDERSTANDING		
		Inadequate 1-2	Barely adequate 3-4	Adequate 5-6
CLASSROOM PRACTICE	Inadequate 1-2			Teacher C Teacher I
	Barely adequate 3-4	Teacher C Teacher I	Teacher A Teacher D Teacher E Teacher F Teacher G Teacher K Teacher L Teacher M Teacher N Teacher P Teacher Q Teacher R Teacher H Teacher O	
	Adequate 5-6			Teacher J Teacher B

Comment:

According to Matrix 2, the understanding of two teachers, Teacher C and Teacher I, of what is meant by encouraging their pupils to read independently shows evidence of not being congruent with their classroom behaviour. Both these teachers show evidence of having an adequate understanding of what is meant by encouraging pupils to read independently, however their classroom practice shows evidence of their having learnt only some of the skills necessary to do this. Two teachers, Teacher J and Teacher B, demonstrate adequate understanding and practice.

Matrix 3: Developing a book culture

		UNDERSTANDING		
		Inadequate 1-2	Barely adequate 3-4	Adequate 5-6
CLASSROOM PRACTICE	Inadequate 1-2	Teacher K	Teacher F Teacher K	Teacher M
	Barely adequate 3-4	Teacher M	Teacher A Teacher D Teacher E Teacher P Teacher Q Teacher H Teacher I Teacher O	
	Adequate 5-6	Teacher F		Teacher B Teacher C Teacher G Teacher L Teacher N Teacher J Teacher R

Comment:

According to Matrix 3, the understanding of three teachers, Teacher F, Teacher K, Teacher M, of what is meant by developing a book culture shows evidence of not being congruent with their classroom practice. Two of these teachers show evidence that they have learnt more in terms of understanding what is meant by developing a book culture than they have learnt in terms of the skills they need to do this. One teacher, Teacher F, shows evidence of having learnt more in terms of skills than understanding. Seven teachers demonstrate adequate understanding and skills.

Matrix 4: Teaching pupils to read for meaning

		UNDERSTANDING		
		Inadequate 1-2	Barely adequate 3-4	Adequate 5-6
CLASSROOM PRACTICE	Inadequate 1-2	Teacher P Teacher H	Teacher D Teacher N Teacher P Teacher H	Teacher O
	Barely adequate 3-4	Teacher O	Teacher A Teacher B Teacher E Teacher K Teacher R Teacher I	
	Adequate 5-6	Teacher D Teacher N		Teacher C Teacher F Teacher G Teacher L Teacher M Teacher Q Teacher J

Comment:

According to Matrix 4, the understanding of five teachers of what is meant by encouraging pupils to read for meaning shows evidence of not being congruent with their classroom behaviour. Two of these teachers, Teacher D and Teacher N, show evidence of having learnt more in terms of the skills they need to teach pupils to read for meaning than they have in terms of understanding this concept. Three teachers, Teacher P, Teacher H and Teacher O show evidence of having learnt more in terms of understanding than they have learnt in terms of the skills they need to teach pupils to read for meaning. Seven teachers demonstrate adequate understanding and skills.

Matrix 5: Encouraging pupils to interact with text

		UNDERSTANDING		
		Inadequate 1-2	Barely adequate 3-4	Adequate 5-6
CLASSROOM PRACTICE	Inadequate 1-2	Teacher A Teacher E Teacher P Teacher H	Teacher H	Teacher Q Teacher G
	Barely adequate 3-4	Teacher Q Teacher G	Teacher O Teacher B Teacher D Teacher F Teacher K Teacher L Teacher M Teacher N Teacher R Teacher I	
	Adequate 5-6			Teacher C Teacher J

Comment:

According to Matrix 5, the understanding of three of the teachers of what is meant by encouraging pupils to interact with text shows evidence of not being congruent with their classroom behaviour. These teachers show evidence of having learnt more in terms of understanding what is meant by encouraging pupils to interact with text than they have learnt in terms of the skills required to do this. Two teachers demonstrate adequate understanding and practice.

1.2. Correlation of data on the Junior Primary Studies Course

The matrices which follow on pages 182 - 188 correlate data on the impact on teachers' understanding and classroom behaviour for each of the criterion on the measuring instruments for the Junior Primary Studies Course.

Matrix 6: Linking pupils' previous learning to new learning

		UNDERSTANDING		
		Inadequate 1-2	Barely adequate 3-4	Adequate 5-6
CLASSROOM PRACTICE	Inadequate 1-2	Teacher P Teacher O	Teacher O	Teacher G Teacher B
	Barely adequate 3-4	Teacher B Teacher P Teacher G	Teacher N Teacher L Teacher M Teacher A Teacher H Teacher D Teacher R Teacher F Teacher C Teacher E Teacher K	
	Adequate 5-6			Teacher J Teacher Q Teacher I

Comment:

According to Matrix 6, the classroom behaviour of four teachers shows evidence of not being congruent with their understanding of what is meant by acknowledging pupils' prior knowledge by linking pupil's previous learning to new learning. Three of these teachers, Teacher O, Teacher G and Teacher B, show evidence that they have learnt more in terms of understanding than they have learnt in terms of the skills they need to do this. One teacher, Teacher P, shows evidence that she has learnt more in terms of skills than she has learnt in terms of understanding. Three teachers demonstrate adequate understanding and skills in terms of the model.

Matrix 7: Using problem-solving activities/tasks

		UNDERSTANDING		
		Inadequate 1-2	Barely adequate 3-4	Adequate 5-6
CLASSROOM PRACTICE	Inadequate 1-2	Teacher M Teacher O		Teacher G
	Barely adequate 3-4	Teacher G Teacher O	Teacher N Teacher L Teacher J Teacher A Teacher P Teacher I Teacher F Teacher H Teacher D Teacher R Teacher B Teacher C Teacher E Teacher K	
	Adequate 5-6			Teacher Q

Comment:

According to Matrix 7, two teachers' understanding of the use of problem-solving activities/tasks shows evidence of not being congruent with their classroom behaviour. One teacher, Teacher Q, demonstrates adequate understanding and skills whilst another teacher, Teacher M, demonstrates inadequate understanding and skills in terms of the model.

Matrix 8: Assisting pupils to develop process skills

		UNDERSTANDING		
		Inadequate 1-2	Barely adequate 3-4	Adequate 5-6
CLASSROOM PRACTICE	Inadequate 1-2	Teacher D Teacher K	Teacher D Teacher K	Teacher I
	Barely adequate 3-4	Teacher I	Teacher O Teacher N Teacher L Teacher G Teacher M Teacher A Teacher B Teacher P Teacher H Teacher R Teacher F Teacher C Teacher E	
	Adequate 5-6			Teacher J Teacher Q

Comment:

According to Matrix 8, three teachers, Teacher I, Teacher K and Teacher D, show evidence of having learnt more in terms of understanding what is meant by assisting pupils to develop process skills than they have in terms of developing the skills necessary to do this. Two teachers demonstrate adequate understanding and skills in terms of the model.

Matrix 9: Employing learner-centred responses

		UNDERSTANDING		
		Inadequate 1-2	Barely adequate 3-4	Adequate 5-6
CLASSROOM PRACTICE	Inadequate 1-2	Teacher D Teacher P Teacher H	Teacher J Teacher H	Teacher I
	Barely adequate 3-4	Teacher P Teacher I	Teacher O Teacher N Teacher L Teacher M Teacher A Teacher R Teacher F Teacher B Teacher E Teacher G Teacher C Teacher K	
	Adequate 5-6	Teacher J		Teacher Q

Comment:

According to Matrix 9, four teachers' understanding of what is meant by employing learner-centred responses shows evidence of not being congruent with their classroom behaviour. Two teachers, Teacher I and Teacher H, show evidence of having learnt more in terms of understanding than they have in terms of skills. Two teachers, Teacher P and Teacher J, show evidence of having learnt more in terms of skills than they have learnt in terms of understanding. One teacher demonstrates adequate understanding and skills in terms of the model.

Matrix 10: Adopting an enquiry-based approach through questioning

		UNDERSTANDING		
		Inadequate 1-2	Barely adequate 3-4	Adequate 5-6
CLASSROOM PRACTICE	Inadequate 1-2	Teacher D Teacher M Teacher P	Teacher P	Teacher I Teacher B
	Barely adequate 3-4	Teacher I Teacher B	Teacher O Teacher L Teacher G Teacher A Teacher C Teacher H Teacher R Teacher F Teacher E Teacher K Teacher N	
	Adequate 5-6			Teacher J Teacher Q

Comment:

According to Matrix 10, the understanding of three teachers, Teacher P, Teacher I and Teacher B, of what is meant by using an enquiry-based approach through questioning shows evidence of not being congruent with their classroom behaviour. All three teachers responses show evidence of their having learnt more in terms of understanding than what they have in terms of the skills necessary to do this. Two teachers demonstrate adequate understanding and skills in terms of the model.

Matrix 11: Using a collaborative approach to teaching and learning

		UNDERSTANDING		
		Inadequate 1-2	Barely adequate 3-4	Adequate 5-6
CLASSROOM PRACTICE	Inadequate 1-2	Teacher D Teacher P Teacher O	Teacher J Teacher P Teacher O	Teacher Q Teacher F Teacher K Teacher B
	Barely adequate	Teacher K Teacher B Teacher Q Teacher F	Teacher L Teacher G Teacher M Teacher A Teacher I Teacher H Teacher B Teacher E Teacher C Teacher N	
	Adequate 5-6	Teacher J		

Comment:

According to Matrix 11, the understanding of seven teachers of what is meant by using a collaborative approach to teaching and learning shows evidence of not being congruent with their classroom behaviour. Six teachers' responses indicate that they have learnt more in terms of understanding than what they have learnt in terms of skills. One teacher shows evidence of having learnt more in terms of skills than in terms of understanding. No teachers demonstrate adequate understanding and skills in terms of the model.

Matrix 12: Using an integrated approach to knowledge and the curriculum

		UNDERSTANDING		
		Inadequate 1-2	Barely adequate 3-4	Adequate 5-6
CLASSROOM PRACTICE	Inadequate 1-2	Teacher H Teacher D Teacher N Teacher M	Teacher M	Teacher R Teacher B Teacher K Teacher G Teacher O
	Barely adequate 3-4	Teacher R Teacher B Teacher K Teacher G Teacher N Teacher O	Teacher A Teacher P Teacher I Teacher E Teacher L	
	Adequate 5-6			Teacher C Teacher J Teacher Q Teacher F

Comment:

According to Matrix 12, the understanding of seven of the teachers of what is meant by using an integrated approach shows evidence of not being congruent with their skills. Six teachers show evidence of having learnt more in terms of understanding than they have in terms of skills. One teacher shows evidence of having learnt more in terms of skills than in terms of understanding. Four teachers demonstrate adequate understanding and skills in terms of the model.

1.3 Correlation of data on both Courses

The 3 X 3 matrices which follow on pages 189 - 191 have been used to correlate data on teachers' understanding and classroom behaviour based on teachers' overall scores for both Courses. The shaded areas on each matrix indicate congruency between data on teachers' understanding and practices of the model.

Matrix 13: Combined total scores for teachers' understanding and practice of the model for the Language and Learning Course

		UNDERSTANDING		
		Inadequate 1-10	Barely adequate 11-20	Adequate 21-30
CLASSROOM PRACTICE	Inadequate 1-10		Teacher N	Teacher L Teacher M Teacher I
	Barely adequate 11-20	Teacher M Teacher L Teacher I	Teacher O Teacher A Teacher D Teacher E Teacher K Teacher P Teacher R Teacher H	
	Adequate 21-30	Teacher N		Teacher B Teacher C Teacher F Teacher G Teacher Q Teacher J

Matrix 14: Combined total scores for teachers' understanding and practice of the model for the Junior Primary Studies Course.

		UNDERSTANDING		
		Inadequate 1-14	Barely adequate 15-28	Adequate 29-42
CLASSROOM PRACTICE	Inadequate 1-14	Teacher D		Teacher B Teacher C Teacher G
	Barely adequate 15-28	Teacher B Teacher C Teacher D Teacher G	Teacher N Teacher P Teacher R Teacher H Teacher O Teacher M Teacher A Teacher E Teacher F Teacher K Teacher L	
	Adequate 29-42			Teacher Q Teacher I Teacher J

Comment:

The two matrices above (one for the Language and Learning Course and one for the Junior Primary Studies Course) indicate that only two teachers, Teacher Q and Teacher J, show evidence of adequate understanding and behaviour in terms of both PREP Courses. One teacher, Teacher I, shows adequate understanding and behaviour only in terms of the Junior Primary Studies Course. (All three of these teachers teach at an ex-House of Representative's school). Teacher B, Teacher C, Teacher F and Teacher G show evidence of adequate understanding and behaviour only in terms of the Language and Learning

Course. (These four teachers teach at ex-DET/Bophutatswana schools). None of the teachers, with the exception of Teacher N (see Matrix 13 on page 189) show evidence of having learnt skills without understanding. In other words, Teacher N is the only teacher who, in terms of her overall score for the Language and Learning Course demonstrates that she knows more about how to do what she is supposed to do than she understands about what she is supposed to do. Further discussion and reflection on this data is included in the analysis of data in Section 1.4 on page 192 of this chapter.

Matrix 15: Combined total scores for teachers' understanding and practice of the model for both Courses.

		UNDERSTANDING		
		Inadequate 1-24	Barely adequate 25-48	Adequate 49-72
CLASSROOM PRACTICE	Inadequate 1-24			Teacher G Teacher I Teacher B
	Barely adequate 25-48	Teacher G Teacher I Teacher B	Teacher F Teacher L Teacher N Teacher R Teacher M Teacher K Teacher O Teacher P Teacher H Teacher E Teacher A Teacher D	
	Adequate 49-72			Teacher J Teacher Q Teacher C

Comment:

Matrix 15, which is based on teachers' combined overall scores for understanding and behaviour for both Courses, indicates that teachers tend to fall into three groupings. The first grouping consists of those teachers, Teacher J, Teacher Q and Teacher C, who show evidence of adequate understanding and skills in terms of their overall scores for both Courses. The second grouping consists of those teachers whose understanding and behaviour are not congruent. (These three teachers, Teacher G, Teacher I and Teacher B, show evidence of adequate understanding but barely adequate skills). The third and largest grouping consists of those teachers in the centre of the matrix who show evidence of barely adequate understanding and skills. According to the data on this matrix, none of the teachers show evidence of having learnt skills without understanding.

Further discussion and reflection on this data is included in Section 1.4 which follows.

1.4. Analysis of data

The assumption of the model is that teachers who have developed adequate understanding of the model should demonstrate an equivalent level of skills.

The data on the 3 X 3 matrices on the sample of teachers' understanding and practice indicates that in general there is not a great difference between most teachers' understanding and skills, and that the levels of teachers' understanding and classroom behaviour tend to be parallel.

However, the matrices also reveal that the impact on understanding and practice of the model is not always congruent. In particular, the matrices reveal that a number of teachers demonstrate that they have more understanding than skills. This seems to suggest that insight does not always mean that teachers will display an equivalent level of skills. In other words, whilst the study demonstrates conjunction between skills and understanding in most cases, the

study suggests that there will always be some teachers who do not demonstrate this conjunction.

The study also reveals that data on most teachers in the sample falls within the centre category of each matrix. In other words, what most of the teachers in the sample are understanding and practising as a result of what they have learnt on the Language and Learning Course and the Junior Primary Studies Course is barely adequate if the intention is to encourage pupils to become independent self-regulating readers and learners.

Tables 39 and 40 which follow illustrate the percentage of teachers in the sample who show evidence of adequate learning (both in terms of understanding and classroom behaviour) of the different dimensions of the Language and Learning Course and the Junior Primary Course.

Table 39: Percentage of teachers who show evidence of adequate learning of the different dimensions of the Language and Learning Course in terms of the model

CRITERIA	PERCENTAGE OF TEACHERS
Developing a book culture	38,89
Reading for meaning	38,89
Developing a concept of print	22,22
Interacting with text	11,11
Reading independently	11,11

Table 40: Percentage of teachers who show evidence of adequate learning of the different dimensions of the Junior Primary Studies Course in terms of the model

CRITERIA	PERCENTAGE OF TEACHERS
Linking previous learning to new learning	16,67
Using an integrated approach	22,22
Assisting pupils to develop process skills	11,11
Adopting an enquiry-based approach through questioning	11,11
Using problem-solving activities/tasks	5,56
Employing learner-centred responses	5,56
Using a collaborative approach	0

Table 41 which follows provides a breakdown of teachers who, according to Matrices 13, 14 and 15 on pages 189 - 191 show evidence of having adequate skills and understanding:

Table 41: Teachers who show evidence of having learnt adequate skills and understanding in terms of the model

MATRIX	TEACHERS
Matrix 13: Language and Learning Course	Teacher B Teacher C Teacher F Teacher G Teacher Q Teacher J
Matrix 14: Junior Primary Studies Course	Teacher Q Teacher I Teacher J
Matrix 15: Both Courses combined	Teacher J Teacher Q Teacher C

According to the INSET model which is being tested in the study, these teachers, who have demonstrated adequate understanding and skills, should perform appropriate actions more often than other teachers who have demonstrated inadequate or barely adequate understanding and skills.

2. ANALYSIS OF IMPROVEMENT IN THE QUALITY OF TEACHING

Inferences about improvement in the quality of teaching cannot be made from the study's 'mechanical' assessment of teachers' (conceptual and skills-based) competence. In this section, the results of the form of assessment used in the study are compared with results based on:

- a) an assessment of teachers' academic competence; and
- b) an assessment of teachers' craft competence

so as to test whether there is any correlation between the three measures of competence.

2.1 Comparison and correlation of data from this study with data on teachers' year marks from the pilot institutions

Tables 42 - 44 which follow on pages 197 - 199 provide a comparison of the academic year marks awarded to teachers by the course co-ordinators at the pilot institutions with the scores allocated to teachers by the researcher using the instruments to measure the impact on teachers' understanding and classroom behaviour in the study. In order to compare scores, all ratings have been converted to percentages.

2.1.1 Comparison of data

Tables 42 and 43 provide a comparison of the rankings of the sample of teachers according to the scores allocated to teachers for the study for the Language and Learning Course and the Junior Primary Studies Course respectively with the ranking of teachers according to the year marks awarded by course co-ordinators at each of the pilot institutions for each of the courses. Ranking the teachers according to the study's assessment entailed using the combined total score allocated to each teacher for each of the criterion developed to measure the

impact on understanding and practice of the model. Ranking of teachers according to their year marks entailed using the year marks awarded to teachers by the course co-ordinators for the Language and Learning Course and the Junior Primary Studies Course respectively.

Table 42 on page 197 provides a comparison of teachers' ratings and rankings for the Language and Learning Course. Table 43 on page 198 provides a comparison of teachers' ratings and rankings for the Junior Primary Studies Course. Table 44 on page 199 provides a comparison of the ranking of the combined scores allocated to the sample of teachers by the researcher for the study for both courses used in the assessment with the ranking of the combined year marks awarded to teachers by the course co-ordinators for both courses.

Table 42: Comparison of teachers' ratings and rankings according to teachers' year marks for the Language and Learning Course with teachers' scores from this study

TEACHER (GRADE/STD)	RATING & RANKING ACCORDING TO THE SCORE ALLOCATED BY THE RESEARCHER	RATING & RANKING ACCORDING TO THE YEAR MARK AWARDED BY THE COURSE CO-ORDINATORS
	Rank & Percentage	Rank & Percentage
Teacher J (Grade 2)	1 - 88,33	3 - 77
Teacher Q (Grade 1)	6 - 71,67	1 - 85
Teacher C (Grade 2)	2 - 80	2 - 80
Teacher G (Grade 2)	*4 - 76,67	8 - 65
Teacher I (Grade 2)	10 - 66,67	4 - 70
Teacher B (Grade 2)	*4 - 76,67	*13 - 58
Teacher F (Grade 1)	5 - 73,33	*13 - 58
Teacher L (Grade 1)	*8 - 70	7 - 67
Teacher R (Std 1 & 2)	*12 - 60	5 - 69
Teacher N (Grade 2)	*8 - 70	9 - 63
Teacher M (Grade 1)	9 - 68,33	16 - 52
Teacher K (Std 1)	13 - 55	6 - 68
Teacher O (Grade 1)	14 - 53,33	16 - 53
Teacher E (Grade 1)	*17 - 48,33	17 - 51
Teacher A (Std 1)	** - 46,67	** - 77
Teacher H (Grade 2)	*17 - 48,33	*11 - 59
Teacher P (Std 2)	*17 - 48,33	*11 - 59
Teacher D (Grade 1)	*12 - 60	14 - 54

* indicates that other teacher/s share this ranking

** according to the co-ordinator of the pilot study the assumptions underpinning the course were not clear to the facilitator who assessed this teacher's classroom competence thus this data was treated as aberrant data which was ignored for the rank order correlation which follows in 4.3.

Table 43 Comparison of teachers' ratings and rankings according to teachers' year marks for the Junior Primary Studies Course with teachers' scores from this study

TEACHER (GRADE/STD)	RATING & RANKING ACCORDING TO THE SCORE ALLOCATED BY THE RESEARCHER	RATING & RANKING ACCORDING TO THE YEAR MARK AWARDED BY THE COURSE CO-ORDINATORS
	Rank & Percentage	Rank & Percentage
Teacher J (Grade 2)	2 - 79,76	2 - 89
Teacher Q (Grade 1)	1 - 85,71	1 - 93
Teacher C (Grade 2)	4 - 66,67	4 - 75
Teacher G (Grade 2)	5 - 65,48	*7 - 72
Teacher I (Grade 2)	3 - 71,43	3 - 84
Teacher B (Grade 2)	7 - 61,9	*15 - 57
Teacher F (Grade 1)	9 - 59,52	*11 - 63
Teacher L (Grade 1)	8 - 60,71	8 - 69
Teacher R (Std 1 & 2)	6 - 64,29	5 - 74
Teacher N (Grade 2)	12 - 53,57	13 - 60
Teacher M (Grade 1)	17 - 23,81	12 - 61
Teacher K (Std 1)	10 - 55,95	*7 - 72
Teacher O (Grade 1)	13 - 52,38	*15 - 57
Teacher E (Grade 1)	11 - 54,76	*11 - 63
Teacher A (Std 1)	** - 52,38	** - 94
Teacher H (Grade 2)	14 - 50	*17 - 56
Teacher P (Std 2)	15 - 45,24	*17 - 56
Teacher D (Grade 1)	16 - 34,52	*11 - 63

* indicates that other teacher/s share this ranking

** according to the co-ordinator of the pilot study the assumptions underpinning the course were not clear to the facilitator who assessed this teacher's classroom competence thus this data was treated as aberrant data which was ignored for the rank order correlation which follows in 4.3.

Table 44 Comparison of ratings and rankings according to teachers' year marks using combined marks for both courses and teachers' combined scores from this study

TEACHER (GRADE/STD)	RATING & RANKING ACCORDING TO THE SCORE ALLOCATED BY THE RESEARCHER	RATING & RANKING ACCORDING TO THE YEAR MARK AWARDED BY THE COURSE CO-ORDINATORS
	Rank & Percentage	Rank & Percentage
Teacher J** (Grade 2)	1 - 83,33	2 - 83
Teacher Q** (Grade 1)	2 - 79,86	1 - 89
Teacher C (Grade 2)	3 - 72,22	3 - 77,5
Teacher G (Grade 2)	4 - 70,14	7 - 68,5
Teacher I** (Grade 2)	5 - 69,44	4 - 77
Teacher B (Grade 2)	6 - 68,06	*14 - 57,5
Teacher F (Grade 1)	7 - 65,28	10 - 60,5
Teacher L (Grade 1)	8 - 64,58	8 - 68
Teacher R (Std 1 & 2)	9 - 62,50	5 - 71,5
Teacher N (Grade 2)	10 - 60,42	9 - 61,5
Teacher M (Grade 1)	11 - 56,25	16 - 56,5
Teacher K (Std 1)	12 - 55,56	6 - 70
Teacher O (Grade 1)	13 - 52,78	17 - 52
Teacher E (Grade 1)	14 - 52,08	15 - 57
Teacher A (Std 1)	*** - 50	*** - 85,5
Teacher H (Grade 2)	15 - 49,31	*14 - 57,5
Teacher P (Std 2)	16 - 46,53	*14 - 57,5
Teacher D (Grade 1)	17 - 45,14	11 - 58,5

* indicates that other teacher/s share this ranking.

** these three teachers all teach at an ex-House of Representatives school.

*** according to the co-ordinator of the pilot study the assumptions underpinning the course were not clear to the facilitator who assessed this teacher's classroom competence thus this data was treated as aberrant data which was ignored for the rank order correlation which follows in 4.3.

2.1.2 Correlation of data

A computerised rank order correlation test which uses Spearman's rank order correlation was conducted to measure the degree of relationship between the two sets of ranked data from the table 44 on page 199.

The null hypothesis states that that there will be no statistically significant correlation between the combined year marks awarded by the course co-ordinators with the combined scores allocated by the researcher for both courses with regard to their rankings.

Table 45 on page 201 shows that a statistically highly significant correlation of $\rho = 0.74$ exists between the rank scores of the two sets of data for the sample of 17 teachers. Thus there is a very substantial measure of agreement between rankings according to the data from the study and rankings according to teachers' year marks.

Table 45 Ranking of teachers' combined scores for both courses as allocated by the researcher in the study with teachers' combined year marks for both courses as awarded by the course co-ordinators at the pilot institutions.

$n = 17$

TEACHER	RANKING OF COMBINED SCORES ALLOCATED BY THE RESEARCHER	RANKING OF COMBINED YEAR MARKS AWARDED BY COURSE CO-ORDINATORS
Teacher J	1	2
Teacher Q	2	1
Teacher C	3	3
Teacher G	4	7
Teacher I	5	4
Teacher B	6	14
Teacher F	7	10
Teacher L	8	8
Teacher R	9	5
Teacher N	10	9
Teacher M	11	16
Teacher K	12	6
Teacher O	13	17
Teacher E	14	15
Teacher H	15	14
Teacher P	16	14
Teacher D	17	11
	$r = 0.74; p = 0.003^*$ Highly significant correlation between ratings from this study and teachers' year marks	

* $p < 0.01$

indicates that the degree of the relationship between the two sets of data is statistically highly significant.

2.1.3 Analysis of data

The results of the test to determine the rank order coefficient for the two sets of data show that $r = 0.74$; $n = 17$ and $p = 0.003$ where $p < 0.01$. This indicates that the degree of relationship between the two sets of data is highly significant and that the two sets of data correlate highly.

The study's combined ratings produced by testing teachers' understanding and practice corresponds very well with the year marks awarded by the pilot institutions and, according to the rank order correlations, rankings of the two sets of data are not random but converge on being equivalent.

The teachers who have consistently been ranked in the top positions on the tables above are namely Teacher J, Teacher Q, Teacher C, Teacher I and Teacher G. Thus the comparison and correlation of the two sets of data has been used to finally identify which teachers in the sample have demonstrated more consistently than other teachers that, in terms of the objectives of the courses, they understand and know what they are supposed to do.

According to the transformative action reflection model for INSET, the actions of teachers who both understand and know what they are supposed to do, will no longer be mechanical or instrumental. Instead, such teachers will be able to reflect critically and hopefully act appropriately. By implication, teachers whose understanding of the model is inadequate or barely adequate but whose lessons show evidence that they have learnt some or most of the skills which the courses try to develop should act inappropriately more often than those teachers whose understanding and practices are congruent.

Thus the actions of the top ranking teachers who have consistently demonstrated adequate understanding and skills in this study and in terms of the academic year marks awarded by the pilot institutions should, according to the INSET model, reflect their ability to act appropriately and therefore illustrate the effectiveness of the assumptions underpinning the model.

2.2 Comparison and correlation of data from this study with data on the assessment of the appropriateness of teachers' practices

Analysis of the 'quality' of the impact on teachers' understanding and practice of the model, in other words teachers' craft competence or ability to act appropriately within a particular context in terms of the task and level of the lesson, is based on the opinions of the two acknowledged experts in the field of junior primary education.

Extracts of videos of lessons of two groups of teachers have been used to analyse the quality of the impact on teachers' understanding and practice of the model. The videos of each group of teachers teaching were watched by two experienced junior primary teacher educators (see Chapter 5, Section 3.2.2 on page 78)

The theory which underpins this particular INSET model predicts that an acknowledged expert in the field will rank teachers who have demonstrated inadequate understanding and skills below the teachers who have demonstrated adequate understanding and skills.

2.2.1 Assessment of the appropriateness of teachers' practices by the first independent expert

The appropriateness of the actions of teachers in the eight lessons was assessed by the first of the independent experts. This (focused variable) group of lessons consists of lessons taught by Teacher C, Teacher J, Teacher H and Teacher N.

Table 46 on page 204 provides a comparison of the ranking and rating of teachers' actions according to the first expert's assessment of the first group of lessons with the ranking and ratings of teachers' understanding and classroom practice according to the researcher's assessment for the two courses.

Table 46 Comparison of the ranking and rating of the appropriateness of teachers' actions according to the first expert's assessment with data from this study

Column (A) = Rating and ranking according to the total rating awarded for lessons in Group 1 by the first independent expert using each of the items on the instrument. (All ratings have been converted to percentages).

Column (B) = Rating and ranking according to the total rating awarded for each course by the researcher using the instruments to measure the impact on teachers' understanding and classroom behaviour. (All ratings have been converted to percentages).

(L & L) indicates that the ranking/rating relates to the Language and Learning Course (the reading lesson).

(JP St) indicates that the ranking/rating relates to the Junior Primary Studies Course (the environmental education/studies lesson).

TEACHER & LESSON/COURSE	(A)	(B)
	Rank & Percentage	Rank & Percentage
Teacher C (L & L)	1 - 82,86	1 - 80
Teacher N (L & L)	5 - 65,71	3 - 70
Teacher H (L & L)	4 - 68,57	7 - 48,33
Teacher C (JP St)	3 - 74,29	4 - 66,67
Teacher J (JP St)	2 - 80	2 - 79,76
Teacher N (JP St)	*7 - 60	5 - 53,57
Teacher H (JP St)	*7 - 60	6 - 50
Teacher J (L & L)	** - 60	** - 88,33

* indicates that other teacher/s share this ranking.

** This form of assessment of any one performance is context-dependent and there is no absolute standard as judgement is related to the performance of other teachers. The video of Teacher J's reading lesson was the first video assessed by the first expert practitioner. According to the rating given by the expert for Teacher J's reading lesson, this lesson was ranked fourth. However when, after viewing all four reading lessons, the expert ranked the reading lessons according to her overall impression, this lesson was ranked second. Clearly comparison of lessons is desirable. Assessment of this first teachers' (reading) lesson did not take place against a prior standard and, as a result, produced an aberrant result. Assessment of the second set of (environmental education) lessons appears to reflect more accurately the expert's judgement according to an assumed standard. For this reason,

- a) this data was not used in the ranked order correlation which follows (see 5.4) as it was deemed to be aberrant.
- b) videos of teachers' lessons in the second group included videos of teachers' lesson which were not used in the assessment but which were watched by the second independent expert beforehand so that the expert could get accustomed to the task and so that her judgement would reflect an assumed standard.

Comment:

Data on Table 46 reveals that the first expert rated the reading lesson of one teacher, Teacher C, who according to data from the study has demonstrated adequate understanding and skills above the lessons of those teachers who, according to data from the study, have demonstrated inadequate understanding and/skills. (Aberrant data on Teacher J's reading lesson has been ignored).

Data on the table also reveals that the first expert rated the environmental education/studies lessons of Teacher J and Teacher C more highly than the lessons of the other teachers. According to data from the study on the combined scores for both courses (see Table 44 on page 199), both of these teachers have demonstrated adequate understanding and skills in terms of what teachers learn overall in both courses whilst the other two teachers, Teacher N and Teacher H, have demonstrated barely adequate understanding and skills.

2.2.2 Assessment of the appropriateness of teachers' practices by the second independent expert

The appropriateness of the actions of teachers in the second (unfocused variable) group of lessons was assessed by the second independent expert. The group of lessons consists of lessons taught by Teacher L, Teacher O, Teacher P and Teacher F, Teacher G, and Teacher Q.

Table 47 which follows provides a comparison of the ranking and rating of the appropriateness of teachers' actions according to the second expert's assessment of the second group of lessons with the ranking and ratings of teachers' understanding and classroom practice according to the researcher's assessment for the two courses.

Table 47 Comparison of the ranking and rating of the appropriateness of teachers' actions according to the second expert's assessment with data from this study

Column (A) = Rating and ranking according to the total rating awarded for lessons in Group 2 by the second independent expert using each of the items on the instrument. (All ratings have been converted to percentages).

Column (B) = Rating and ranking according to the total rating awarded for each course by the researcher using the instruments to measure the impact on teachers' understanding and classroom behaviour. (All ratings have been converted to percentages).

(L & L) indicates that the ranking/rating relates to the Language and Learning Course or the reading lesson.

(JP St) indicates that the ranking/rating relates to the Junior Primary Studies Course or the lesson which relates to this course.

TEACHER & LESSON/COURSE	(A)			(B)		
	Rank	-	Percentage	Rank	-	Percentage
Teacher G (L & L)	*2	-	77,14	2	-	76,67
Teacher Q (L & L)	*5	-	74,29	4	-	71,67
Teacher F (L & L)	*2	-	77,14	3	-	73,33
Teacher L (L & L)	8	-	68,57	5	-	70
Teacher O (L & L)	11	-	51,43	9	-	53,33
Teacher P (L & L)	12	-	31,43	11	-	48,33
Teacher G (JP St)	*7	-	71,43	6	-	65,48
Teacher Q (JP St)	*5	-	74,29	1	-	85,71
Teacher F (JP St)	*5	-	74,29	8	-	59,52
Teacher L (JP St)	9	-	65,71	7	-	60,71
Teacher O (JP St)	*7	-	71,43	10	-	52,38
Teacher P (JP St)	10	-	57,14	12	-	45,24

* indicates that other teacher/s share this ranking.

Comment:

Data on Table 47 reveals that the second expert rated the reading lessons of the three teachers Teacher Q, Teacher G and Teacher F who, according to data on Matrix 13 (page 189), have demonstrated adequate understanding and skills in terms of what teachers learn on the Language and Learning Course, above the lessons of those teachers who have demonstrated inadequate understanding and/skills.

Data on the table also reveals that the expert rated the environmental education/ studies lessons of Teacher Q and Teacher F more highly than the lessons of other teachers. According to data on matrix 14 (page 190), Teacher Q demonstrated adequate understanding and skills in terms of what teachers learn on the Junior Primary Studies Course.

Teacher Q and Teacher G have consistently demonstrated adequate understanding and skills in terms of what teachers learn overall in both courses whilst the other teachers have demonstrated barely adequate understanding and skills.

2.2.3 Combined data from both assessments

The Table 48 which follows combines the two sets of data from Table 46 on page 204 and Table 47 on page 206 and provides a comparison of the ranking and rating of the appropriateness of teachers' actions according to the assessment by both experts of the total of twenty lessons with the ranking and ratings of teachers' understanding and classroom practice according to the researcher's assessment for the two courses.

Table 48 Comparison of the ranking and rating of the appropriateness of teachers' actions according to the assessment by both experts with data from this study

Column (A) = Rating and ranking according to the total rating awarded for the lessons by the independent experts using each of the items on the instrument. (All ratings have been converted to percentages).

Column (B) = Rating and ranking according to the total rating awarded for each course by the researcher using the instruments to measure the impact on teachers' understanding and classroom behaviour. (All ratings have been converted to percentages).

(L & L) indicates that the ranking/rating relates to the Language and Learning Course or the reading lesson.

(JP St) indicates that the ranking/rating relates to the Junior Primary Studies Course or the environmental education/studies lesson.

TEACHER & LESSON/COURSE	(A)	(B)
	Rank & Percentage	Rank & Percentage
Teacher C (L & L)	1 - 82,86	2 - 80
Teacher J (JP St)	2 - 80	3 - 79,76
Teacher G (L & L)	*4 - 77,14	4 - 76,67
Teacher F (L & L)	*4 - 77,14	5 - 73,33
Teacher Q (L & L)	*8 - 74,29	6 - 71,67
Teacher F (JP St)	*8 - 74,29	12 - 59,52
Teacher Q (JP St)	*8 - 74,29	1 - 85,71
Teacher C (JP St)	*8 - 74,29	9 - 66,67
Teacher G (JP St)	*10 - 71,43	10 - 65,48
Teacher O (JP St)	*10 - 71,43	15 - 52,38
Teacher L (L & L)	*12 - 68,57	*8 - 70
Teacher H (L & L)	*12 - 68,57	*18 - 48,33
Teacher N (L & L)	*14 - 65,71	*8 - 70
Teacher L (JP St)	*14 - 65,71	11 - 60,71
Teacher J (L & L)	** - 60	** - 88,33
Teacher N (JP St)	16 - 60	13 - 53,57
Teacher H (JP St)	16 - 60	16 - 50
Teacher P (JP St)	17 - 57,14	19 - 45,24
Teacher O (L & L)	18 - 51,43	14 - 53,33
Teacher P (L & L)	19 - 31,43	*18 - 48,33

* indicates that other teacher/s share this ranking.

** indicates aberrant data ignored for the rank order correlation which follows in 5.4.

Comment:

Data on Table 48 reveals that, with the exception of the lessons of one teacher, Teacher F, the experts rated the lessons of the four teachers, Teacher C, Teacher J, Teacher G and Teacher Q who, in terms of data from this study and their year marks from the pilot institutions, had demonstrated adequate understanding and skills, above those teachers who had demonstrated inadequate understanding and skills (see Table 45 on page 201).

2.2.4 Correlation of data from this study with the experts' assessment

A computerised rank order correlation test which uses Spearman's rank order correlation was conducted to measure the degree of relationship between the first (A) and second (B) set of ranked data on the Tables 46,47 and 48. The aberrant results on Teacher J's reading lesson have been excluded for the test.

The first null hypothesis is that that there will be no statistically significant correlation between the rating of the appropriateness of teachers' actions according to the first expert's assessment of the first group of lessons with the ratings of teachers' understanding and classroom practice according to the researcher's assessment for the two courses with regard to their rankings.

Table 49 which follows shows a non-significant correlation of $\rho = 0.70$ between the rank scores of the two sets of data for the sample of 7 lessons. However, although there is no evidence of a statistically significant correlation between the two sets of rankings, because of the small size of the sample, preliminary rankings according to the scores from the study and according to the scores from the first independent expert may indicate a trend towards correlation. Further reflection and discussion on the data follows in Section 2.2.5 on page 214 of this chapter.

Table 49 Ranking according to the researcher's scores using the instruments to measure the impact on teachers' understanding and classroom behaviour (B) and ranking according to the first independent expert using each of the items on the instrument (A)

(L & L) indicates that the ranking/rating relates to the Language and Learning Course or the reading lesson.

(JP St) indicates that the ranking/rating relates to the Junior Primary Studies Course or the environmental education/studies lesson.

n = 7

TEACHER & COURSE/LESSON	(A)	(B)
Teacher C (L & L)	1	1
Teacher N (L & L)	5	3
Teacher H (L & L)	4	7
Teacher C (JP St)	3	4
Teacher J (JP St)	2	2
Teacher N (JP St)	7	5
Teacher H (JP St)	7	6
	rho = 0.70; p = .09*	
	A statistically non-significant correlation	

* $p > 0.05$ (not significant)

The second null hypothesis is that there will be no statistically significant correlation between the rating of the appropriateness of teachers' actions according to the second expert's assessment of the second group of lessons with the ratings of teachers' understanding and classroom practice according to the researcher's assessment for the two courses with regard to their rankings.

Table 50 which follows shows that a statistically highly significant correlation of rho = 0.78 exists between the rank scores of the two sets of data on the sample of 12 lessons. Thus there is a substantial measure of agreement between

rankings according to the scores from the study and rankings according to the scores from the second independent expert. Further reflection and discussion on the data follows in Section 2.2.5 on page 214 of this chapter.

Table 50 Ranking according to the researcher's scores using the instruments to measure the impact on teachers' understanding and classroom behaviour (B) and ranking according to the second independent expert using each of the items on the instrument (A)

(L & L) indicates that the ranking/rating relates to the Language and Learning Course or the reading lesson.

(JP St) indicates that the ranking/rating relates to the Junior Primary Studies Course or the environmental education/studies lesson.

n = 12

TEACHER & LESSON/COURSE	(A)	(B)
Teacher G (L & L)	2	2
Teacher Q (L & L)	5	4
Teacher F (L & L)	2	3
Teacher L (L & L)	8	5
Teacher O (L & L)	11	9
Teacher P (L & L)	12	11
Teacher G (JP St)	7	6
Teacher Q (JP St)	5	1
Teacher F (JP St)	5	8
Teacher L (JP St)	9	7
Teacher O (JP St)	7	10
Teacher P (JP St)	10	12
	rho = 0.78; p = 0.009* Highly significant correlation between	

* p < 0.01 indicates that the degree of relationship between the two sets of data is highly significant.

The third null hypothesis is that that there will be no statistically significant correlation between the rating of the appropriateness of teachers' actions according to both experts' assessment of the two groups of lessons with the ratings of teachers' understanding and classroom practice according to the researcher's assessment for the two courses with regard to their rankings.

Table 51 which follows shows that a statistically highly significant correlation of $\rho = 0.80$ exists between the rank scores of the two sets of data on the sample of 19 lessons. Thus there is a substantial measure of agreement between rankings according to the scores from the study and rankings according to scores from the independent experts.

Further reflection and discussion on the data follows in Section 2.2.5 on page 214 of this chapter.

Table 51 Ranking according to the researcher's scores in the study (B) and ranking according to both experts (A)

n = 19

TEACHER & LESSON/COURSE	(A)	(B)
Teacher C (L & L)	1	2
Teacher J (JP St)	2	3
Teacher G (L & L)	4	4
Teacher F (L & L)	4	5
Teacher Q (L & L)	8	6
Teacher F (JP St)	8	12
Teacher Q (JP St)	8	1
Teacher C (JP St)	8	9
Teacher G (JP St)	10	10
Teacher O (JP St)	10	15
Teacher L (L & L)	12	8
Teacher H (L & L)	12	18
Teacher N (L & L)	14	8
Teacher L (JP St)	14	11
Teacher N (JP St)	16	13
Teacher H (JP St)	16	16
Teacher P (JP St)	17	19
Teacher O (L & L)	18	14
Teacher P (L & L)	19	18
	rho = 0.80; p = 0.0007* Highly significant correlation between rankings according to the study and the assessment of the appropriateness of teachers' practices by the experts	

* p < 0.001 indicates that the degree of the relationship between the two sets of data is statistically highly significant

2.2.5 Analysis of data

A potential limitation of the conclusions drawn from data is that this type of assessment of 'quality' is a fairly fraught procedure which can produce aberrant results. The independent experts needed to observe a number of lessons in order to get accustomed to the task and to be able to reflect an accurate judgement according to an assumed standard. Thus data on the ranking and rating by the first independent expert on one teacher's lesson was deemed aberrant as the lesson of this teacher was viewed before the observer's judgement could reflect an assumed standard.

The results of the rank order correlation test conducted on the researcher's scores in the study and the scores from the first independent expert indicates that the relationship between the two sets of data is not statistically significant. However, although there is no evidence of a statistically significant correlation between the two sets of rankings, preliminary rankings according to the scores from the study and according to the scores from the first independent expert may indicate a trend towards correlation.

The results of the rank order correlation test conducted on the researcher's scores in the study and the scores from the second independent expert indicates that the degree of relationship between the two sets of data is highly significant. Thus the two sets of data correlate very well.

The results of the rank order correlation test conducted on the researcher's scores in the study and the scores from the both independent experts indicates that the relationship between the two sets of data is highly significant. Thus the two sets of data correlate well.

The rank order correlation tests in the study reveal that the researcher's combined ratings produced by testing teachers' understanding and practice of the model corresponds well both with the academic year marks awarded by the course co-ordinators at the pilot institutions and with the independent experts'

judgement of appropriateness (craft competence). Thus, according to the rank order correlation tests, rankings of the two sets of data are not random but converge on being equivalent. The correlation of the two sets of data therefore serves to provide independent measures of the validity of the researcher's judgement.

Furthermore, the following profile (drawn from data from Appendix G) of the five teachers identified by the study as top ranking teachers suggests that it may be the quality of these teachers' previous experience of schooling and teaching and their previous training rather than their prior paper qualifications which resulted in their benefiting more from the course than other teachers. Three of the teachers, Teacher J, Q and C had M + 2 qualifications on entering the course. One teacher, Teacher I, had an M + 1 and the other teacher, Teacher G, already had an M + 3 qualification. Three of the teachers, Teacher J, Q and I, have experience of teaching at an ex-House of Representatives school. One teacher, Teacher G, teaches at an ex-Bophutatswana school whilst Teacher C teaches at an ex-DET school. The two teachers who are teaching at ex-DET and ex-Bophutatswana schools had previously been exposed to other INSET interventions.³

The conclusions and recommendations drawn from this analysis follow in Chapter Eight.

³ Both teachers had been exposed to an intervention through the Molteno Project through its *Breakthrough to Literacy* programme. This programme provides teachers with a Teachers' Manual and a reading scheme which 'uses a language-experience approach' to literacy teaching (Flanagan, 1995b: 5-6). Teacher C had also been exposed to an intervention through the READ Educational Trust. READ tries to promote a book culture through the provision of fiction and non-fiction books and through workshops where teachers are trained to use the books (ibid: 5-6). In addition many teachers who teach at schools which used to fall under the ex-Bophutatswana Department of Education have been influenced by another intervention, the Primary Education Upgrading Programme (PEUP) (MacDonald, 1991:15).

3. RÉSUMÉ OF THIS CHAPTER

The 3 X 3 matrices used in this chapter reveal that data on the impact on teachers' understanding of the model and data on the impact on classroom practice of the model is generally congruent but that most teachers' understanding and practice of the model is barely adequate.

Data from the study on teachers' understanding and classroom behaviour was compared with data on teachers' year marks as awarded by the pilot institutions and with data on the appropriateness of the actions of ten teachers teaching 20 lessons as assessed by two independent experienced junior primary teacher educators. Computerised rank order correlation tests which compared rankings according to the researcher's scores in the study

- a) with rankings according to teachers' year marks; and
 - b) with rankings according to the scores from the independent experts
- revealed that the two sets of data correlated well.

In other words, the assessment of teachers' competence in more conventional academic terms and the assessment of teachers' competence in terms of the notion of craft competence correlated well with the researcher's assessment in terms of the impact of the Courses on teachers' understanding and practice of the model. Furthermore, overall, the two experts ranked the lessons of those teachers identified by the researcher in the study as having adequate understanding and skills in terms of the model above the lessons of those teachers who had been identified by the researcher in the study as demonstrating barely adequate or inadequate understanding and/or skills.

CHAPTER EIGHT: CONCLUSIONS AND RECOMMENDATIONS

The final chapter of this dissertation reflects upon the explicit aim of the study and explains how, in spite of limitations in terms of methods, the study allows for certain inferences to be made and conclusions to be drawn. The chapter discusses the implications of the conclusions and makes some tentative recommendations based on the findings and the researcher's experience and observations.

1. AIM OF THE STUDY

The aim of this study was to test the assumptions underpinning a particular model for INSET. In other words, the rationale for the study was not to assess the efficiency of the INSET intervention which provides the site for the study, for example, by measuring changes in teachers' understanding and skills prior to and after the intervention, but to test the effectiveness of the assumptions underpinning a transformative action reflection model for INSET by:

1. assessing the impact of two of the Primary Education Project's Courses on
 - a) teachers' understanding of the PREP model and
 - b) teachers' practice of the PREP model; and by
2. assessing whether the impact is an indicator of improvement in teaching quality.

The conceptual framework for the research has been matched to the theory which underpins the INSET model assessed in the study. Instruments for measuring the impact on teachers' understanding and practice of the model were designed to match the intentions of the INSET programme used as a case study, and the impact of two courses from the programme has been measured qualitatively and quantitatively in terms of teachers' knowledge and pedagogical practice or explicit competencies. In particular, the study has tested the 'quality' of the impact on teachers' understanding and practice of the model through an assessment by independent experts. The judgement of two craft experts was

used to assess whether those teachers who, according to the study, have gained adequate understanding and skills in terms of the model were better able to select and employ appropriate practices and exhibit the tacit or craft competence which would bring about the improvement in the quality of teaching which the model predicts.

2. LIMITATIONS OF THE STUDY IN TERMS OF RESEARCH METHODS

A number of possible limitations exist in the study in terms of research methods. Firstly, testing took place only half way through the intervention and teachers were interviewed and video recordings of their lessons were made at the end of the first year of the two year Diploma in Education course rather than after they had completed the entire programme. Secondly, the strength of the inferences as to the impact of the two courses on teachers' understanding and practice are constrained by the fact that baseline data on teachers' understanding and practice was not obtained prior to the commencement of the course nor was data on a control group collected. Thirdly, the study is based on a very small sample of eighteen teachers teaching two lessons each and, in the final analysis of the appropriateness of teachers' practice, nineteen lessons.

In addition, in spite of the fact that the ratings used on the measuring instruments are fairly fine-grained, they did not allow for the impact on teacher understanding and skills to be discriminated sufficiently in terms of the model. Finally, the researcher was, for the duration of the study employed by the Primary Education Project and this could have resulted in bias and subjectivity which may have influenced the study's conclusions (Cohen & Manion, 1989: 318).

However, whilst limitations exist in terms of methods, it is the contention here that, because of the descriptive quality of the evidence gathered in the study and the tests of validity conducted (for example, the correlation of data based on the researcher's judgements and the courses presenters' assessment of teachers through their year marks; and the correlation of data based on the experts'

assessment of the appropriateness of teachers' practice), none of these possible limitations have affected the results of the study in any significant way.

3. CONCLUSIONS OF THE STUDY

It is the contention of this study that the findings allow for the following conclusions to be drawn about the claims of the INSET model and the impact of the model on teaching quality.

3.1 The claims of the INSET model

According to the evidence available in the study, the combined ratings produced by testing teachers' insight and actions correspond extremely well with the two experienced junior primary teacher educators' independent judgement of the appropriateness of teachers' practices. Furthermore, the appropriateness of the practices of those top ranking teachers (who according to data from the study have demonstrated evidence of adequate understanding and skills) was singled out by the independent craft experts, albeit by using a very small sample of nineteen lessons by ten teachers.

Thus there is considerable evidence from this research to support the assumption of the transformative action reflection INSET model that improved conceptual understanding (consciousness) is linked to teachers' ability to select and employ appropriate practices (improved action). In other words, the findings of the study indicate that, in terms of its objectives, the claims of the model appear to be valid.

3.2 The impact of the INSET model

In terms of the impact of the model the study reveals that very few teachers demonstrate that they have not benefited in terms of understanding and practice of the PREP model. However, overall only a small band of teachers' understanding and practice of the PREP model was rated as adequate. In particular, the analysis reveals that, in spite of a quality intervention such as the

one used for the study, the focus of most teachers' teaching is on teaching content and vocabulary and not on teaching concepts, skills and strategies.

These findings seem to indicate a disjuncture between what teachers are teaching and how they teach and that even those teachers who have demonstrated that they have the necessary understandings and skills (or competencies) in terms of the PREP model cannot necessarily do what the INSET course wants them to do.

The analysis provided in Chapter Six of what most teachers are actually able to do as a result of their participation in a quality INSET programme based on the model provides an explanation of the intrinsic limits as to what kind of impact is possible given the systems, context, teaching conditions and previous experience of schooling of most teachers in the sample.

For example, having to follow existing syllabi and prescribed texts (Langhan, 1993), and human agency constraints, such as the beliefs and attitudes as exerted by departmental officials, principals and heads of department in authority, all act as constraints in terms of what an intervention such as this is able to achieve.

Certainly at the Junior Primary level, the current curriculum does not call for teachers to teach concepts instead of content nor does it call for teachers to teach for independence in reading (MacDonald, 1991:57). In addition, many departmental officials, principals and teachers remain committed to content-based teaching as well as reading and school readiness programmes which emphasise 'mechanistic' approaches to teaching reading (Flanagan, 1995b:3; Flanagan, 1990a:1). As a result even the best teachers in the sample are constrained in their efforts to engage pupils in tasks which are different from the tradition they are supposed to be replacing.

Whilst it is unrealistic to expect that the effects of years of apartheid education on schools and schooling could be transformed in one year by a formal in-service programme, evidence from this research seems to suggest that quality inputs such as the INSET intervention used in the study (which aim to impact on teachers' theoretical and pedagogical understandings and practices) cannot alone finally determine what teachers will do. The evidence further suggests that, given the existing system, context and teaching conditions in schools and schooling in South Africa, the barely adequate mastery of the model of most teachers as outlined in Chapter Six is probably the most an INSET course based on this model can hope for.

The conclusion of this research is that, although the transformative action reflection model for INSET is effective in terms of its own objectives, it assumes ideal conditions, (such as appropriate contextual and systemic support at all levels of the system), which do not presently pertain in schools and schooling in South Africa. Thus existing constraints and conditions make it impossible for quality INSET interventions such as the one assessed in the study to impact on teaching quality in a way which on its own will transform schools and schooling in South Africa.

4. IMPLICATIONS OF THESE CONCLUSIONS

The above conclusions imply that quality inputs such as the INSET intervention used for the study are being inefficiently utilised and that INSET interventions such as this are not the only means needed to bring about quality teaching and learning in schools and classrooms in South Africa. Instead the conclusions suggest that interventions such as the one assessed in the study should form part of a process of contextual and systemic change which involves changing the goals and values expressed at all levels of the educational system.

Other factors which, based on the researcher's experience and observations, act as constraints on INSET courses which emphasise changing teachers' understanding and practice are:

- the ways in which teachers' who lack English language skills interpret course content;
- the quality of most teachers' previous experience of schooling;
- the influence of other (often conflicting) Departmental and NGO INSET interventions which operate at many schools;
- the quality of classroom facilitation and the competence of the course presenters or teacher educators (Flanagan, 1995f);
- the fact that accredited INSET courses within formal academic programmes are currently constrained by a very specific time frame of one academic year.

5. RECOMMENDATIONS

It is with the above in mind that the following tentative recommendations are made.

5.1 Recommendations in terms of additional support for quality INSET programmes

The findings of the study suggest that high quality INSET courses such as the one assessed in the study may not be the most appropriate form of intervention in the South African context in the short term. Nevertheless, such courses could serve as exemplars of quality for the long term. However, indications are that, without additional contextual and systemic support, interventions based on this model are unlikely to impact significantly on teaching quality.

Thus any commitment to interventions based on this model would require additional support such as new curricula, new content and new forms of pupil assessment/examinations which match the goals and values embedded in INSET courses and which will enable and assist teachers to act on their new knowledge.

In particular, the study indicates the need for additional enriched textual support in the form of a variety of interactive, pupil-orientated textbooks or other technologies which will provide greater support to teachers by helping them 'close the gap' between what they presently know (their conceptual understanding); what they are able to do (their skills); and what INSET models or courses want them to understand and do. Such texts and material could be designed to allow for the heterogeneity of individual pupil's prior learning and experience by including a multiplicity of tasks and activities which are graded in terms of complexity and which are structured to teach abstract thinking, concepts and skills which challenge and extend all pupils.

Thus the recommendation of the study is that, in addition to systemic support, INSET interventions such as the one assessed in the study are supported through the development of additional contextual support in the form of a variety of new classroom texts and other materials. For example, through curriculum materials interventions such as the *Northern Cape Primary School Workbook Pilot Project* (Vinjevold, 1996b).

5.2 Recommendations in terms of the design and implementation of teacher education and INSET courses

New curricula for teacher education and INSET in South Africa call for an outcomes or competency-based approach to teaching and learning which emphasises conceptual understanding and skills (Dept of Education, n.d.; Hofmeyr & Hall, 1996:90; Dept of Education, 1996). However, in terms of pedagogy, what is valued in terms of knowledge and skills still needs to be translated into specific teaching competencies. In other words, what is valued in terms of 'good' teaching has yet to be made explicit.

The findings of this study reveal that the judgement of the appropriateness of teachers' classroom interactions (teachers' craft or tacit competence) by the independent experts did not differ significantly from the researcher's more mechanical assessment of the impact on teachers' understanding and practice of the model based on the explicit criteria used in the study. This suggests that the

explicit criteria developed for this study to assess the impact on teachers' understanding and classroom practice of the model could serve to provide exemplars of what counts as an outcome/competency in terms of pedagogical processes or effectiveness for a curriculum for teacher education and INSET which emphasises conceptual understanding and skills.

A recommendation of this study is that developed criteria such as the ones used in the study be used to assist in the design of quality teacher education programmes and for internal and external evaluations which assess the improvement of the quality of teaching which results from these programmes.

Measuring instruments such as the ones used in the study, where criteria have been appropriately matched to the objectives of courses and with more refined indicators for such criteria, could be useful in assessing whether the different dimensions of courses have been adequately addressed as well as in assessing whether the ways in which the different dimensions have been addressed have been effective.

Such measuring instruments could be used to test whether programme strategies, design and implementation are themselves consistent with the educational values embedded in the goals and objectives of INSET courses. They could also be helpful in measuring the extent to which presentations through course material (for example video presentations) or by course presenters are consistent with the values and goals of courses and to measure the extent to which they themselves act as constraints in terms of impacting on teaching quality.

5.3 Recommendations in terms of future research and impact assessment of INSET

The study's findings appear to confirm the view that research on INSET in South Africa is generally 'underconceptualised' and 'undertheorized' (Hofmeyr, De Wee & McLennan:1994:7) and that the assumptions about educational quality which

underpin models for INSET have not been sufficiently substantiated by empirical research (Louw, 1996; Weingart, 1996; Hofmeyr & Hall, 1996:20).

Furthermore, the findings of the research support the growing consensus that current forms of evaluation studies are not able to do justice to the process of assessing whether the impact of INSET Courses can be judged as improvement in teaching quality, and that an alternative model for assessing educational quality is required (Jansen, 1996; Taylor, 1996b) where "worth is a matter of judgement and measurement, quality and quantity" (Salmen, 1987:112).

The recommendation of the study is that studies such as this one be replicated through other impact assessments of INSET models where the research design and strategies are appropriately matched to what is being evaluated, where criteria for assessing impact are based on the objectives of courses being evaluated, and where findings are presented in ways that make it possible to compare the quality of the impact to other INSET models which have been assessed. However, the recommendation is that such studies are expanded in future research through the use of larger samples and more refined indicators.

Such research could also be useful in establishing patterns from the data collected (for example regional patterns or patterns in schooling cultures) which could serve to establish causal links which account for some teachers benefiting more from some courses than others and which could assist in ensuring that INSET interventions are more efficiently utilised.

For example, it is plausible to suggest that links made in this study between teachers' previous experience of schooling and teaching and teachers' ability to demonstrate adequate levels of skills and understanding may indicate that what teachers learn depends on the quality of their previous experience and knowledge. This implies that teachers' competence level should be tested before teachers enter courses and that the results of such tests be used as entrance criteria rather than the teachers' existing paper qualifications.

Concluding comment

The main aim in this study was to develop instruments which do justice to what the transformative action reflection model is trying to do. In other words, the aim was to design instruments which would make it possible to demonstrate causal links between improved understanding and skills (consciousness), and teachers' ability to select and employ appropriate practices (action). However, it is my hope that the findings of this study will contribute to 'the larger body on evaluation and research' on INSET (Jansen, 1996:17) and to debates about educational quality in general.

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APPENDIX A

**FORMS USED BY THE INSET PROJECT TO COLLECT
SCHOOL/TEACHER INFORMATION**

TEACHERS' CLASSROOM

Name of teacher:

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General comment:

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Does the classroom have:

	YES	NO
a usable chalkboard		
a cupboard/storage space		
sufficient desks and seats for all pupils		
sufficient space for the teacher to organise different activities/seating		
a book corner		
notice boards		
adequate ventilation		
adequate lighting		
electricity (plug points that work)		

* Adapted from and with acknowledgment to the National Evaluation of Programme Impact - the Thousand Schools Project

SCHOOL PROFILE

Name of school:

Location (urban/peri-urban/rural/farm):.....

Ex-department:

Home language of most students:.....

Pupil enrolment:.....

Pupil attendance:.....

Overall impression of school

.....

Is the school reasonably secure from theft?

.....

Condition of the school buildings

.....

Does the school have:

	YES	NO
a feeding scheme		
a central school library		
a staff room		
a sportsfield		
a principal's office		
a telephone		
a electricity		
a typewriter		
a photocopier		
running water		

* Adapted from and with acknowledgment to the National Evaluation of Programme Impact - the Thousand Schools Project

TEACHER PROFILE

Teachers' name:.....

Mother tongue/Home language:.....

Date of birth:.....

Name of school:.....

Std/grade taught:.....

Number of pupils in class:.....

Position at school, e.g. H.O.D./Principal/Teacher:.....

Years of teaching experience:.....

Matric/Std 10:.....

Professional qualification on registration:.....

Which of the 'old' Departments of Education (ex BOP / ex DET, etc.) has teacher taught under?.....

Other in-service training courses which teacher has attended:

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APPENDIX B

CRITERIA AND INSTRUMENTS USED FOR MEASURING THE IMPACT ON TEACHERS' UNDERSTANDING OF THE MODEL

LANGUAGE AND LEARNING COURSE

DATE..... TEACHER'S NAME STD/GRADE NO OF PUPILS
 SCHOOL LOCATION: URBAN. PERI URBAN RURAL/FARM

TEACHER UNDERSTANDING

LANGUAGE AND LEARNING

**DOES THE TEACHER UNDERSTAND WHAT IS MEANT BY DEVELOPING PUPILS' CONCEPT OF PRINT?
 VIGNETTES A & E**

1/2	3/4	5/6
<p>Teacher shows no/very little understanding of what is meant by developing a concept of print. Instead he/she views reading as a decoding process where the most important thing is to get the sounds/words right and to read accurately with correct pronunciation.</p>	<p>Teacher shows some understanding of what is meant by developing pupils' concept of print by recognising that an approach to reading which focuses on phonics or teaching children to decode accurately does not develop their concept of print but encourages pupils to read word by word rather than encouraging them to read for meaning. Teacher shows no/little understanding that, in order to develop pupils' concept of print he/she needs to encourage pupils to read fluently with attention to punctuation and intonation instead of through imitating and repeating after the teacher.</p>	<p>Teacher shows understanding of what is meant by developing a concept of print by recognising that encouraging pupils to decode text by sounding every letter and reading each word separately in a sentence slows the reader and works against developing a concept of print and reading for meaning. Teacher recognises that in order to develop pupils' concept of print and encourage them to read print meaningfully, pupils need to be encouraged to:</p> <ul style="list-style-type: none"> * read smoothly and at speed (fluently); * read whole sentences / meaningful chunks of texts/ ongoing / continuous / extended text; * think about how print works (for example by paying attention to punctuation and intonation).

COMMENTS:

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TEACHER UNDERSTANDING

LANGUAGE AND LEARNING

DOES THE TEACHER UNDERSTAND WHAT IS MEANT BY TEACHING PUPILS TO READ INDEPENDENTLY?

VIGNETTES B & F

1/2		3/4		5/6	
Teacher shows no/very little understanding of what is meant by teaching pupils to be independent readers or of the need to develop the skills and strategies which will assist their pupils to become independent readers.		Teacher shows some understanding of what is meant by teaching pupils to be independent readers by recognising the need to teach pupils teacher-directed skills (for example the teacher telling the pupils the correct word or directing pupils to use pictures as an aid for identifying words). Teacher shows little/no recognition of the need to teach pupils other strategies they need for reading independently.		Teacher shows understanding that if the pupils have to keep relying on the teacher to tell them the words and the meaning then they are not learning the reading strategies necessary for independence. Teacher shows understanding that, in order to read texts independently and self-correct, pupils need to be taught to use of variety of strategies - for example to:	
				<ul style="list-style-type: none"> * use semantic (contextual) and syntactic (structural) clues and cues; * use prior knowledge and experience to predict. 	

COMMENTS:

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TEACHER UNDERSTANDING

LANGUAGE AND LEARNING

DOES THE TEACHER UNDERSTAND WHAT IS MEANT BY DEVELOPING A BOOK CULTURE?

VIGNETTES C & H

1/2	3/4	5/6
<p>Teacher shows no/very little understanding of what is meant by developing a book culture. Teacher believes that reading material should be structured and graded according to a hierarchical order and that children must be 'ready' for books before they can handle books for themselves.</p>	<p>Teacher shows some understanding of what is meant by developing a book culture by recognising the limitations of only using a prescribed reader to teach reading and by recognising the need for pupils to read a variety of texts. Teacher shows no/little recognition of the need for the teacher to provide pupils with a good selection of books or to encourage them to read by themselves for enjoyment and pleasure.</p>	<p>Teacher shows understanding of what is meant by developing a book culture by recognising that learning to read only from a class reader holds pupils back from becoming self-regulating and independent readers and that pupils need to be encouraged to see reading as a worthwhile activity and something that should be enjoyed and made habitual. Teacher recognises that, in order to promote a book culture he/she need to provide pupils with the experience of:</p> <ul style="list-style-type: none"> * reading extended text; * reading a variety of texts/books; * reading for pleasure and enjoyment; * handling, playing and reading books themselves; * selecting books for themselves.

COMMENTS:

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TEACHER UNDERSTANDING

LANGUAGE AND LEARNING

DOES THE TEACHER UNDERSTAND WHAT IS MEANT BY TEACHING PUPILS TO READ FOR MEANING?

VIGNETTES D & G

1/2		3/4		5/6	
Teacher shows no/very little understanding of what is meant by teaching pupils to read for meaning. Teacher assumes that the focus of teaching reading should be on grapho phonics.		Teacher shows some understanding of what is meant by encouraging pupils to read for meaning by recognising the need for questions which test pupils' comprehension of what they have read. Teacher shows little/no recognition of the need to develop the strategies which assist pupils to make meaning independently.		Teacher shows understanding of what is meant by teaching pupils to read for meaning. Teacher understands that, for pupils to make meaning from text independently, he/she needs to encourage pupils to develop the strategies which will assist them to make meaning - for example to:	
				<ul style="list-style-type: none"> * predict what is coming next; * respond to text as it is being read; * summarise what they have read. 	

COMMENTS:

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TEACHER UNDERSTANDING

LANGUAGE AND LEARNING

DOES THE TEACHER UNDERSTAND WHAT IS MEANT BY ENCOURAGING PUPILS TO INTERACT WITH TEXT?

VIGNETTES D & G

1/2		3/4		5/6	
<p>Teacher shows no/very little understanding of what is meant by encouraging pupils to interact with text. Teacher believes that the emphasise of teaching reading should be on teaching the mechanical skills of reading and on the writing system and its symbols.</p>		<p>Teacher shows some understanding of what is meant by encouraging pupils to interact with text by recognising that pupils should be encouraged to talk about text. Teacher shows no/little recognition of the need to encourage pupils make sense of print by using their prior learning and their knowledge of language to talk about text.</p>		<p>Teacher shows understanding of what is meant by encouraging pupils to interact with text by recognising that reading is an interactive meaning-making process where prior knowledge determines the kind of interpretations pupils are able to make from text and understands that pupils need to be encouraged to use their prior knowledge and their knowledge of language to talk about text, make sense of print and create meaning from text.</p>	

COMMENTS:

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JUNIOR PRIMARY STUDIES COURSE

DATE..... TEACHER'S NAME STD/GRADE NO OF PUPILS

SCHOOL LOCATION: URBAN. PERI URBAN RURAL/FARM

TEACHER UNDERSTANDING

JUNIOR PRIMARY STUDIES

DOES THE TEACHER UNDERSTAND WHAT IS MEANT BY USING A MODEL FOR ACTIVE LEARNING WHICH INCORPORATES

- ACKNOWLEDGING PUPILS' PRIOR KNOWLEDGE BY LINKING PUPILS' PREVIOUS LEARNING TO NEW LEARNING?

VIGNETTES I & L

1/2		3/4		5/6	
Teachers shows no/very little understanding of the need to acknowledge pupils' prior knowledge or of the need to link pupils' previous learning to new learning.		Teacher shows some understanding that pupils bring prior knowledge and experience to the learning situation. Teacher shows little/no recognition of the need to link the prior experience of pupils to new learning.		Teacher shows understanding that pupils bring what they already know to the learning situation (prior knowledge) and recognises the need to link the experience of pupils to new learning.	

COMMENTS:

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TEACHER UNDERSTANDING

JUNIOR PRIMARY STUDIES

DOES THE TEACHER UNDERSTAND WHAT IS MEANT BY USING A MODEL FOR ACTIVE LEARNING WHICH INCORPORATES

- **USING PROBLEM-SOLVING ACTIVITIES/TASKS?**

VIGNETTES I & L

1/2		3/4		5/6	
Teacher shows no/very little understanding of the shortcomings of rote learning or of the need for pupils to be actively involved through problem-solving activities.		Teacher shows understanding of the shortcomings of rote learning and recognises that pupils should be actively involved if learning is to be meaningful. Teacher shows no/little understanding that active learning occurs through problem-solving tasks/activities when pupils change their ideas or test and develop new ideas.		Teacher shows understanding of the difference between rote learning and active learning by recognising that active learning occurs when pupils change their ideas or test new ideas and develop conceptual understanding through problem-solving activities/tasks.	

COMMENTS:

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TEACHER UNDERSTANDING

JUNIOR PRIMARY STUDIES

DOES THE TEACHER UNDERSTAND WHAT IS MEANT BY USING A MODEL FOR ACTIVE LEARNING WHICH INCORPORATES

- **TEACHING PUPILS THE PROCESS SKILLS NECESSARY FOR ACTIVE LEARNING?**

VIGNETTES I, L & N

1/2		3/4		5/6	
Teacher shows no/very little understanding of the need for pupils to think and learn with understanding or of the need to teach pupils the thinking and learning skills necessary for active learning.		Teacher shows some understanding of what is meant by encouraging pupils to think and learn with understanding but shows no/little understanding of what is meant by teaching pupils to be active learners by assisting them to develop the process skills necessary for independent learning.		Teacher shows understanding of what is meant by developing the thinking and learning (process) skills pupils need to be independent and active learners - in particular prediction, hypothesising, observation and investigation skills.	

COMMENTS:

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TEACHER UNDERSTANDING

JUNIOR PRIMARY STUDIES					
DOES THE TEACHER UNDERSTAND WHAT IS MEANT BY EMPLOYING LEARNER-CENTRED RESPONSES?					
VIGNETTES J & N					
1/2		3/4		5/6	
<p>Teacher shows no/very little understanding of what is meant by employing learner-centred responses.</p>		<p>Teacher shows some understanding of what is meant by employing learner-centred responses by recognising the need to encourage and make pupils feel confident about answering questions. Teacher shows no/little recognition of the need to use learner-centred responses to encourage pupils to think about their thinking.</p>		<p>Teacher shows understanding of what is meant by employing learner-centred responses by recognising the need for responses which encourage pupils to feel confident about answering questions and by recognising that learner-centred responses can be used to encourage pupils to think about their thinking, to learn how to ask questions themselves as well as to assist the teacher to establish how pupils are thinking and understanding.</p>	

COMMENTS:

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TEACHER UNDERSTANDING

JUNIOR PRIMARY STUDIES

DOES THE TEACHER UNDERSTAND WHAT IS MEANT BY ADOPTING AN ENQUIRY-BASED APPROACH THROUGH QUESTIONING?

VIGNETTES J & N

1/2		3/4		5/6	
Teacher shows no/very little understanding of what is meant by adopting an enquiry-based approach through questioning or of the need to ask questions which stimulate pupils thinking as opposed to only asking questions which test pupils' memory.		Teacher shows some understanding of what is meant by adopting an enquiry-based approach through questioning by recognising the need for questions which actively engage pupils in providing descriptions. Teacher shows little/no recognition of the need to ask questions which require pupils to explain why they think what they think and how they know what they know or to interpret ideas.		Teacher shows understanding of what is meant by adopting an enquiry-based approach through questioning which stimulates pupils' thinking such as how and why questions. Teacher recognises the need to use questions to encourage pupils to interpret others' ideas or to test/justify their ideas and explain their thinking and understanding.	

COMMENTS:

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TEACHER UNDERSTANDING

JUNIOR PRIMARY STUDIES		
DOES THE TEACHER UNDERSTAND WHAT IS MEANT BY USING A COLLABORATIVE APPROACH TO TEACHING AND LEARNING?		
VIGNETTES J & N		
1/2	3/4	5/6
Teacher shows no/very little understanding of what is meant by collaborative learning or of the need to engage pupils in 'collaborative talk.'	Teacher shows some understanding of what is meant by using a collaborative approach to teaching and learning by recognising the need to encourage pupils' to participate in discussions through group work. Teacher demonstrates little/no recognition that language and thinking go together or of the need to encourage 'collaborative talk' so that pupils can develop the language necessary to think purposefully and independently and to express their thinking and learning.	Teacher shows understanding of what is meant by using a collaborative approach to teaching and learning by recognising that the language that children use shows what they are thinking and what they have understood. Teacher recognises the need to encourage 'collaborative talk' so that pupils can develop the language necessary to think purposefully and express their thinking and learning in their own words.

COMMENTS:

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TEACHER UNDERSTANDING

JUNIOR PRIMARY STUDIES

DOES THE TEACHER UNDERSTAND WHAT IS MEANT BY USING AN INTEGRATED APPROACH TO KNOWLEDGE AND THE CURRICULUM?

VIGNETTES K & M

1/2		3/4		5/6	
<p>Teacher shows no/very little understanding of what is meant by using an integrated approach by showing no recognition of the use of theme teaching. Teacher views knowledge as consisting of self-contained 'packages' which must be taught as separate subjects and presented as information or facts to be learned one after the other.</p>		<p>Teacher shows some understanding of what is meant by using an integrated approach by recognising the need to use themes or topics for teaching. Teacher shows no/little recognition of the need to develop pupils' understanding of the relationship between things.</p>		<p>Teacher shows understanding of what is meant by using an integrated approach to knowledge and the curriculum by recognising the interrelated nature of knowledge and the need to emphasise the embedded contextual/holistic nature of knowledge through for example</p> <ul style="list-style-type: none"> • the use of themes and topics • developing pupils' understanding of the relationship between things • an integrated approach to the curriculum. 	

COMMENTS:

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APPENDIX C

CRITERIA AND INSTRUMENT USED FOR MEASURING THE IMPACT ON TEACHERS' CLASSROOM PRACTICE OF THE MODEL

LANGUAGE AND LEARNING COURSE

TEACHER'S NAME	STD/GRADE	NO OF PUPILS
SCHOOL	LOCATION: URBAN. PERI URBAN RURAL/FARM	
DATE/S.....	LENGTH OF LESSON/S OBSERVED:.....	LANGUAGE OF INSTRUCTION:.....

CLASSROOM OBSERVATION

LANGUAGE AND LEARNING			
DOES THE TEACHER RECOGNISE THE HOLISTIC NATURE OF LEARNING BY DEVELOPING PUPILS' CONCEPT OF PRINT?			
1/2		3/4	
Pupils spend most of their time decoding or repeating after the teacher. Teaching approach encourages 'finger pointing' at each word and 'barking' at text (reading word by word). Pupils not encouraged to make sense of print.		Teacher develops pupils' concept of print to some extent by focusing on reading whole sentences/'meaningful chunks' of text but emphasis is mainly on getting pupils to repeat after the teacher or imitate the teacher instead of teaching pupils to read fluently with attention to meaning, punctuation and intonation.	Teacher develops pupils' concept of written language and its functions by teaching pupils to expect print to make sense by encouraging them to read whole sentences/'meaningful chunks' of text as fluently as possible with attention to meaning, punctuation and intonation.

COMMENTS:

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CLASSROOM OBSERVATION

LANGUAGE AND LEARNING

DOES THE TEACHER RECOGNISE THE SOCIAL NATURE OF LEARNING BY TEACHING PUPILS TO READ INDEPENDENTLY?

1/2	3/4	5/6
<p>Teacher focuses on teaching skills such as sound/symbol (phonics), word recognition and memorising skills. Teacher does not teach pupils other strategies and skills for reading independently besides sounding out words and word recognition.</p>	<p>Teacher encourages pupils to read independently to some extent but the emphasis is mainly on teaching teacher-directed skills (for example, where pupils are taught to rely on the teacher to tell them what words are or where the teacher directs the pupils to use pictures as an aid for identifying words) rather than on teaching pupils to use the strategies which assist them to read independently.</p>	<p>Teacher teaches pupils the strategies and skills they need to read independently , for example:</p> <ul style="list-style-type: none"> • using contextual cues and clues for identifying and understanding unfamiliar words (reading to the end of the sentence using picture clues and then guessing the word, using other words in the story); • using prior knowledge and experience to predict what comes next in a text.

COMMENTS:

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CLASSROOM OBSERVATION

LANGUAGE AND LEARNING

DOES THE TEACHER RECOGNISE THE AFFECTIVE FOUNDATION OF LEARNING
BY DEVELOPING A BOOK CULTURE?

1/2		3/4		5/6	
Teacher uses dull texts/stories with contrived texts which are sequentially based for the teaching of mechanical skills and which are of little interest to pupils.		Teacher uses texts/stories with extended text which are designed to encourage pupils to enjoy reading but tends not to use them to support pupils as readers or in ways which encourage them to read for enjoyment and pleasure.		Teacher uses meaningful and engaging texts/stories with predictable (extended) text to support the pupils as readers and encourages pupils to read for enjoyment and pleasure. Teacher him/herself shows genuine excitement about reading.	

COMMENTS:

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CLASSROOM OBSERVATION

LANGUAGE AND LEARNING

**DOES THE TEACHER RECOGNISE THE ACTIVE NATURE OF LEARNING
BY TEACHING PUPILS TO READ FOR MEANING?**

1/2	3/4	5/6
<p>Teacher does not ask pupils questions about text as focus is entirely on the mechanical aspects of reading (for example reading accurately and with correct pronunciation).</p>	<p>Teacher questions pupils about the text but the answers to the questions are largely determined by the text/teacher. Teacher mainly treats text as a series of items of information to be correctly recalled or described.</p>	<p>Teacher questioning encourages pupils to develop the strategies which will assist them to construct meaning from text for themselves, for example teacher encourages pupils to:</p> <ul style="list-style-type: none"> • predict what will happen next; • respond to text as it is being read; • question text; • sequence/retell/summarise what they have read.

COMMENTS:

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CLASSROOM OBSERVATION

LANGUAGE AND LEARNING

DOES THE TEACHER SHOW RECOGNITION OF THE CENTRAL ROLE OF LANGUAGE FOR LEARNING BY ENCOURAGING PUPILS TO INTERACT WITH TEXT?

1/2	3/4	5/6
<p>Teacher dominates discussion of text and there is little or no pupil participation in terms of interacting with text. Teacher does not encourage pupils to talk about the text. Instead teacher expects pupils to passively receive content 'transmitted' by the text.</p>	<p>Teacher encourages some pupil participation and interaction with text but this is mainly for them to communicate what they have already read or know rather than to use their own language to make meaning from texts. Teacher explains new vocabulary but this is usually done out of context (for example before reading a text.)</p>	<p>Teacher actively facilitates children's construction of meaning from text by engaging pupils in collaborative talk (talk about their thinking/understanding) about text with teacher and peers. Pupils encouraged to use their own words to respond to text and express their thinking about and understanding of text. Teacher provides pupils with new vocabulary in the context of the text so that pupils can talk about and explain their thinking and what they have understood.</p>

COMMENTS:

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JUNIOR PRIMARY STUDIES COURSE

TEACHER'S NAME STD/GRADE NO OF PUPILS

SCHOOL LOCATION: URBAN. PERI URBAN RURAL/FARM

DATE/S..... LENGTH OF LESSON/S OBSERVED:..... LANGUAGE OF INSTRUCTION:.....

CLASSROOM OBSERVATION

JUNIOR PRIMARY STUDIES			
DOES THE TEACHER RECOGNISE THE ACTIVE NATURE OF LEARNING BY USING A MODEL FOR ACTIVE LEARNING WHICH INCORPORATES ACKNOWLEDGING PUPILS' PRIOR KNOWLEDGE BY LINKING PUPILS' PREVIOUS LEARNING TO NEW LEARNING?			
1/2		3/4	
Teacher shows no acknowledgment of pupils' prior learning and experience.		Teacher shows some acknowledgment of pupils' prior learning and experience by asking them what they already know about what is being taught. Teacher does not assist pupils to link previous learning to new learning.	
		5/6	
		Teacher acknowledges pupils' prior learning by encouraging pupils to use their previous experience to try to understand and make sense of new learning.	

COMMENTS:

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CLASSROOM OBSERVATION

JUNIOR PRIMARY STUDIES

DOES THE TEACHER RECOGNISE THE ACTIVE NATURE OF LEARNING
BY USING A MODEL FOR ACTIVE LEARNING WHICH INCORPORATES PROBLEM-SOLVING ACTIVITIES/TASKS?

1/2		3/4		5/6	
<p>Teacher uses talk and chalk methods to explain new learning. All learning is 'processed' through the teacher and pupil learning is through memorising facts through rote and repetition. Teacher organises activities ("occupational tasks") merely to keep pupils busy so that he/she can teach a small group of pupils.</p>		<p>Teacher explains new learning by organising show and tell demonstrations which require some problem-solving but which are used mainly in ways that require pupils to acquire and recall a quantity of knowledge or repeat what they already know rather than to change ideas or develop new concepts.</p>		<p>Teacher involves pupils in problem-solving activities/tasks to change their ideas and to test and develop new ideas (understand new concepts).</p>	

COMMENTS:

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CLASSROOM OBSERVATION

JUNIOR PRIMARY STUDIES

DOES THE TEACHER RECOGNISE THE ACTIVE NATURE OF LEARNING

BY USING A MODEL FOR ACTIVE LEARNING WHICH INCORPORATES ASSISTING PUPILS TO DEVELOP THE PROCESS SKILLS NECESSARY FOR ACTIVE LEARNING?

1/2	3/4	5/6
Teacher does not assist pupils to develop the process skills necessary for active learning.	Teacher assists pupils to develop some process skills but focuses on teacher-directed skills (for example "looking" instead of observing), rather than the process skills that enable them to solve problems independently.	Teacher assists pupils to develop the process/thinking skills necessary for independent and active learning, for example the ability to: <ul style="list-style-type: none">• observe objects or situations;• propose possible explanations (hypothesise) for events/situations;• make predictions based on their existing understanding and knowledge;• investigate the predictions they have made.

COMMENTS:

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CLASSROOM OBSERVATION

JUNIOR PRIMARY STUDIES

DOES THE TEACHER RECOGNISE THE AFFECTIVE FOUNDATION OF LEARNING
BY EMPLOYING LEARNER-CENTRED RESPONSES?

1/2	3/4	5/6
<p>Teacher only acknowledges pupils' answers when they present the 'correct' answer to the teacher's questions.</p>	<p>Teacher encourages pupils to answer questions by acknowledging most pupils' answers but tends not to ask pupils for clarification or explanations about how they got their answers or why they think what they do.</p>	<p>Teacher takes all pupils' attempts seriously by responding appropriately to each pupil's answer by asking for clarification or explanations about how they got their answer or why they think what they do in order to establish how they are thinking and understanding. For example by asking, 'How do you know that?' and 'Why do you think that?'</p>

COMMENTS:

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CLASSROOM OBSERVATION

JUNIOR PRIMARY STUDIES

DOES THE TEACHER RECOGNISE THE SOCIAL NATURE OF LEARNING BY ADOPTING AN ENQUIRY-BASED APPROACH THROUGH QUESTIONING?

1/2	3/4	5/6
<p>Teacher questioning of pupils restricted to drill and practice format, labelling or closed questions (for example yes/no). Textbook/ teacher pre-determines answers to all questions. For example, Teacher: "This is a karakul sheep. What is it?" and "Do we get wool from Merino sheep?"</p>	<p>Teacher employs some questioning which stimulates pupils' thinking but questions generally confined to questions which require a description from pupils, for example: Teacher: "How does the farmer get wool from his sheep?" and those questions where pupils have to give 'correct' answers/answers pre-determined by the textbook or teacher, for example, Teacher: "Which sheep do we get wool from?"</p>	<p>Teacher employs a variety of questioning techniques but focuses on open-ended questions which stimulate pupils' thinking. For example by asking:</p> <ul style="list-style-type: none"> • how and why questions; • questions which require pupils to interpret; • pupils to justify their answers; • questions which encourage self-directed learning (finding answers to their questions in other ways instead of expecting the teacher to have all the answers, for example, using the contribution they are able to make from their prior knowledge and background understandings); • questions which teach pupils how to ask questions for themselves. <p>For example: Teacher: "Show me something that is made of wool. Why do you think this and how do you know?"</p>

COMMENTS:

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CLASSROOM OBSERVATION

JUNIOR PRIMARY STUDIES

DOES THE TEACHER RECOGNISE THE CENTRAL ROLE OF LANGUAGE FOR LEARNING
BY USING COLLABORATIVE TALK AND LANGUAGE FOR MAKING SENSE OF NEW LEARNING?

1/2	3/4	5/6
<p>Teacher dominates classroom discussion and controls pupils' learning by telling pupils what to do and think. Little or no pupil participation through use of pupils' own words for learning. Teacher expects pupils to passively receive and memorise facts/content 'transmitted' by the teacher/textbook through listening and reading. Pupils not encouraged to communicate their learning, thinking or understanding in their own words</p>	<p>Teacher dominates most discussion but encourages some pupil participation through involving pupils in answering questions. However, this is mainly for pupils to communicate what they already know rather than to use their own words to express their own thinking and to make new meaning for themselves. Teacher provides pupils with some of the vocabulary they need to explain what they have learnt.</p>	<p>Teacher actively facilitates children's construction of knowledge by engaging pupils in collaborative talk (talk about their thinking/ answers) with teacher and peers. Pupils encouraged to use their own words to express their thinking and to make sense of new learning. Teacher assists pupils to do this by providing them with new language/terms so that they can talk about what they understand or explain their thinking.</p>

COMMENTS:

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CLASSROOM OBSERVATION

JUNIOR PRIMARY STUDIES

**DOES THE TEACHER RECOGNISE THE HOLISTIC NATURE OF LEARNING
BY USING AN INTEGRATED APPROACH TO KNOWLEDGE AND THE CURRICULUM?**

1/2	3/4	5/6
<p>Teacher presents knowledge as separate and unrelated "packages" (subjects/information) consisting of facts to be learnt one after the other.</p>	<p>Teacher emphasises the inter-related nature of knowledge and the curriculum to some extent through the use of topic teaching but mostly presents knowledge as information consisting of facts to be learnt one after the other.</p>	<p>Teacher emphasises the inter-related nature of knowledge, for example:</p> <ul style="list-style-type: none"> • by developing pupils' understanding of the relationship between things; • giving pupils the experience of looking at the world in different ways'; • helping pupils to realise the explanations should be tentative because there is always the possibility of an alternative explanation; • presenting knowledge as changing and debatable rather than fixed; • formulating lesson plans around the use of themes across the curriculum.

COMMENTS:

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APPENDIX D

**FRAMEWORK FOR WORKSHOP WITH COURSE CO-ORDINATORS AND
FACILITATORS 18-19 APRIL**

FRAMEWORK FOR WORKSHOP 18-19 APRIL

ASSESSING CHANGES IN TEACHERS' UNDERSTANDING AND CLASSROOM PRACTICE: Developing a set of categories for Language and Learning and Junior Primary Studies Courses.

Expectations are that by improving teachers' theoretical understanding and teachers' ability to reflect on their practice, the INSET course will impact on the quality of teachers' classroom practice and result in improved learning.

What will we see when these changes are present / How will we recognise them?

1. TEACHERS' UNDERSTANDING:

What changes in understanding will we look for in terms of the -
Language and Learning Course?

Junior Primary Studies Course?

2. TEACHING PRACTICE:

What changes in teacher behaviour will we look for in terms of the -
Language and Learning Course?

Junior Primary Studies Course?

How are we going to note changes?

- 3. How are we going to measure changes for QUALITY?
What is appropriate practice and what is inappropriate practice?**

APPENDIX E

**ASSESSMENT SCHEDULE USED BY THE RESEARCHER FOR THE
INTERVIEWS**

TEACHER'S NAME: _____

SCHOOL: _____

DATE: _____

CLASS TAUGHT: _____

LANGUAGE AND LEARNING

Preamble

I am going to give you some short descriptions of teachers' lessons which we will read together. After we have read each description, I am going to ask you some questions.

These are all descriptions of teachers teaching reading.

LANGUAGE AND LEARNING
Concept of print (fluency) 1

A
 Mrs Ncube is teaching her SSB (Grade 2) class reading. She tells the whole class to read the sentences she has written on the blackboard. She uses a stick to point at each word as the children read. When the class gets 'stuck' on a word or hesitates, she tells the class what the word is and gets the class to repeat the word after her a number of times before continuing with reading the rest of the sentence

Questions (used as a graded prompting system)

- 1 Describe the approach of this teacher in your own words.
2. What is your opinion about what the teacher is doing?
3. Do you think this teacher is doing a good job? (yes/no)
4. Why? (if answer is no) What should the teacher have done?

Teacher's opinion of practice described:

Good	Bad	Unsure
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OBSERVATION SCHEDULE

Closure after prompt		Confidence		Disturbance		Reread
1		1	Very confident	1	Very high	1
2		2	Confident	2	High	2
3		3	Slightly hesitant	3	Low	3
4		4	Hesitant	4	Very low	4
5		5	Very hesitant	5	None	5

Comment: _____

LANGUAGE AND LEARNING
Reading Independently (strategies) 2

B

Mrs Green has asked one her Std 1 pupils, Winston, to come and read to her. Winston is reading from an illustrated story book. The sentence on page 4 of the book is 'Isaac did not see the monkey hiding behind the bush.' When Winston gets to the word 'monkey', he hesitates. He tries to sound out the letters but still can't work out what the word is. On the opposite page of the book there is an illustration of the monkey hiding behind some bushes with Isaac walking past. Mrs Green says, "Winston, skip the word. Carry on reading the rest of the sentence." When Winston has read the rest of the sentence, she says, "Now look at the picture and try to guess what the word is."

Questions (used as a graded prompting system)

- 1 Describe the approach of this teacher in your own words.
2. What is your opinion about what the teacher is doing?
3. Do you think this teacher is doing a good job? (yes/no)
4. Why? (If answer is no) What should the teacher have done?

Teacher's opinion of practice described:

Good	Bad	Unsure

OBSERVATION SCHEDULE

Closure after prompt		Confidence		Disturbance		Reread	
1		1	Very confident	1	Very high	1	
2		2	Confident	2	High	2	
3		3	Slightly hesitant	3	Low	3	
4		4	Hesitant	4	Very low	4	
5		5	Very hesitant	5	None	5	

Comment: _____

LANGUAGE AND LEARNING
Book culture 2

C

In one of his reading lessons, a SSA (Grade 1) teacher, Mr Phoko, lets all the pupils in his class choose a book from the book corner. The whole class spends the lesson enjoying the books they have chosen. When they have finished with the book they have chosen, the children can select another book from the book corner. The pupils are allowed to discuss their books with each other. While the children are looking at their books, Mr Phoko works with individual children on their reading.

Questions (used as a graded prompting system)

- 1 Describe the approach of this teacher in your own words.
2. What is your opinion about what the teacher is doing?
3. Do you think this teacher is doing a good job? (yes/no)
4. Why? (If answer is no) What should the teacher have done?

Teacher's opinion of practice described:

Good

Bad

Unsure

OBSERVATION SCHEDULE

Closure after prompt		Confidence		Disturbance		Reread	
1		1	Very confident	1	Very high	1	
2		2	Confident	2	High	2	
3		3	Slightly hesitant	3	Low	3	
4		4	Hesitant	4	Very low	4	
5		5	Very hesitant	5	None	5	

Comment: _____

LANGUAGE AND LEARNING
Interactive approach & reading for meaning 1

D

A SSA (Grade 1) teacher, Mrs Modise, is reading a story from a story book which has interesting illustrations to her class. After Mrs Modise has read each page, she shows the children the illustrations in the book. She reads the text to the children who listen quietly until the end of the story.

When she has finished reading the story, she asks her pupils the following questions to see if they can remember the facts: (The order in which she asks the questions follow the sequence of the story)

- Mrs Modise: Siphon - where was the boy in the story walking to?
 Siphon: The boy was walking to his grandmother.
 Mrs Modise: Yes - the boy was walking to his grandmother. What was he taking to his grandmother - Elizabeth?
 Elizabeth: A packet.
 Mrs Modise: What was he taking, Elias?
 Elias: A parcel.
 Mrs Modise: A parcel - but what was inside the parcel?
 Elias: A new dress.
 Mrs Modise: Class what was inside the parcel?
 Whole class together: A new dress.

Questions (used as a graded prompting system)

- 1 Describe the approach of this teacher in your own words.
2. What is your opinion about what the teacher is doing?
3. Do you think this teacher is doing a good job? (yes/no)
4. Why? (If answer is no) What should the teacher have done?

Teacher's opinion of practice described:

Good	Bad	Unsure
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OBSERVATION SCHEDULE

Closure after prompt		Confidence		Disturbance		Reread	
1		1	Very confident	1	Very high	1	
2		2	Confident	2	High	2	
3		3	Slightly hesitant	3	Low	3	
4		4	Hesitant	4	Very low	4	
5		5	Very hesitant	5	None	5	

Comment: _____

LANGUAGE AND LEARNING
Concept of print (fluency) 2

E
Mr Ntuli's Std 1 class is having a reading lesson. He asks one of his pupils, Albertina, to read to him. Albertina uses her finger to point to each syllable of each word as she reads. Mr Ntuli says, "Read more quickly, Albertina. Try to read the whole sentence without pointing at each word."

Questions (used as a graded prompting system)

- 1 Describe the approach of this teacher in your own words.
2. What is your opinion about what the teacher is doing?
3. Do you think this teacher is doing a good job? (yes/no)
4. Why? (If answer is no) What should the teacher have done?

Teacher's opinion of practice described:

Good	Bad	Unsure

OBSERVATION SCHEDULE

Closure after prompt		Confidence		Disturbance		Reread	
1		1	Very confident	1	Very high	1	
2		2	Confident	2	High	2	
3		3	Slightly hesitant	3	Low	3	
4		4	Hesitant	4	Very low	4	
5		5	Very hesitant	5	None	5	

Comment: _____

LANGUAGE AND LEARNING
Reading independently (strategies) 1

F

A Std 1 pupil, Thandi, is reading an illustrated story book aloud to her teacher, Mrs Nkosi. She is reading the sentence '*The boy shouted at the elephant*'. Thandi stops reading when she gets to the word 'elephant'. She tries to sound out the letters but is still unable to work out what the word is. Mrs Nkosi tells her to repeat the sounds after her but Thandi still can't work out what the word is. Mrs Nkosi tells Thandi that the word is '*elephant*.' Thandi carries on reading.

Questions (used as a graded prompting system)

- 1 Describe the approach of this teacher in your own words.
2. What is your opinion about what the teacher is doing?
3. Do you think this teacher is doing a good job? (yes/no)
4. Why? (If answer is no) What should the teacher have done?

Teacher's opinion of practice described:

Good

Bad

Unsure

OBSERVATION SCHEDULE

Closure after prompt		Confidence		Disturbance		Reread	
1		1	Very confident	1	Very high	1	
2		2	Confident	2	High	2	
3		3	Slightly hesitant	3	Low	3	
4		4	Hesitant	4	Very low	4	
5		5	Very hesitant	5	None	5	

Comment: _____

LANGUAGE AND LEARNING
Interactive approach & reading for meaning 2

G

Mr Africa is reading a story written in Zulu called 'The Lonely Giant' to his SSB (Grade 2) class. He shows the children the picture on the cover of the book and asks them what they think the story is about. He checks that the pupils understand what the word 'giant' means. Before he starts reading the text, he shows the class some of the pictures in the book and asks them what they think is going to happen. Whilst he is reading the book, he encourages his pupils to ask questions and to talk about what they think about the story. After he has finished reading the story, Mr Africa gives groups of pupils photocopies of the illustrations from the book (muddled up) and a set of the text (muddled up) and asks each group to sort the illustrations into the right order and match each piece of text to the picture.

Questions (used as a graded prompting system)

- 1 Describe the approach of this teacher in your own words.
2. What is your opinion about what the teacher is doing?
3. Do you think this teacher is doing a good job? (yes/no)
4. Why? (If answer is no) What should the teacher have done?

Teacher's opinion of practice described:

Good	Bad	Unsure
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OBSERVATION SCHEDULE

Closure after prompt	Confidence	Disturbance	Reread
1	1 Very confident	1 Very high	1
2	2 Confident	2 High	2
3	3 Slightly hesitant	3 Low	3
4	4 Hesitant	4 Very low	4
5	5 Very hesitant	5 None	5

Comment: _____

LANGUAGE AND LEARNING
Book culture 1

H

Mr Green teaches a Std 1 class. He uses the prescribed reader for all his reading lessons. In each lesson, he teaches the vocabulary and sentences in the reader. He does this for the whole year.

Questions (used as a graded prompting system)

- 1 Describe the approach of this teacher in your own words.
2. What is your opinion about what the teacher is doing?
3. Do you think this teacher is doing a good job? (yes/no)
4. Why? (If answer is no) What should the teacher have done?

Teacher's opinion of practice described:

Good

Bad

Unsure

OBSERVATION SCHEDULE

Closure after prompt	Confidence		Disturbance		Reread	
1	1	Very confident	1	Very high	1	
2	2	Confident	2	High	2	
3	3	Slightly hesitant	3	Low	3	
4	4	Hesitant	4	Very low	4	
5	5	Very hesitant	5	None	5	

Comment: _____

JUNIOR PRIMARY STUDIES

These are not descriptions of teachers teaching reading.

JUNIOR PRIMARY STUDIES

Active learning -

Prior learning, Problem solving, Process skills 1

Mrs Appolis is teaching her first lesson on sheep to her Std 2 pupils. Her pupils sit quietly while she tells them:

"Sheep are important animals because they provide people with food and clothing. The hair of a sheep is called wool. Merino sheep are a type of sheep. They are called fine-woolled sheep. Another type of sheep are Karakul sheep. These are coarse-woolled sheep."

Questions (used as a graded prompting system)

- 1 Describe the approach of this teacher in your own words.
2. What is your opinion about what the teacher is doing?
3. Do you think this teacher is doing a good job? (yes/no)
4. Why? (If answer is no) What should the teacher have done?

Teacher's opinion of practice described:

Good	Bad	Unsure

OBSERVATION SCHEDULE

Closure after prompt		Confidence		Disturbance		Reread	
1		1	Very confident	1	Very high	1	
2		2	Confident	2	High	2	
3		3	Slightly hesitant	3	Low	3	
4		4	Hesitant	4	Very low	4	
5		5	Very hesitant	5	None	5	

Comment: _____

JUNIOR PRIMARY STUDIES

Enquiry-based questioning, learner-centred responses, collaborative talk 1

J

When Mrs Appolis is finished she asks her Std 2 pupils the following questions:

- Mrs Appolis: Why are sheep important to people, Simon?
 Simon: Because they give people food and clothes.
 Mrs Appolis: Because they give people food and clothes. Class, why are sheep important to people?
 Whole class: Because they give people food and clothes.
 Mrs Appolis: Agnes, what is the hair of a sheep called?
 Agnes: The hair of a sheep is called wool.
 Mrs Appolis: Good. Who can name two types of sheep?
 Sizwe: Fine-woolled.
 Mrs Appolis: (ignores this answer) Mzobz, what are the two types of sheep?
 Mzobz: Merino.
 Mrs Appolis: Merino and karakul. Class, what are the two types of sheep?
 Whole class: Merino and karakul.

Questions (used as a graded prompting system)

- 1 Describe the approach of this teacher in your own words.
2. What is your opinion about what the teacher is doing?
3. Do you think this teacher is doing a good job? (yes/no)
4. Why? (If answer is no) What should the teacher have done?

Teacher's opinion of practice described:

Good	Bad	Unsure

OBSERVATION SCHEDULE

Closure after prompt		Confidence		Disturbance		Reread	
1		1	Very confident	1	Very high	1	
2		2	Confident	2	High	2	
3		3	Slightly hesitant	3	Low	3	
4		4	Hesitant	4	Very low	4	
5		5	Very hesitant	5	None	5	

Comment: _____

JUNIOR PRIMARY STUDIES
An integrated approach 2

K

Mrs Ramotsho has organised her Environmental Education program for her SSB class (Grade 2). She has decided to cover the theme 'plants' in the first term. The following is her lesson plan for the first week:

- Day 1. Taking the pupils out into the schoolgrounds and around the neighbourhood to observe and discuss what is growing in the area.
- Day 2. Letting pupils take weeds from the school grounds. Observing the weeds and listing the different parts of the weeds. Talking about their observations and ideas.
- Day 3. Art based on what they have observed of the weeds/other plants. Singing a song about plants/crops.
- Day 4. Telling the story of 'Jack and the Beanstalk'
- Day 5: Drama/play based on what pupils have observed/learnt about plants.

Questions (used as a graded prompting system)

- 1 Describe the approach of this teacher in your own words.
2. What is your opinion about what the teacher is doing?
3. Do you think this teacher is doing a good job? (yes/no)
4. Why? (If answer is no) What should the teacher have done?

Teacher's opinion of practice described:

Good	Bad	Unsure

OBSERVATION SCHEDULE

Closure after prompt	Confidence	Disturbance	Reread
1	1 Very confident	1 Very high	1
2	2 Confident	2 High	2
3	3 Slightly hesitant	3 Low	3
4	4 Hesitant	4 Very low	4
5	5 Very hesitant	5 None	5

Comment: _____

JUNIOR PRIMARY STUDIES

Active learning -

Prior learning, Problem solving, Process skills 2

L

Miss Mxoli is teaching her Std 1 pupils about water. She wants her pupils to begin to think about water conservation. She starts the first lesson by asking the pupils to tell her what they know about water by asking them 'What do you use water for?', 'Who/what else needs water?' and 'Where do you think water comes from?' Miss Mxoli tells the children to work in pairs and write down the following:

1. All the places that they can think of where water can be found on the school property.
2. Where they think the water in each place comes from.
3. Where they think the water at each place goes to.

Her pupils discuss and note their observations and ideas in pairs.

Questions (used as a graded prompting system)

- 1 Describe the approach of this teacher in your own words.
2. What is your opinion about what the teacher is doing?
3. Do you think this teacher is doing a good job? (yes/no)
4. Why? (If answer is no) What should the teacher have done?

Teacher's opinion of practice described:

Good	Bad	Unsure

OBSERVATION SCHEDULE

Closure after prompt		Confidence		Disturbance		Reread	
1		1	Very confident	1	Very high	1	
2		2	Confident	2	High	2	
3		3	Slightly hesitant	3	Low	3	
4		4	Hesitant	4	Very low	4	
5		5	Very hesitant	5	None	5	

Comment: _____

JUNIOR PRIMARY STUDIES
An integrated approach 1

M

Mr Moledi follows his SSA (Grade1) timetable exactly every day. Each lesson is 30 minutes long. The timetable for Monday is:

- 1st period Religious Education
- 2nd period Maths
- 3rd period Reading
- BREAK
- 4th period Health
- 5th period Handwriting
- 6th period Music
- BREAK
- 7th period Physical Education

Questions (used as a graded prompting system)

- 1 Describe the approach of this teacher in your own words.
2. What is your opinion about what the teacher is doing?
3. Do you think this teacher is doing a good job? (yes/no)
4. Why? (If answer is no) What should the teacher have done?

Teacher's opinion of practice described:

Good	Bad	Unsure
------	-----	--------

OBSERVATION SCHEDULE

Closure after prompt	Confidence	Disturbance	Reread
1	1 Very confident	1 Very high	1
2	2 Confident	2 High	2
3	3 Slightly hesitant	3 Low	3
4	4 Hesitant	4 Very low	4
5	5 Very hesitant	5 None	5

Comment: _____

JUNIOR PRIMARY STUDIES

Process skills, enquiry-based questions, learner-centred responses, collaborative talk 2

N

Mrs Kuzwayo is teaching her Std 1 class about plants. In this lesson she is dealing with roots. She has introduced the pupils to the topic and has told them about the two types of roots, fibrous and tap roots. She divides her class into groups of 5 pupils and tells each group to collect one weed with its roots from outside. Each group has to look at their weed carefully and discuss which type of root they think their weed has. She asks each group what they have decided. The following is an extract from the discussion with one group:

Zonke:	Some of our group think our weed has tap roots.
Mrs Kuzwayo:	Why do some of you think that, Ann?
Ann:	Because there is one big white root in the middle.
Mrs Kuzwayo:	Why did the others say it had fibrous roots?
Nzukie:	Because it has many roots.
Mrs Kuzwayo:	Patience - how do you know whether a plant has a tap root?
Patience:	It has a main root with smaller roots coming from the main root.
Mrs Kuzwayo:	What do you think now Nzukie?
Nzukie:	I think it is a tap root.

Questions (used as a graded prompting system)

- 1 Describe the approach of this teacher in your own words.
2. What is your opinion about what the teacher is doing?
3. Do you think this teacher is doing a good job? (yes/no)
4. Why? (If answer is no) What should the teacher have done?

Teacher's opinion of practice described:

Good	Bad	Unsure

OBSERVATION SCHEDULE

Closure after prompt		Confidence		Disturbance		Reread	
1		1	Very confident	1	Very high	1	
2		2	Confident	2	High	2	
3		3	Slightly hesitant	3	Low	3	
4		4	Hesitant	4	Very low	4	
5		5	Very hesitant	5	None	5	

Comment: _____

APPENDIX F

PRESENTATION SHEETS USED WITH TEACHERS IN THE INTERVIEWS

A

Mrs Ncube is teaching her SSB (Grade 2) class reading. She tells the whole class to read the sentences she has written on the blackboard. She uses a stick to point at each word as the children read. When the class gets 'stuck' on a word or hesitates, she tells the class what the word is and gets the class to repeat the word after her a number of times before continuing with reading the rest of the sentence.

B

Mrs Green has asked one of her Std 1 pupils, Winston, to come and read to her. Winston is reading from an illustrated story book. The sentence on page 4 of the book is '*Isaac did not see the monkey hiding behind the bush.*' When Winston gets to the word '*monkey*', he hesitates. He tries to sound out the letters but he still can't work out what the word is. On the opposite page of the book there is an illustration of the monkey hiding behind some bushes with Isaac walking past. Mrs Green says, 'Winston skip the word. Carry on reading the rest of the sentence.' When Winston has read the rest of the sentence, she says, 'Now look at the picture and try to guess what the word is.'

C

In one of his reading lessons a SSA (Grade 1) teacher, Mr Phoko, lets all the pupils in his class choose a book from the book corner. The whole class spends the lesson enjoying the books they have chosen. When they have finished with the book they have chosen, the children can select another book from the book corner. The pupils are allowed to discuss their books with each other. While the children are looking at their books, Mr Phoko works with individual children on their reading

D

A SSA (Grade 1) teacher, Mrs Modise, is reading a story from a story book which has interesting illustrations to her class. After Mrs Modise has read each page, she shows the children the illustrations in the book. She reads the text to the children who listen quietly until the end of the story.

When she has finished reading the story, Mrs Modise asks her pupils the following questions to see if they can remember the facts: (The order in which she asks the questions follow the sequence of the story)

Mrs Modise: Siphon - where was the boy in the story walking to?

Siphon: The boy was walking to his grandmother.

Mrs Modise: Yes - the boy was walking to his grandmother. What was he taking to his grandmother - Elizabeth?

Elizabeth: A packet.

Mrs Modise: What was he taking, Elias?

Elias: A parcel.

Mrs Modise: A parcel - but what was inside the parcel?

Elias: A new dress.

Mrs Modise: Class what was inside the parcel?

Whole class: A new dress.

E

Mr Ntuli's Std 1 class is having a reading lesson. He asks one of his pupils, Albertina, to read to him. Albertina uses her finger to point to each syllable of each word as she reads. Mr Ntuli says, "Read more quickly, Albertina. Try to read the whole sentence without pointing at each word."

F

A Std 1 pupil, Thandi, is reading an illustrated story book aloud to her teacher, Mrs Nkosi. She is reading the sentence '*The boy shouted at the elephant*'. Thandi stops reading when she gets to the word 'elephant'. She tries to sound out the letters but is unable to work out what the word is. Mrs Nkosi tells her to repeat the sounds after her but Thandi still can't work out what the word is. Mrs Nkosi tells Thandi that the word is '*elephant*.' Thandi carries on reading.

G

Mr Africa is reading a story written in Zulu called 'The Lonely Giant' to his SSB (Grade 2) class. He shows the children the picture on the cover of the book and asks them what they think the story is about. He checks that the pupils understand what the word 'giant' means. Whilst he is reading the book, he encourages his pupils to ask questions and to talk about what they think about the story. After he has finished reading the story, Mr Africa gives groups of pupils photocopies of the illustrations from the book (muddled up) and a set of the text (muddled up) and asks each group to sort the illustrations into the right order and match each piece of text to the picture.

H

Mr Green teaches a Std 1 class. He uses the prescribed reader for all his reading lessons. In each lesson he teaches the vocabulary and sentences in the reader. He does this for the whole year.

I

Mrs Appolis is teaching her first lesson on sheep to her Std 2 pupils. Her pupils sit quietly while she tells them:

"Sheep are important animals because they provide people with food and clothing. The hair of a sheep is called wool. Merino sheep are a type of sheep. They are called fine-woolled sheep. Another type of sheep are Karakul sheep. These are coarse-woolled sheep."

J

When Mrs Appolis is finished she asks her std 2 pupils the following questions:

Mrs Appolis: Why are sheep important to people, Simon?

Simon: Because they give people food and clothes.

Mrs Appolis: Because they give people food and clothes. Class, why are sheep important to people?

Whole class: Because they give people food and clothes.

Mrs Appolis: Agnes, what is the hair of a sheep called?

Agnes: The hair of a sheep is called wool.

Mrs Appolis: Good. Who can name two types of sheep?

Sizwe: Fine-woolled

Mrs Appolis: (ignores this answer). Mzobz, what are the two types of sheep?

Mzobz: Merino.

Mrs Appolis: Merino and karakul. Class, what are the two types of sheep?

Whole class: Merino and karakul.

K

Mrs Ramotsho has organised her Environmental Education program for her SSB class (Grade 2). She has decided to cover the theme 'plants' in the first term. The following is her lesson plan for the first week:

- Day 1. Taking the pupils out into the schoolgrounds and around the neighbourhood to observe and discuss what is growing in the area.
- Day 2. Letting pupils take weeds from the school grounds. Observing the weeds and listing the different parts of the weeds. Talking about their observations and ideas.
- Day 3. Art based on what they have observed of the weeds/other plants. Singing a song about plants/crops.
- Day 4. Telling the story of 'Jack and the Beanstalk'
- Day 5: Drama/play based on what pupils have observed/learnt about plants.

L

Miss Mxoli is teaching her Std 1 pupils about water. She wants her pupils to begin to think about water conservation. She starts the first lesson by asking the pupils to tell her what they know about water by asking them 'What do you use water for?', 'Who/what else needs water?' and 'Where do you think water comes from?' Miss Mxoli tells the children to work in pairs and write down the following:

1. All the places that they can think of where water can be found on the school property.
2. Where they think the water in each place comes from.
3. Where they think the water at each place goes to.

Her pupils discuss and note their observations and ideas in pairs.

M

Mr Moledi follows his SSA (Grade 1) timetable exactly every day. Each lesson is 30 minutes long. The timetable for Monday is:

1st period Religious Education

2nd period Maths

3rd period Reading

BREAK

4th period Health

5th period Handwriting

6th period Music

BREAK

7th period Physical Education

N

Mrs Kuzwayo is teaching her Std 1 class about plants. In this lesson she is dealing with roots. She has introduced the pupils to the topic and has told them about the two types of roots, fibrous and tap roots. She divides her class into groups of 5 pupils and tells each group to collect one weed with its roots from outside. Each group has to look at their weed carefully and discuss which type of root they think their weed has. She asks each group what they have decided. The following is an extract from the discussion with one group:

Zonke: Some of our group think our weed has tap roots.

Mrs Kuzwayo: Why do some of you think that, Ann?

Ann: Because there is one big white root in the middle.

Mrs Kuzwayo: Why did the others say it had fibrous roots?

Nzukie: Because it has many roots.

Mrs Kuzwayo: Patience - how do you know whether a plant has a tap root?

Patience: It has a main root with smaller roots coming from the main root.

Mrs Kuzwayo: What do you think now Nzukie?

Nzukie: I think it is a tap root.

APPENDIX G

SUMMARY OF INFORMATION ON SAMPLE TEACHERS

**SAMPLE TEACHERS
VISTA 1996
SUMMARY OF INFORMATION**

NAME	MOTHER TONGUE	DATE OF BIRTH	SCHOOL	CLASS TAUGHT	NO OF PUPILS IN CLASS	POSITION HELD	YRS OF EXP	MATRIC?	OLD DEPTS TAUGHT UNDER	HOME ELECT-RICITY?	DIST FROM VISTA NCE	DIST FROM TEACHING CENTRE	ATTENDANCE AT WORKSHOPS	WORKSHOPS NOT ATTENDED	QUALIF-ICATIONS	PREVIOUS INSET
Teacher F	Setswana	56/05/24	Gamelodi	Grade 1	39	Teacher	17 yrs	Y	Ex DET	Y	10 kms	1 km	All	None	M+2	None
Teacher O	N. Sotho	61/02/15	Toni Scott	Grade 1	35	Teacher	12 yrs	Y	Ex DET	Y		13 km	Session 1 & June session	Session 2, 3 & 4	M+1	None
Teacher M	N. Sotho	45/02/09	Matseke	Grade 1	27	Teacher	20 yrs	Y	Ex DET	Y	10 km	1 km	All	None	M+2	Molteno & Read
Teacher K	Setswana	58/09/22	Isaac Mokoena	Std 1	58	Teacher	14 yrs	Y	Ex Bop	Y	27 km	27 km	All	None	M+2	Molteno
Teacher L	Sepedi	52/10/11	Bathokwa	Grade 1	36	Teacher	16 yrs	Y	Ex DET	Y	30 km	1 km	All but one	Mthimkhulu Nana's magazine lessons	M+1	Teaching media
Teacher G	Setswana	51/08/25	Isaac Mokoena	Grade 2	40	Teacher	19 yrs	Y	Ex Bop	Y	40 km	40 km		Four	M+3	Molteno
Teacher E	Zulu	56/02/22	Bud Mbelie	Grade 1	38	Teacher	18 yrs	Y	Ex DET	Y	10 km	2 km	All	None	M+1	School Readiness
Teacher B	Zulu	46/03/12	Bud Mbelie	Grade 2	38	HOD	14 yrs	Y	Ex DET	Y	10 km	1 km	All	None	M+1	None
Teacher D	Xhosa	35/10/10	Bud Mbelie	Grade 1 (bridge)	38	Teacher	25 yrs	Y	Ex DET	Y			All	None	M+1	None
Teacher C	N. Sotho	55/09/19	Gamelodi	Grade 2	44	Teacher	15 yrs	Y	Ex DET	Y	10 km	1 km	All	The last one	M+2	Read, Molteno, Day by Day
Teacher A	Setswana	60/01/07	Isaac Mokoena	Std 1	64	Teacher	14 yrs	Y	Ex Bop	Y	27 km	27 km	First attended addressed by Nana. All video.		M+1	Molteno

**SAMPLE TEACHERS
NCE 1996
SUMMARY OF INFORMATION**

NAME	MOTHER TONGUE	DATE OF BIRTH	SCHOOL	CLASS TAUGHT	NO OF PUPILS IN CLASS	POSITION HELD	YRS OF EXP	MATRIC?	OLD DEPTS TAUGHT UNDER	HOME ELECT-RICITY?	DIST FROM VISTA NCE	DIST FROM TEACHING CENTRE	ATTENDANCE AT WORKSHOPS	WORKSHOPS NOT ATTENDED	QUALIF-ICATIONS	PREVIOUS INSET
Teacher J	English	57/12/12	Collingwood	Grade 2	40	Teacher	17 yrs	Y	Ex House of Reps	Y	90 km	10 km	All	None	M+2	None
Teacher Q	English	53/10/24	Collingwood	Grade 1	40	Snr Teacher	>16 yrs	Y	Ex House of Reps	Y	90 km	10 km	All	None	M+2	None
Teacher H	Zulu	50/08/01	Nogqaza	Grade 2	41	Teacher	19 yrs	Y	Ex DET	Y	30 km	30 km	All	None	M+1	None
Teacher N	Zulu	55/07/10	Philani	Grade 2	39	Teacher	12 yrs	Y	Ex DET	Y		5 km	All	None	M+1	None
Teacher R	Zulu	49/15/10	Halalisani	Std 1 & 2	35	Teacher	13 yrs	Y	Ex DET	Y	80 km	10 km	All	None	M+1	None
Teacher P	Zulu	50/02/05	Nogqaza	Std 2	47	Teacher	22 yrs	Y	Ex DET	Y	30 km	30 km	All	None	M+1	None
Teacher I	English	59/09/02	Collingwood	Grade 2	41	Teacher	16 yrs	y	House of Reps		90 km	10 km	Orientation	6-7 Oct; 18-19 Oct	M+1	None

APPENDIX H

SUMMARY OF VIDEO RECORDINGS OF TEACHERS' LESSONS

SUMMARY OF VIDEO RECORDINGS OF TEACHERS' LESSONS

TEACHER	SCHOOL	STD/GR	CLASS SIZE	LOCATION	DATE	LESSON	LENGTH	LANG OF INSTR.
Teacher M	Matseke	Gr 1	27	Urban	15/2/96	JP St	30 mins	N. Sotho
					15/2/96	L & L	15 mins	N. Sotho
Teacher L	Bathokwa	Gr 1	36	Urban	15/2/96	JP St	20 mins	N. Sotho & Setswana (mix)
					15/2/96	L & L	18 mins	N. Sotho & Setswana (mix)
		Gr 1	35		8/11/95	L & L	15 mins	Setswana
Teacher K	Isaac Makoena	Std 1	58	Peri-Urban	13/2/96	JP St	15 mins	Setswana
					13/2/96	L & L	20 mins	English
Teacher G	Isaac Makoena	Gr2	40	Peri-urban	13/2/96	JP St	15 mins	Setswana
					13/2/96	L & L	22 mins	Setswana
Teacher F	Gamelodi	Gr 1	39	Urban	16/2/96	JP St	35 mins	Setswana
					16/2/96	L & L	15 mins	Setswana
Teacher A	Isaac Makoena	Std 1	64	Peri-urban	13/2/96	JP St & L & L	28 mins	English
Teacher E	Bud Mbelle	Gr 1	38	Urban	14/2/96	JP St & L & L	60 mins	English & Zulu
		Gr 1	38		7/11/95	L & L	15 mins	Zulu
Teacher C	Gamelodi	Gr 2	44	Urban	12/2/96	JP St	36 mins	N. Sotho & Setswana (mix)
					12/2/96	L & L	30 mins	N. Sotho & Setswana (mix)
		Gr 2	36		9/11/95	L & L	15 mins	English
Teacher D	Bud Mbelle	Gr 1 (Bridge)	38	Urban	14/2/96	JP St & L & L	15 mins	Zulu & English
		Gr O (Pre-sch.)	36		7/11/95	L & L	15 mins	Zulu
Teacher O	Toni Scott	Gr 1	35	Rural	2/5/96	L & L	15 mins	Setswana
					2/5/96	JP St	15 mins	Setswana
Teacher B	Bud Mbelle	Gr 2	38	Urban	14/2/96	JP St & L & L	16 mins	Zulu
		Gr 1	38		7/11/95	L & L	20 mins	Zulu
Teacher Q	Collingwood	Gr 1	40	Urban	20/3/96	JP St	16 mins	English
					20/3/96	L & L	15 mins	English
					29/8/95	L & L	15 mins	English
Teacher I	Collingwood	Gr 2	41	Urban	20/3/96	JP St	15 mins	English
					20/3/96	L & L	15 mins	English
Teacher P	Nogqaza	Std 2	47	Peri Urban	14/3/96	JP St	24 mins	English
					14/3/96	L & L	15 mins	English
		Std 2	48		28/8/95	L & L	15 mins	English
Teacher N	Philani	Gr 2	39	Urban	19/3/96	JP St	18 mins	Zulu
					19/3/96	L & L	22 mins	Zulu
Teacher H	Nogqaza	Gr 2	41	Peri-urban	14/3/96	JP St	15 mins	Zulu & English
					14/3/96	L & L	15 mins	Zulu
Teacher R	Halalisani	Std 1 & 2 comb	35	Rural	15/3/96	JP St	30 mins	Zulu
					15/3/96	L & L	28 mins	Zulu & English
Teacher J	Collingwood	Gr 2	40	Urban	3/5/96	JP St	17 mins	English
					3/5/96	L & L	39 mins	English

APPENDIX I

INSTRUCTIONS FOR THE TWO INDEPENDENT EXPERTS

INSTRUCTIONS USED WITH FIRST EXPERT PRACTITIONER

Introduction

Teachers who go through certain INSET courses are expected to become knowledgeable about practice and to learn specific practices, in other words they are expected to both understand and know what they must do. The assumption of such INSET courses is that teachers who have adequate understanding and practice will exhibit 'prudent' judgement through appropriate practices in specific contexts. Because the appropriacy of these practices are context-dependent, the quality of changes in teachers' understandings and practice is intangible and extremely difficult to measure through the use of explicit criteria. For example, some teachers may use the right practices but at the wrong time or at the wrong level or they may use practices in ways which are not appropriate to the task in hand. However, the demonstrable effect of adequate changes in teachers' understandings and practice on the appropriacy of teachers' classroom behaviour should be evident to an 'expert' practitioner, such as yourself, who should be able to assess the quality of teachers' practices through their appropriacy within a particular context.

Extracts of four videos of four teachers teaching two lessons each have been provided for you to watch. As the language of instruction in most of the lessons is not English, a multi-lingual translator is available to assist you with translation.

All four teachers on the videos are teaching Grade 2 pupils. Each teacher teaches one reading lesson using PREP Story Charts and a second lesson which uses topic teaching for Environmental Education/ Environmental Studies.

Please view the both lessons on each of the videos provided and

- a) whilst you are watching them assess the appropriacy of the actions of the teachers to the task and level of each of the lessons using the ratings on the continuum for the items on the following schedule.
- b) after you have watched all four reading lessons and all four 'topic' lessons rank the four teachers according to your overall impression of the appropriacy of their teaching on the top-right corner of the schedule.

INSTRUCTIONS USED WITH SECOND EXPERT PRACTITIONER

Introduction

Teachers who go through certain INSET courses are expected to become knowledgeable about practice and to learn specific practices, in other words they are expected to both understand and know what they must do. The assumption of such INSET courses is that teachers who have adequate understanding and practice will exhibit 'prudent' judgement through appropriate practices in specific contexts. Because the appropriacy of these practices are context-dependent, the quality of changes in teachers' understandings and practice is intangible and extremely difficult to measure through the use of explicit criteria. For example, some teachers may use the right practices but at the wrong time or at the wrong level or they may use practices in ways which are not appropriate to the task in hand. However, the demonstrable effect of adequate changes in teachers' understandings and practice on the appropriacy of teachers' classroom behaviour should be evident to an 'expert' practitioner, such as yourself, who should be able to assess the quality of teachers' practices through their appropriacy within a particular context.

Extracts of six videos of six teachers teaching two lessons each have been provided for you to watch. As the language of instruction in most of the lessons is not English, a multi-lingual translator is available to assist you with translation.

Teachers are not all teaching the same standards/grades. Each teacher teaches one reading lesson and a second lesson which relates to the teaching of Environmental Education/Studies.

Please view the lessons on each of the videos provided and

- a) whilst you are watching them assess the appropriacy of the actions of the teachers to the task and level of each of the lessons using the ratings on the continuum for the items on the following schedule.
- b) after you have watched all six reading lessons and all six EE lessons rank the four teachers according to your overall impression of the appropriacy of their teaching on the top-right corner of the schedule.

APPENDIX J

**SCHEDULE USED BY THE INDEPENDENT EXPERTS TO ASSESS THE
APPROPRIATENESS OF TEACHERS' PRACTICE**

PLEASE COMPLETE ONE SCHEDULE FOR EACH LESSON

TEACHER'S NAME:

GRADE/STD

LESSON: READING/TOPIC TEACHING (delete whichever n/a)

1 = completely inappropriate

2 = generally inappropriate

3 = barely appropriate

4 = appropriate

5 = extremely appropriate

• Classroom organisation/management

1	2	3	4	5

• Use of materials/resources/teaching aids

1	2	3	4	5

• Pupil participation/involvement

1	2	3	4	5

• Teacher attitude

1	2	3	4	5

• Use and type of questioning

1	2	3	4	5

• Teacher responses and feedback to pupils

1	2	3	4	5

• Explanation of new content/skills/concepts/terms

1	2	3	4	5

TOTAL:.....