ADAPTIVE TEACHING PRACTICE: TEACHER RESPONSE TO UPPER PRIMARY STUDENTS (YEARS 5-6) WHO EXPERIENCE DIFFICULTY WITH READING

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Declaration

I declare that this thesis is my own account of my research and, except where indicated otherwise, contains work that has not been previously submitted for a degree at any tertiary institution.

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Abstract

Adaptive teaching is the modification of instructional processes or procedures in response to individual student need. The aim of the research was to investigate the adaptations made by teachers in response to the perceived needs of students in Years 5 and 6 who experienced difficulty with reading. The study was undertaken in six Victorian classrooms. Data were collected on a range of factors that might influence adaptive teaching. Contextual factors included teacher education, experience, teacher beliefs and level of administrative support. Student factors included the degree and type of reading difficulty experienced by students in the classroom. Data were collected on teacher knowledge of students and teaching practices and styles. A range of adaptive teaching practices was observed and teachers were rated on a continuum from least to most adaptive. The study demonstrates that there are specific characteristics that identify an adaptive teacher. The more adaptive teachers had socio-cognitive teaching styles. They directly interacted with students, monitoring progress and scaffolding their learning. The more adaptive teachers in the study had belief systems that could be described as interventionist. They believed that their teaching could make a difference to student learning. The more adaptive teachers developed knowledge in a way described as procedural or constructed. They based their knowledge on observation of student activity, analysis of student behaviour, intervention and reflection on the teaching and learning process. The adaptive teacher draws from a broad teaching repertoire in order to respond to specific needs of students. It is suggested that pre-service and in-service training need to address not only the issue of providing teachers with a broad knowledge base in the area of reading but also need to address teaching style, teacher belief and teachers' ways of knowing.

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This work is dedicated to the memory of Patricia Scott.

TABLE OF CONTENTS

CHAPTER 3 – THEORETICAL FRAMEWORKS AND EMERGENT PREDICTIONS

CHAPTER 4 - RESEARCH METHODOLOGY

CHAPTER 5 – RESULTS: CONTEXTUAL FACTORS

CHAPTER 6 – RESULTS: STUDENT ABILITY AND TEACHER KNOWLEDGE

CHAPTER 7 – RESULTS: ADAPTIVE TEACHING PRACTICES

LIST OF FIGURES

LIST OF TABLES

CHAPTER 1
ADAPTIVE INSTRUCTION - THE FOCUS OF THE STUDY

1.1 The problem statement

A dilemma faced by many teachers is how best to cater for the variety of skills and competencies that exist in mixed ability classrooms. Creating a match between student ability and the learning demands made by particular teaching practices is a complex process. In an ideal learning environment, all students would only be presented with tasks that they were ready to master. This means that students would have had sufficient practice at a lower level of operation in a particular skill level and would demonstrate proficiency at this level before being required to move to the next level of skill difficulty. It is difficult to consistently achieve this ideal in a classroom situation, particularly when considering the range of student ability that will present in a classroom and the specific needs of students who exhibit learning difficulties. Creating a match between student ability and task complexity involves both recognition and response to individual needs and abilities.

> *Quality and equity in education does not mean offering the same program to all, but offering a program which reaches out to every person to maximize intellectual growth and social growth.* (Glaser, 1977: Preface)

It has been argued that successful educational outcomes, particularly for those students who experience difficulty with learning, depend on adapting teaching to individual differences (Glaser 1977; Fuchs & Fuchs 1992; Joyce & Showers 1992; Wang 1992; McIntosh et al. 1993; Stradling 1993; Jenkins et al. 1994; Schumm & Vaughn 1995; Houtveen et al. 1999).

Houtveen at al. (1999) note that offering education adapted to the development of individual students is one of the most persistent under achievements in the behaviour of teachers. These researchers observe that the problem has existed ever since students were accommodated in classes where some students understand and process subject material faster than others. Dalton (1986:6), in a Victorian Government publication widely distributed in schools titled "*Individual Differences*", noted: "Real access and success require that we recognise and understand differences so that we

can provide for the needs of individuals." Dealing with diversity and responding to individual difference is an issue for teachers in schools today.

Responding to individual needs means adapting teaching in response to student need or student skill level. A body of research on adaptive teaching practice or adaptive teaching is developing (Ysseldyke et al. 1990; Schumm and Vaughn 1991; Fuchs et al. 1992; McIntosh et al. 1993; Schumm et al. 1994). The current research grew from the recognition that whilst the ministerial document "*Individual Differences*" had been widely disseminated and referred to for almost a decade, and research studies were taking place in the United States and the United Kingdom, there was little knowledge of how teachers in Victorian schools tackled the problem of responding to the specific needs of individual students.

Response to the perceived needs of students can be conceptualised as any modification or adaptation of teaching practice that accounts for differences in students' existing knowledge and abilities. The notion of adaptation in relation to teaching practice is relatively new and therefore a number of definitions and different terms are used in the literature to describe similar phenomena.

1.2 Definitions of adaptation

A number of authors and researchers have attempted to define the term adaptation. Lutjens (1991) suggests that adaptive behaviour is the capacity to adjust effectively to changes in the environment, and in turn, affect the environment. Hinrichs (1992), in writing about problem solving and design, notes that the theory of adaptation is derived from two main premises - that the real world is open and information is rarely complete and that design is typically a means of solving problems. He states that the process of adaptation is a heuristic search in which transformations are chosen both on their computational cost and plausibility. These definitions or descriptions do not refer to adaptation in relation to educational practice, however they provide a basis for viewing such phenomena. Lutjens' (1991) definition implies that adaptive teaching would be any practice in response to the behaviour of students, which has a direct impact on those students. Hinrichs (1992) reminds us however that there are usually multiple ways to respond to the problems with which we are faced. Teachers may trial different ways to respond to students but they are also

likely to weigh up the costs of different teaching practices in terms of the time and effort they require and the perceived rewards or gains which any alteration in practice might yield.

Babad (1993) notes that whilst equality is the ideal, unequal treatment should be provided for different groups of students. This unequal or differential treatment can, he cautions, be interpreted as preferential treatment because teachers are motivated to compensate disadvantage and may invest extra effort in trying to educate students experiencing difficulty. Babad (1993) notes however that because expectations of this particular group of students are lower, teachers often keep this additional instruction on a low level.

Four Americans have written extensively on the topic of adaptive instruction (Glaser 1977; Corno & Snow 1986; Wang 1992). Glaser (1977) wrote the first comprehensive text on what he described as "adaptive instruction". It was his contention that quality and equality in education did not result from offering the same education to all students but through the presentation of programs which have the ability to reach out to every student in order to maximize both their intellectual and social growth. In his opinion...

> *...an educational environment which is not capable of adjusting to these differences inhibits the development of individual potential, becoming elitist and selective, is heavily biased toward the mainstream culture and perpetuates inequality.* (Glaser, 1977:2)

As early as the 1970s Glaser was advocating schools that were not preoccupied with correcting the deficiencies of students but with structuring the learning situation to accommodate children learning at different rates and in different ways. In these schools different rates of learning would be acknowledged and different ways of succeeding would be valued. Glaser advocated a learner-centred education where human and material resources are flexibly employed, curricula are designed to provide multiple options for learning, testing is used to provide information for decision making and the rate and pace of learning is not fixed. In such settings individual differences would be acknowledged and accommodated. The focus of adaptive instruction as described by Glaser was the accommodation of individual

students who learn in different ways and the promotion of flexibility in both teaching and assessment practices.

Corno and Snow (1986:605) agree with this focus. They write, "The success of education depends on adapting teaching to individual differences among learners." They note that adaptation of teaching is an attempt to meet the challenge of diversity, with learners adapting to the environment and teacher adaptation of the environment. According to Corno and Snow (1986), if learners are just "recycled" through the same teaching program without taking into account individual differences until a teaching goal is met, then the teaching system must be regarded as non-adaptive.

Ability grouping, in these authors' view, is maladaptive as it leads to the widening of gaps between students. They warn that there is stigmatisation of students in lower groups who may suffer low self-esteem and teacher expectation can be reflected in the performance of the group. Teacher adaptation, they propose, is better considered at the level of the individual where classroom organisation can be responsive to individuals through procedures such as flexible grouping, the establishment of learning centres, the reward structures offered, and the provision of varied materials with students prompted and reinforced in different ways.

> *Truly adaptive teaching provides alternative instruction routes to the common goals and not only a single remedial loop, but alternative teaching options for the remediation of inaptitude. It also allows for individual learner goals.* (Corno & Snow, 1986:607)

Wang (1992:2) writes that a basic premise of adaptive education is that "success in learning is maximised when students are provided with experiences which build on their initial competence and are responsive to their learning needs." She notes that in order to design and implement adaptive education programs, teachers require knowledge of the theories of individual differences in learning. Besides theory, she acknowledges that teachers need practical knowledge in order to implement successful teaching programs for all. According to Wang (1992) there are nine program dimensions of adaptive education - (i) creating and maintaining instructional materials, (ii) developing student responsibility, (iii) diagnosing student learning needs, (iv) instructing, (v) interactive teaching, (vi) monitoring student

progress, (vii) motivating students, (viii) prescribing, and (ix) record keeping. An integrated diagnostic-prescriptive process is advocated as central to adaptive teaching. The idea is that student needs must be clearly identified, programs set up in response to specific student need and records kept of student response to interventions with subsequent program monitoring, evaluation and upgrading where necessary.

Wang's (1992) description of adaptive teaching is similar to the description Wilson (1988:18) makes when he refers to quality teaching, noting that this involves "planning, delivering and evaluating the optimum curriculum for the individual pupil in the context of a range of learners." The challenge presented to teachers as they prepare lessons for their classes is just how to respond to a heterogeneous group of students.

Teachers have been encouraged to move from thinking of whole classes of students - what and how to teach a particular class, to thinking of teaching individuals within those classes - what and how to teach and ways to respond to the needs of individual students. The premise is that some students have needs that are different from their peers and these needs cannot be met when these students are simply taught as part of a whole class. Galton et al. (1999:34) refer to the science of the art of teaching: "Starting from what children have in common to establish general principles of teaching and in the light of these principles to determine what moderations of practice are needed to meet specific needs."

Adaptation is not the only term used to describe modifications made to teaching in response to student need. Whilst Glaser (1977) and Corno and Snow (1986) refer to *adaptive* instruction or teaching, Schon (1987) refers to *adjustments* made in response to variations in phenomena, Joyce et al. (1992) refer to *tailoring* - noting; "the closer a teaching strategy is tailored to a learner's conceptual level, the more learning will take place." Weston (1992), Hart (1992) and Beimiller (1993) refer to *differentiation*, the term most commonly used in the British literature in reference to adaptations or modifications made to teaching practice in response to different students needs.

Hart (1992:10) describes differentiation as an attempt to "achieve a better match between the demands of the task and children's existing knowledge and existing skills." She cautions however that teachers are experiencing a sense of overload and asking them to differentiate their teaching in this climate may have be too daunting and unrealistic an expectation. In a climate of change where teachers feel pressured, it is Hart's fear that they may revert to separate grouping of children which she, like Corno and Snow (1986), believes will only reinforce difficulties. Ability grouping, an adaptive teaching practice, has received much attention from some researchers.

Slavin (1993) affirms that any kind of ability grouping carries the possibility of stigma and low expectation of low achievers. He is also concerned that poor examples are set for low achievers when working in groups where there are few good models. It is his contention that ability grouping may have long-term consequences. For Slavin (1993), the practice is in opposition to "egalitarian and democratic norms." Stradling and Saunders (1993) record their belief that the full implications of streaming for some are not obvious yet.

Adaptive instruction does not mean simply streaming or grouping students according to ability. Wang (1992) reminds us that adaptive instruction is not in opposition to the group instruction format altogether, as the provision of a variety of learning settings is important. Flexibility of the instructional system, she notes, is vital.

Adaptation, adjustments, tailoring and differentiation may all describe a similar phenomenon - the modification of teaching practice in response to specific student need. Adaptation of teaching practice is the term that will be predominantly used in the current research rather than the term adaptive instruction as the latter implies that only behaviour that involves the teacher directly working with students is adaptive. Other terms such as modification and differentiation will also be used throughout this thesis. An adaptive practice might involve the teacher instigating interventions such as the use of technology, provision of additional instruction or supervised peer tutoring. A broad view of adaptation will be utilised in this research.

It is acknowledged that the concept of adaptation of teaching practice is not easy to define. It is in fact an unclear construct. It is hoped that the current study will result

in the development of a clearer definition of what constitutes adaptive teaching practice.

1.3 Context of the study

As the topic of adaptive teaching is broad, it will be necessary to narrow the scope of the investigation. Initial key questions are - adaptation of what, by whom and for whom?

In order to study adaptive teaching practices it will be necessary to investigate adaptive teaching practices in a particular area of study. Adaptations made by teachers of upper primary classes (Grades 4-6) will be investigated with specific reference to educational adaptations made for students who experience difficulty with reading.

This research originated from the researcher's extensive experience of teaching and managing schools. It reflects her special interest in assisting students who experience learning difficulties, particularly those students in upper primary years who are described by their teachers and families as unable to read. She has worked with teachers, assisting them to develop diagnostic skills, strategies for responding to student difficulties and techniques for monitoring the effectiveness of interventions.

Reading is a skill that is highly valued in our society. It is seen as a core skill and a means by which information and knowledge can be acquired. Bryant and Bradley (1985:2) note "It is hard to think of anything else which could have so broad an effect on children's development than reading." Pumfry and Reason (1991:3) refer to literacy as an "amplifier of human abilities." According to these authors, literacy is an application of the symbolic thinking that is characteristic of the species. It facilitates communication and the control we have over our environment. Most importantly, the cumulative effect of an inability to read can result in a lack of opportunity to develop other competencies and can restrict access to information (Stanovich 1986).

The expectation of young children entering the school system is that they will learn to read. Such expectations however are not always met. As a result, successive

governments have implemented programs to improve literacy levels in our society. Two kinds of national efforts to improve literacy standards operated in Australia throughout the 1980s. The BLIPS Program - Basic Learning in Primary Schools was undertaken between 1985 and 1987 at a cost of $22.59 million. The second program, ELIC - Early Literacy In-service Course used 30% of the funds available in 1985. This was a structured professional development program for teachers of Preparatory classes to Year 2 and was nationally co-ordinated by the Commonwealth Schools Commission and the Curriculum Development Centre. Upper Primary level literacy initiatives were developed across several systems but were not co-ordinated as a single innovation.

The Commonwealth Government's Australian Language and Literacy Policy (1991) contained a report of a national adult literacy survey that indicated that about 10% of people in Australia do not develop sufficient literacy in English as children to cope with the everyday literacy demands of our society. The Australian Language and Literacy Policy (1991) makes reference to the fact that the goal of education should be for "an active literacy which allows people to use language to enhance their capacity to think, create and question, which helps them participate more effectively in society." As a direct result of this policy the School Language and Literacy Program was implemented. Whilst retaining the focus on the needs of disadvantaged secondary students, the new program was expanded to also include a focus on the early years of schooling (Kindergarten to Year 3).

Australia's response to the International Literacy Year was released in 1992. The report concluded that the most economically disadvantaged in Australia were those with the lowest levels of literacy. It was estimated that the cost in lost productivity because of low literacy levels to Australian industry was at least $3.2 billion annually.

In May 1993 the House of Representatives Standing Committee on Employment, Education and Training produced a report titled: "The Literacy Challenge." The committee estimated that between ten to twenty percent of Australian children were finishing primary schooling with literacy problems. The Committee acknowledged that early education needed access to better resources.

In 1996 the Ministerial Council for Education, Employment, Training and Youth Affairs (MCEETYA) Benchmarking Taskforce commissioned the Curriculum Corporation (Victoria) to undertake the work of developing benchmarks in accordance with MCEETYA decisions. The Curriculum Corporation instituted a consultancy process that operated throughout 1997 and 1998. In April 1998 the Australian Federal, State and Territory Education Ministers and MCEETYA officially approved the set of benchmarks for Reading, Writing and Spelling for Years 3 and 5.

Whilst the benchmarking of skills was deemed to be important, it was acknowledged that there also needed to be a focus upon the explicit teaching of these skills. It was recognised that literacy development begins from the first year of formal schooling. The Victorian Department of Education's Keys to Life Program, later known as the Early Years Literacy Program, is based on the work of Hill & Crevola (1999). Resources were made available to all government primary schools at the beginning of 1999 to enable them to implement key components of the program. The central element of the program is the emphasis of a coherent whole school approach to the teaching of literacy. This involves establishing shared beliefs of staff and students in the capacity of all students to achieve high standards given sufficient time and support. The program has set performance standards and associated targets. Each class undertaking the program has a structured two-hour literacy teaching block that is divided into reading and writing components. In these components, there are three sequential segments - a whole class focus, small group learning and a sharing session. The focus is on data driven instruction with assessment of all students at the beginning of the year. Ongoing monitoring is undertaken with an emphasis on analysis of running records of students' reading.

A report by Lorraine Wilson in the newsletter of the Australian Literacy Educators' Association (October, 1998) states that in order to access funds for literacy teaching in 1999, Victorian schools were required to sign a document called the "School Early Literacy Plan". The document entailed commitment to the implementation of Stages One, Two and Three of the Keys to Life Literacy program and Minimum Statewide Standards for Reading. The Keys to Life literacy goals include assessment of all

students against unseen texts from Reading Recovery levels at the end of Years Prep, One and Two. The author of the newsletter report warned readers that teachers may spend more time assessing to prepare measurement data for the Ministry and less time assessing to inform their teaching practice. She questioned how much data a system needs about a child and whether data needs to be kept about all children.

The researcher would question not only the quantity of the data collected, but also the quality and breadth of the data collection. With program emphasis on the Whole Language approach to the teaching of reading, little data were collected on students' decoding skills. If teachers are to match the demands of the task to individual student's abilities and skills, then they require information about all aspects of the task under scrutiny.

Governments recognise the high cost to our society of illiteracy and as a result, they have injected funds and attempted to implement educational programs in order to combat the problem. After testing the Early Years Literacy Research Project (ELYRP) and the Children's Literacy Success Strategy (ClaSS) over four years in longitudinal studies, Hill & Crevola (1999) concluded "substantial, measurable improvements in early literacy can be achieved when schools adopt a whole school design approach." These improvements included an effect size of 0.65 of a standard deviation, which indicates substantial improvement of the cohort in literacy outcomes. Not all students made significant gains in reading skill however. Hill & Crevola (1999) note that even with the best of teaching, many students will need extra time and support if they are to reach minimum standards. Reading Recovery has been used in some schools with the Early Years Literacy Program as a mandatory element to provide an accelerative component for the lowest achieving students in the second year of schooling. Independent researchers have questioned the findings of Reading Recovery's success (Chapman & Tunmer 1991; Iverson & Tunmer 1993; Hempenstall 1997; Torgesen 2000). If learning problems continue, Hill & Crevola (1999) suggest that individual learning plans should be developed for students. The problem remains one of how to respond to students who experience difficulty in learning to read.

The problem of students not reaching literacy standards expected in the community was highlighted in the media at the time the research questions were being formulated. Educational reporters at that time asked if schools were producing students with adequate reading, writing and number skills (Herald Sun 23/8/93). The concern of community members about whether our children were being given full opportunity to learn to read and write was expressed (The Age 19/10/93). It was claimed that every year 6,000 Victorian students finish Year 9 with little advancement in reading, writing and spoken language skills beyond the level achieved in Grade 4 (The Age 17/8/93). Newspaper readers were informed that a Parliamentary Report had claimed that 25% of children leaving primary school had major literacy problems (The Australian 4/2/94).

Despite the programs in use in schools during the mid 1990s, the problem of reading disability continued to exist and some teachers, along with members of the wider community, continued to express their concern. It was apparent that teacher professional development had not led to a reduction in the problem of illiteracy.

It is possible that teachers have been exposed to ideas about how to deal with the problem but professional development programs are not leading to changes in practice. There is also the problem of identifying those students who experience difficulty with literacy as education professionals often use different criteria and different labels are used. The terms learning difficulties, learning disabilities and students at risk are used interchangeably in Australian schools (Louden et al. 2000). For this reason, and for the purpose of clarity, the terms are clearly defined in this research.

1.4 Definition of other terms

Throughout the thesis some general terms such as *learning disability* and *reading difficulty* are used. It is important that these terms are clearly defined.

1.4.1 Learning disability and learning difficulty

For the purposes of this study the Australian National Health and Medical Research Council (1990:2) definitions of learning disability and learning difficulty are accepted and used. An expert advisory panel comprising three medical experts and

two senior educators - all Victorians and recognised experts in their field, prepared the following definitions. *Learning difficulties* is a generic term used to describe problems with learning. *Learning disabilities* is considered a subset within the general field of learning difficulties.

It is suggested that 10-16% of children and adolescents experience learning difficulties, exhibiting both developmental and academic problems. This group comprises those who present with intellectual disability, physical and sensory defects or emotional difficulty, and those who have inadequate environmental experiences and/or lack of appropriate educational experiences.

A smaller group of children, approximately 2-4%, are described as *learning disabled.* These children are those who exhibit problems in developmental or academic skills that are significantly below expectation for their age and general ability. Students with learning disabilities have problems that are NOT generally attributable to intellectual disability, physical or sensory defect, emotional difficulties, inadequate learning environment or lack of appropriate educational experiences. Prior (1996:4) writes that students with learning disabilities have specific cognitive impairments such as short-term memory problems, poor auditory discrimination ability and visuo-perceptual problems. It is the processing of visual and auditory information that is impaired, not visual or auditory acuity. Acuity deficits would be regarded as sensory defect.

Rivalland (2000:14) notes that a range of definitions is used to describe learning-disabled students in school systems. Students are often referred to as having learning difficulties, students who are having difficulty with numeracy and literacy or students who are at risk. Australian funding processes compound the difficulty of defining the populations. As Rivalland notes, the identification of a learning disability is not necessary for the funding of programs in Australia. The Commonwealth Department of Education, Training and Youth Affairs uses the term *learning disabilities* to describe:

> *A heterogenous group of students who have significant difficulties in the acquisition of literacy and numeracy who are not covered in the Commonwealth's definition of a student/child with a disability.* (Rivalland 2000:13)

Whilst many students in our schools who experience difficulty with reading may have specific learning disability, it was more appropriate to describe students in the study using the broadest terms as most of these students would not have had the benefit of full assessment to determine specific areas of strength and weakness.

1.4.2 Reading difficulty

A number of terms are used to describe students who experience difficulties with reading, among these are the terms reading disability and dyslexia. Dyslexia is a medically oriented term. Pavlidis and Miles (1981) describe its historical context:

> *In the older medical literature alexia referred to a total lack of reading skills whilst dyslexia tended to refer to a partial lack of reading abilities, both terms were meant to apply to reading difficulties occurring as a direct result of damage to the brain in previously normal individuals who could once read adequately.* (Meudell in Pavlidis and Miles, 1981: 67)

Obviously the term dyslexia is used in a much broader context today. Reid (1981:230) points out that dyslexia is simply a word derived from the Greek that means 'difficulty with reading'. Today we are likely to talk about developmental dyslexia, which Critchley (1981:1) describes as a learning disability that is initially revealed in difficulty in learning to read and is followed by erratic spelling and "lack of facility in manipulating written as opposed to spoken words." Developmental dyslexia, like learning disability, "is not due to intellectual inadequacy or to lack of socio-cultural opportunity, to emotional factors or to any known structural brain defect."

Developmental dyslexia and reading disability are specific terms. Reading difficulty could be described as an umbrella term used to describe any problem that students experience with the reading process. Problems can occur in decoding text, in comprehension of reading material or both functions of reading. Reading difficulties may occur for a variety of reasons - the presence of intellectual disability, emotional

difficulties, physical or sensory problems, lack of educational opportunity or specific cognitive impairment such as poor auditory discrimination and visual-perceptual problems.

There are a variety of terms used in the literature on the recognition and treatment of reading problems. The umbrella term *reading difficulty* will be used for the purposes of this research. Information about the specific cause or nature of the reading problems experienced by students is often not available to teachers in educational settings. Students identified by their teachers as requiring modified instruction will be described as *students who experience difficulty with reading.*

1.5 Rationale for the study

There are students who experience difficulties with learning. They are identified in our school systems as learning disabled, students with learning difficulties or students at risk. As a consequence of these difficulties, some students require support in order to achieve success in learning highly valued skills such as reading. Teachers are encouraged to meet the individual needs of students through flexible and adaptive teaching practices. The aim of this research is to identify those teaching practices in the context of Victorian classrooms.

A review of the literature revealed that surveys have been undertaken in the United States in order to discover teacher's perceptions of the desirability and feasibility of instructional adaptation. (Ysseldyke et al. 1990; Schumm & Vaughn 1991) and teachers' beliefs, skills and practices in making adaptations for mainstreamed learning disabled students (Schumm et al. 1994). Schumm et al. (1994) interviewed and observed a subset of twelve teachers from their study in order to find evidence of instructional adaptation but found little evidence of planned adaptive teaching in any of the grade levels observed.

Teachers' instructional planning sheets were scrutinised by Fuchs et al. (1992). These were studied along with questionnaires in order to determine time devoted to learning disabled students, handling of disruptive behaviour, routine and specialised adaptations. A limitation of these types of studies is that self-reports are the predominant measures used to determine adaptation. McIntosh et al. (1993), after

observing and interviewing students, concluded that students with learning disabilities were treated in much the same way as other students.

The researcher could find no study on adaptive teaching practices undertaken in Australian schools. It would be useful to identify how teachers in a sample of Victorian schools were meeting the challenge of adaptive inclusive education. Review of the previous research led the researcher to conclude that it would be necessary to both observe and interview teachers as, Schumm et al. (1994) point out that many teachers in their study reported that they were skilled in adapting course content but did not do so. A body of research is developing on adaptive instruction but a limitation of the previous research has been that when gaps between beliefs and practice have been identified, reasons have not been sought for the discrepancy. The aim of the current research is not only to identify adaptive teaching practices in use in a sample of Victorian schools, but also to identify the characteristics that might differentiate between teachers who were more adaptive and those who were less adaptive in their classroom practice.

Governments are spending large amounts of money on research and the development of educational programs to combat illiteracy in our community. It may be appropriate for governments to consider the amount and direction of funding expended on the continuing education of teachers. There are teachers in our schools who have been exposed to a single view of the teaching of reading. For the last two decades the emphasis in pre-service education has been on Whole Language approaches to teaching reading (Hempenstall 1996). There are teachers who have had little exposure to approaches that involve emphasis on the explicit teaching of decoding skills. It may be beneficial for governments to consider providing pre-service and in-service education to teachers that provides them with the full range of information available on the teaching of reading, to extend the range of our educators' teaching repertoire, and to encourage flexibility of approach and responsive teaching.

Another area that warrants closer scrutiny is the training of teachers in the diagnosis of literacy problems. If teachers are to be flexible and adaptive in their approaches to reading, matching reading instruction to the particular strengths and needs of individual students, they are going to need knowledge of the skills involved in

reading and the problems that may occur. To be truly adaptive, teachers need to identify and respond to the specific needs of individuals in their care. They need to be analytical in their approach, not simply following a program or dogma, but having knowledge of a variety of perspectives on reading and the skill to apply appropriate instructional methodology in response to student knowledge and experience.

Whilst it might be unrealistic to expect teachers to develop an individual program for each child in their class, teachers are being encouraged to view their students as individuals - each bringing personal experiences, preferences and competencies to the classroom situation. Just how teachers go about responding to individuals, particularly those students experiencing difficulty with reading, warrants closer scrutiny.

This research aims to describe the actions, interactions and instructional procedures teachers employ as they carry out the task of teaching literacy skills to a heterogeneous group of students in a classroom. In identifying the procedures teachers utilise and the conditions under which they intentionally modify their practice or adapt instruction, it will be possible to have a better understanding of the conditions under which teachers in Victorian primary schools tackle the challenge of responding to individual difference.

It could also be useful to investigate teachers' previous experiences and ask them to explain how and why they employ particular strategies and techniques in order to discover the reasons they make particular decisions for action. If we are better able to understand the instructional process, it may be possible to improve conditions for both teachers and students.

The description of a sample of current practice in educational settings has the potential to provide useful information to teachers, those professionals who participate in curriculum design and teacher educators. Descriptions of specific adaptations utilised in reading instruction will be useful to teachers who are seeking new or alternative ways of responding to individual differences in the classroom. It could also be beneficial to identify the factors that influence teachers when they make particular adaptations. What is it about the way they operate as professionals?

What theories do they hold about teaching and learning? What past experience and beliefs are drawn upon? What external factors such as school policy and parental involvement are influential? How do these factors affect the decisions educators make about teaching? This information would certainly be of interest to those who devise teacher education programs.

Detailed examples of the adaptive teaching practices utilised in Victorian classroom could be useful to a range of professionals interested in education. Administrators and teacher educators need to know how the teaching of reading is being individualised in classrooms through adaptive teaching practices. Parents may also have an interest in discovering the nature of instruction that is provided in classrooms. Finally, and perhaps more importantly, teachers need to be aware of techniques and strategies that are both feasible and practical in the classroom setting.

Along with practical knowledge, teachers may need to hold appropriate belief systems or philosophies about teaching. Fields (1999) argues that teachers need inducement to think critically about how they view the educability of students in their care. Once this critical examination has taken place, Fields is convinced that it will be difficult for them to sustain, in belief or practice, the view that only some students can learn. As Slavin (1993) has noted, the fact that students differ cannot be denied. What we should be debating is how we can best respond to these differences.

> *We need a far better understanding of how to teach heterogeneous groups of students: how to choose teaching methods that work for all students, when and how to use co-operative learning most effectively, when and how to individualize, when and how to use tutors and technology to help struggling students, when and how to allow time to vary, when and how to group. Each of these strategies has its own benefits and costs, which are certainly different for different types of objectives, students and settings. A real science of instruction would be working systematically to understand these issues.* (Slavin, 1993:13)

The study has particular implications for those involved in the pre-service and in-service training of teachers. What do teachers remember of the training they received on how to teach reading in initial training courses? Do they believe they were provided with sufficient information or information that was directly translatable into classroom practice? To what extent do teachers utilise information provided them in

pre-service training programs? If teachers are not making use of information presented during initial training then what causes them to disregard the information presented? What is taught about adaptation in initial training courses? How much information are student teachers given about those who experience difficulty with reading? How much information can students at this level assimilate when they have limited experience of teaching students who do not experience difficulty with reading? Is there an optimum time for providing this information to teachers?

The same questions could be asked of those who provide in-service training and professional development programs for teachers. Is there a certain time when teachers are more open to learning about adaptive instruction in particular? Might they need to have a certain degree of experience in dealing with students who do not experience difficulties before they are presented with information about how to cater for difference? Do beliefs that develop as a result of early experiences of teaching impact upon teaching practice? Can beliefs that result from early experiences of teaching be altered?

Information gathered in the research might also have implications for educational policy makers. It also has implications for those who recruit and select teachers. The study would also be of interest to those researchers investigating classroom teaching practice and the teaching of reading. There may also be some implications for policy makers in terms of placement of students with difficulties - matching students who have specific needs with teachers who are more adaptive in their approach to teaching.

1.6 Research questions

The main aim of the research was to investigate adaptations made by teachers of upper primary classes with specific reference to educational adaptations made for students who experience difficulty with reading. A further aim was to develop a profile of the adaptive teacher. The following research questions were devised in order to delimit the study. They fit into three main categories - Contextual Factors, Student Ability and Need, and Teaching Practices.

CONTEXTUAL FACTORS

1.6.1 How are teachers prepared for the task of teaching students with diverse educational needs?

Information about the teachers in the study was sought in order to provide a context for data collected on their adaptive teaching practices. Variables such as length of service, teaching qualifications and participation in professional development programs could all influence a teacher's willingness or ability to modify or adapt instruction.

1.6.2 How do school systems and administrators support those staff members who are given the responsibility of teaching students who experience difficulties with reading?

Support may be provided to teaching staff in a variety of ways. These include the development of policies relating to student diversity, reducing class size or monitoring the number of students in each class who experience difficulties, the provision of appropriate teaching resources and the provision of additional teaching support for remediation purposes. An important factor may be the perceived level of support teachers receive in order to provide required levels of support for students in need.

1.6.3 What teaching styles are utilised by teachers in their daily interactions with students?

Teachers develop particular ways of relating and responding to students. The teaching styles of participants will be recorded and categorised.

1.6.4 How do teachers' beliefs influence the way they teach reading to students who experience difficulties?

Teachers will have a number of preconceptions that they bring to the classroom setting. Preconceptions and beliefs develop cumulatively as a result of past experience. Past experience may include exposure to pre and in-service training programs, personal experiences of learning to read and personal experience of what has worked in the past when teaching students to read. It will be appropriate to explore the particular beliefs teachers' hold, both about teaching reading and teaching students who experience difficulty with learning to read.

STUDENT ABILITY AND NEED

1.6.5 What characterises those students described by their teachers as experiencing difficulty with reading?

The acknowledgement of specific need would need to precede any proactive adaptation made to accommodate that need. It is accepted that in any class students will present with a range of skills and abilities. It follows that in any class there may be students who present with reading difficulties. It would be expected that most teachers could identify those students in their class who experience difficulty.

As classroom teachers are often responsible for the initial identification of students who experience difficulty and making referrals for further assessment and support, it would be useful to identify the types of information teachers collect about their students.

It would be worthwhile to discover the proportion of students in a class that teachers recognise as presenting with difficulties in reading and to determine, through both diagnostic testing and informal observation, the specific problems they experience with the reading task. Once the particular problems that students experience with reading have been identified, it would be useful to know how these students are being catered for in the classroom.

ADAPTIVE TEACHING PRACTICES

1.6.6 How do Victorian teachers of Grades 4, 5 and 6 respond to the needs of students who experience difficulty with reading?

What types of adaptive teaching practices do teachers employ?

Adaptation is a difficult concept to describe. Adaptation can be made to **what** teachers teach - the lessons given and the tasks presented as a result of those lessons, and **how** they teach - whether they teach the whole class, groups of students or individuals.

It could be useful to identify what teachers know about adaptive teaching practices and whether adaptation is something they consider in their daily planning. It could also be useful to gauge how much of teachers' adaptations are planned and proactive

and how much is reactive, determined at the time of teaching. Teachers can either wait for students to ask for assistance or provide specific and planned ongoing instruction. It may be possible to discover whether some adaptations are made more routinely than other adaptations.

1.6.7 How do teachers differ in their approach to adaptive teaching practices?

What methods of instruction do some teachers in the study use in order to develop the reading skills of their students?

In order to study adaptation the researcher will need to examine the instructional methodologies upon which adaptations are based. This question provides the background for any discussion about adaptation that may be made to the teaching practices of primary educators. Initially it will be necessary to identify the particular methods, routines and procedures teachers utilise when teaching reading in upper primary classes and then examine adaptation in the light of these teaching practices. It is not only a question of how teachers are adapting reading instruction. It will also be important to examine the particular types of lessons or tasks that can be adapted.

Teachers are operating in an environment where large-scale assessment and literacy programs have been funded by governments to address the perceived literacy problems that exist in our community. Methodologies for teaching reading have been in a state of change.

Over the last 25 years a number of different approaches to teaching reading have been advocated by those responsible for the training of teachers. There has been a shift from teaching the sub-skills of reading in phonics-based approaches to approaches that focus on the meaning imparted by the text. "Phonics", "look say", "language experience" and more recently "whole language" approaches have been presented to teachers as methods of teaching reading. There has also been a move to encourage teachers to look closely at the genre of the material that they are presenting to students and also to encourage students to differentiate the types of skills that could be used in analysing various forms of text.

Teachers develop their own methodologies or approaches to the teaching of reading through personal experience of being taught to read, via information presented in

initial training, through involvement in professional development and in-service training programs, and in consultation with their colleagues. Researchers are beginning to compile information about how teachers assimilate and utilise the information they have encountered as readers and teachers of reading. Little is known about how teachers respond to the task of teaching reading in classrooms of students with mixed abilities.

1.7 Organisation of the thesis

The focus of the study is how teachers adapt instruction for children who experience difficulty with reading. As reading is the focus for this study of instructional adaptation, the literature on reading and reading difficulty is reviewed in Chapter 2. Teacher practice, it is proposed, is dependent upon the knowledge and the beliefs held by teachers. The literature on teacher knowledge, decision-making and the theories and principles held by teachers will be reviewed. This will be followed by a review of literature on the beliefs of teachers. Theories of belief, thinking and action that could provide useful frameworks for exploring and analysing data will be presented. Finally the literature on adaptive teaching practices, will be reviewed.

A review of the literature on reading, teacher practice and adaptive instruction lead to the development of some emergent predictions or propositions for investigation in the research. These will be presented in Chapter 3 of the thesis. The methodology is described in Chapter 4. Sampling techniques, data collection and analysis procedures are detailed. This is followed by a presentation of the results of the study in Chapters 5, 6 and 7. A discussion of the results is presented in Chapter 8. In the conclusion a description of adaptive teaching practices and a definition of the adaptive teacher is provided. Implications of the study for understanding and improving teacher practice, the limitations of the study and recommendations for further research in the field are addressed.

CHAPTER 2

LITERATURE REVIEW

The literature review is presented in two main sections. Chapter 2, The Literature Review, was prepared prior to data collection and written to inform research undertaken during 1994 and 1995. The review is broad, covering topics that might influence the teaching of reading and adaptive educational practices in classrooms. Chapter 3 - Theoretical Frameworks was compiled during the research project when data were first analysed and during the later process in which extensive analysis of data was undertaken. In this section of the thesis the focus of the research is narrowed and refined. Whilst some of the ideas presented in this section of the review of the literature are not directly referred to in the analysis of the data, ideas presented influenced the type of data that was collected and formed the basis upon which the theoretical frameworks were developed.

2.1 Teaching reading - a recent historical perspective

> *Reading is the process of understanding written language. It begins with a flutter of patterns on the retina and ends (when successful) with a definite idea about the author's intended message. Thus reading is at once a perceptual and a cognitive process.* (Rumelhart, 1994:864)

Reading is not always an easy skill to learn. Adams (1994a:848) reminds us that beginning reading is quite difficult for some children. She notes this is because the ability to respond instantly and effortlessly to the written word involves a significant amount of perceptual learning. Orthographic (or visual) information, phonological information (that which relates to the sounds in language), meaning and context must all be considered. The ability to decode and get meaning from text is of primary importance at all stages of the reading process. Adams (1994a) is careful to point out that whilst learning to recognise individual words is a small component of literacy -

> *Deep and ready working knowledge of letters, spelling patterns and words and of the phonological translations of all three are of inescapable importance to both skilful reading and its acquisition - not because they are the be all and end all of the reading process but because they enable it.* (Adams, 1994a:859)

Stanovich (1986:363), in his thorough research of the literature, writes how a beginning reader must at some point discover the alphabetic principle that "units of print map onto units of sound." The principle, he notes, may be either induced by the child or acquired through a process of direct instruction. The following questions are posed: Do children learn to read best through direct instruction or through the immersion of students in meaningful print from which they will deduce the alphabetic principle? Which is the more appropriate instructional stance? These questions are being constantly debated. The direct instruction approach is often termed the Code Emphasis Approach and the deductive approach to decoding is termed Whole Language.

The emphasis of the Whole Language approach is on meaning and viewing reading as one component of language. Reading, writing, oral language and listening are all viewed as interrelated. Cambourne (1988:205) states that this view of language learning is based on the assumption that language should not be presented in isolated parts: "The teacher creates contexts in which learners are presented with demonstrations of language to be learned which are wholes." Cambourne's work is based on that of Frank Smith (1971). Smith challenged many of the existing trends in teaching reading. He promoted the concept of experience in reading and, according to Adams (1994b:6), "effectively dismissed not only the utility of word and letter instruction but direct instruction more generally." It was his belief that children learn best to read through experience in reading and engagement with meaningful text. Following on from Smith's work, Cambourne (1988) advocated the immersion of students in texts of all kinds. This included demonstrations by teachers of how texts are constructed; the presentation of an educational milieu in which there are expectations of success; students taking responsibility about when, how and what to learn; students having time and the opportunity to employ and practise reading skills; students being free to make errors and approximations and the exchange of information between students and teachers in the form of feedback or response which is relevant and non-threatening. For Cambourne (1988:158) "reading is comprehension." It is his contention that effective readers engage in a great deal of prediction while they read and use graphophonic knowledge to confirm or reject predictions. Alternatively he contends that ineffective readers use their knowledge of

graphic and phonic relationships to try to unlock the pronunciation of the word but do not have a story or the meaning to help them.

Stanovich (1986:372) would disagree with this statement. After his review of reading research, Stanovich concluded "there is no evidence to indicate that decoding words into phonological form takes place without meaning extraction, even in poor readers." Adams (1994b:12) confirms this view, writing that the process of sounding out words serves to "turn on" their meaning. "The consequence of the effort of sounding out words," she notes, "strengthens the spelling to meaning connection and in keeping with this finding research has shown that phonics instruction has been shown to lead to stronger vocabulary development among young readers."

Whilst there are some points of contention, proponents of both instructional methods agree that children need to become strategic readers who have plans for decoding unfamiliar words (Goodman 1993; Durkin 1993; Adams 1994a; Adams 1994b; Gaskins 1994). There are other points upon which those who promote Whole Language and those who promote Code Emphasis or Direct Instruction are in agreement.

Durkin (1993) notes that in developing decoding strategies students may use words that they can read to help recognise others that are visually unfamiliar. They may use spoken contexts as well as letter-sound relationships in decoding new words. Durkin (1993:191) goes on to state that the great myth is that teachers do not teach phonics in Whole Language classrooms. "Even though the spellings and pronunciations of English words do not have letter by letter, sound by sound correspondence, spellings and pronunciations do adhere to certain patterns." She believes that these patterns make it possible for readers to decode familiar words. Reading however must be meaningful and both context and graphophonic cues, she notes, can be utilised in the framework of the reader making sense of the text.

This view would be shared by Goodman (1993), a supporter of the Whole Language approach, who reports that the word phonics has become "politically charged" and used as "a stick to beat the teaching profession with." Goodman (1993:8) defines phonics as a set of complex relationships between phonology (the sound system) and

orthography (the system of spellings and punctuation of our written language). His own research indicates that readers use three sources of information to construct meaning from text: visual information from print, sound information from oral language and phonic information developed from readers' understanding of how written and oral language relate. Two more types of knowledge, according to Goodman (1993:3), are utilised in reading: knowledge of the grammatical structure of our language and coherent meaning.

> *All readers can and do use phonics. But they use it within the complex process of making sense of print as they read, and of expressing comprehensively what they need to say as they write.... phonics is an important component of reading alphabetically written language. But it is only one component, and has predictive values only in meaningful context.* (Goodman, 1993:50-51)

The question seems to be one of when to introduce phonics and how much emphasis to place on this strategy or skill. Chall (1967) produced a seminal document titled "Learning to Read: The Great Debate" in which she undertook a critical examination of existing research comparing different approaches to beginning reading. She stated that it was her intention to compare the effects of meaning emphasis versus code emphasis in reading instruction. Williams (1994:61) reminds us however that in the 1960s when this research was undertaken, the alternative to phonics was the whole word method and NOT the whole language philosophy.

There is a difference between what has been labelled whole word and meaning emphasis approaches to reading instruction. "The older schemes (whole word) emphasised sight recognition supplemented with phonics, structural analysis and content. Newer schemes tend to emphasise contextual cues and sight recognition supplemented by phonics and structural analysis" (Kidson 1985:98). Kidson notes that the amount of phonics taught under Whole Language schemes is less and there is little emphasis on vowel sounding rules.

Chall (1967) recorded and defined the different methods of reading instruction in use at that time. These include:

a) Look- Say - No phonics at all are presented in this method. The emphasis is on visual recognition of the whole word, getting the thought and reading whole sentences.
b) Systematic Phonics - This method involves the systematic teaching of phonics, usually but not always before the introduction of whole words.
c) Intrinsic or Analytic Phonics - This method stressed sight or what Chall termed "thought reading" and introduced phonics later. Students were encouraged to learn sounds through analysing known sight words.
d) Lingusitic - In this method, controlled materials were introduced to children in order to systematically introduce words with increasing levels of difficulty.

Chall (1967:83) concluded that early stress on phonics or code learning "not only produces better word recognition and spelling but also makes it easier for the child to eventually read with understanding - at least up until the beginning of fourth year." She also concluded that a phonic approach has greater transfer value (Chall 1967:106). Equal or superior spelling achievement was made by children in systematic phonics groups in Grades 1-6 (Chall 1967:112). Chall found evidence to disprove the generalisation that systematic phonics produces readers who do not read for meaning (Chall 1967:112).

Interestingly Chall (1967:125) asked the question whether different methods might be appropriate for different children. She concluded only that systematic decoding instruction was as effective for slow learners but this strategy took longer.

The findings of Chall were disputed by Carbo (1988). Carbo noted that Chall recognised methodological flaws in the research she reviewed. There was some concern over the way experimental and control groups were selected in some of the studies. The time allocated to reading and the specification of the particular methods that were utilised by teachers were not clearly described in the research cited. There was some discrepancy between Chall and Carbo's interpretation of the data. Carbo (1988:236) implies that some children require instruction in phonics when she writes: "Phonics became a reading goal regardless of whether they needed phonics instruction or whether mastery of phonics was a reasonable expectation." Carbo

advocated the Whole Language approach where time is spent on reading rather than the teaching of what she terms "discrete, low level reading skills."

Twenty years after her review of the literature, Chall (1989) reminded teachers and researchers that she recommends a code emphasis only as a beginning reading method and does not recommend ignoring reading for meaning practice. "Teaching only phonics and in isolation was not a recommendation" (Chall 1989:525).

The Phonic or Code Emphasis approach to reading instruction was described by Burnes and Page (1985) as a bottom up view of reading. The meaning emphasis promoted in Whole Language is described as a top down view of reading. The top down or meaning theorists, according to these authors, view semantic, syntactic and graphophonic information as important. Semantic information includes the concepts that the reader holds which are based on their previous experiences. Syntactic information involves drawing on knowledge of the structure of language and graphophonic information draws on familiarity with the symbols used. These authors write that efficient readers sample from text and make predictions that they either confirm or reject and correct. The implications of the meaning emphasis method of instruction is that we should capitalize on the existing understanding of the students, increase the predictability of material in the early stages of reading instruction, promote positive attitudes towards reading, and encourage predicting and meaning seeking in reading.

The fact that some teachers are resistant to the explicit teaching of decoding has been reported by Williams (1994:69). She claims that some teachers consider decoding training boring and uncreative on the grounds that it is drill oriented and mechanical. Many teachers, she notes have not been trained to teach phonics and hence they feel ill equipped for the task. Teachers often see the approach as traditional, authoritarian and conservative. The problem, according to Williams (1994), is that it is difficult to recommend a single approach to teachers if we believe that they do a better job when they are given the freedom to make their own choices about what and how they teach. During the 1990s however teachers in training were given information that was predominantly based on Whole Language approaches to reading.

Should the emphasis on reading instruction, ask Calfee and Drum (1986:805), be placed on decoding or meaning? Should instruction go from part to whole or the reverse? These authors answer both questions in the affirmative and state that many strategies help beginning readers. They conclude that substantial evidence points to the advantage of early phonics but also note: "It is probably a mistake to design an instructional program in which one component (eg. decoding) becomes an unnecessary barrier to the acquisition of other components" (Calfee and Drum, 1986:812).

Beck and Juel (1992:105) note that instruction in decoding merely provides a tool that enables students to attack the pronunciation of words that are not immediately recognisable. It is their contention that early attainment of decoding skill is important because it accurately predicts later skill in reading comprehension. "The issue is no longer whether children should be taught phonics but more specifically how it should be done" (Beck and Juel, 1992:112). These authors explore explicit and implicit phonics instruction. In their definition explicit phonics involves directly teaching the individual sounds of letters whereas implicit phonics involves the induction of sounds from "accumulated auditory and visual exposure to words." They conclude that the available research does not permit a decisive answer as to which method is the most appropriate but they conclude that a trend of the data favours explicit phonics. They write: "The problem with implicit phonics is that many children fail to induce the sounds because they are unable to segment a word into distinctive sounds."

There has been recent research interest in the development of phonemic or phonological awareness and its relationship to reading (Stanovich 1986; Munro and Munro 1993; Reily 1994; Henty 1994; Scott, Hiebert and Anderson 1994). Phonemic awareness refers to an awareness of individual sounds and sound patterns in speech. Stanovich (1986:362) defines phonological awareness as "conscious access to the phonemic level of the speech stream and some ability to manipulate representations at this level." He notes that it is a potent predictor of ease of early language acquisition. Munro and Munro (1993:5), like Stanovich, describe a causal relationship between reading and phonemic awareness that is reciprocal. They write: "While particular sound abilities provide a basis for early reading acquisition, the

early reading in turn feeds back to improve the child's knowledge of more complex sound patterns." Phonemic awareness plays an important role in reading. In order for the connection between sound and symbol to take place, beginning readers need to be able to identify sound units in words. Munro and Munro (1993) claim that teaching children about the phonological structure of speech helps them to read more easily. It is further noted that teaching phonemic awareness by itself has less impact on later reading than when it is taught in conjunction with sound-print teaching.

Skilled readers, according to Munro and Munro (1994:12), draw on a range of verbal processes and use strategies to assist them in constructing an understanding of the meaning of text. These strategies include "visualisation, paraphrasing, self questioning, elaborating and inferring." When readers encounter a printed word they may recognise it via orthographic information which Munro and Munro (1994:13) define as "a direct visual access mechanism by which information about how words look or are written (that is, orthographic information) stored in the reader's lexicon is matched with print information." If a word is unfamiliar readers may use "phonological re-coding to convert the word to a sound form in order to make a sound match." Lahey, (1996) reported these findings in the local press. The newsreport states that children who recognise words automatically have learnt to read by recognising clusters rather than single sounds. Successful readers are said to be able to "transport the sound cluster in one word to the same cluster in another. Thus, a child who knows stamp is likely to know camp, cramp, lamp and damp." Munro and Munro (1994:17) state that readers have a number of strategies for dealing with unfamiliar words. "When unable to recognise multi-letter groups in a word, they may work at the single letter level."

Crowder and Wagner (1992) report that letter recognition depends on a match between stored presentation (item in memory) and sensory input (visual reaction to the configuration of print). They outline the Logogen Model (logo representing word and gen representing source). John Morton developed this model. In this model, represented in Figure 1, one first sees a word, one hears a voice saying a word and one understands the word in context - the word is then said to be activated.

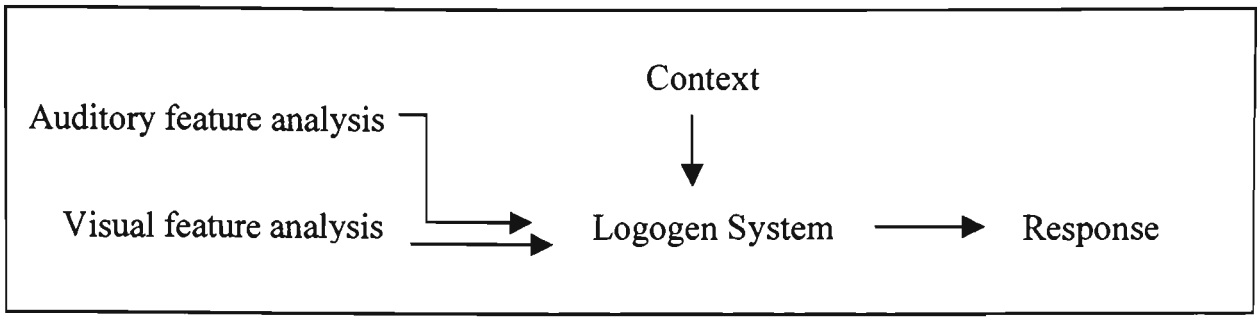

Figure 1. The Logogen Model of Reading: Crowder and Wagner (1992:95)

In a similar way, word recognition has been studied in terms of three hyphotheses outlined by Solso (1991:369)

a) The graphemic encoding hypothesis asserts that memory representations are visual.

b) The phonemic encoding hypothesis proposes that visual input is converted and encoded phonologically.

c) The dual encoding hypothesis proposes both visual and phonological codes with parallel retrieval processes.

The process utilised by the student may depend upon the reading task or the circumstance. It has been proposed that the way students tackle cognitive problems and the way they learn about reading and spelling is similar (Bryant and Bradley (1985:85). In both of these tasks, the authors suggest, students have to choose which strategy is the most appropriate and they must learn that different strategies work better with different circumstances.

Just as different strategies might be important for decoding or recognising particular words, different strategies might be usefully employed in order to comprehend particular types of text or for different reading tasks. This focus on task is the basis of the Genre approach to teaching reading. Christie (1987:24) reports that the Genre approach is based on the Hallidayan tradition of linguistics and states: "To learn to use language is to learn to exercise the appropriate linguistic choices relevant to needs, functions or meanings at any time." Authors make choices about the mode in which they write. Kress (1987:36) states "genre is the term which describes that aspect of the form of texts which is due to the effect of their production in particular social occasions eg. sermon, lecture, interview, novel, editorial, report." Genre is

described as the social construction of experience. Genre is dynamic and changes as society itself changes. The argument, as described by Freedman and Medway (1994:5), is that every text has to be understood in relation to a situation. Freedman, in Freedman and Medway (1994:63), states that "knowing a genre is knowing how to take it up: the manners are reciprocal." She asks: "What do you do with a form if you've never been taught to fill one out? What do you do with theoretical writing if all you have ever learnt to read is narrative?" Interpreting text therefore is seen as basically a way of learning to understand its genre and considering the tactics, strategies or conventions that may be appropriate to the particular form of reading task.

Literature based instruction could be seen as a particular part or subset of the Genre movement. Nicoll and Roberts (1993:2) confine their definition of literature-based instruction to "texts which demonstrate the creative use of imagination, and which, while they relate to real experience, are not of the same order." The focus is on the analysis of fictive texts such as narrative, poetry and drama. The major aim of a Literature Based program, say Nicoll and Roberts, is to develop a desire in the student to read interesting and meaningful text. Daily practice of reading is recommended with the teacher reading aloud to students, the students reading silently to themselves daily and instructional reading where the teacher structures lessons and scaffolds learning experiences for children. Follow up activities after reading should be purposeful. Nicoll and Roberts (1993) note that the best activities are text specific. It is suggested that students should share products such as story maps, plot profiles, literary report cards or wanted posters with their peers.

In both Literature Based Instruction and Genre approaches to reading the teacher is responsible for providing a range of appropriate experiences for children. Scaffolding is seen as a way of teaching students strategies for reading and thinking. Graham and Harris (1994) note that scaffolding involves social interactions with those who have more experience.

> *Instruction is scaffolded by a more capable other who initially provides a lot of structure and guidance through instructional dialogue. This instructional support, like a scaffold, is progressively removed as the less capable other internalises cognitive processes and the dialogue used to regulate them.* (Graham and Harris, 1994:150)

Like Whole Language approaches, Genre and Literature Based programs aim to help students with meaning construction of text. Generating meaning from text is important but the ability to decode text is also of obvious importance. Ellis (1989:409), like Stanovich (1986), hypothesises that a lack of decoding automaticity will result in mental overload for the reader. He proposed that energies focussed on lower level reading processes such as the attention and short-term memory demand required for decoding leave little energy for higher order processes of comprehension.

Comprehension, according to Burnes and Page (1985) is a reading-thinking activity in which the level of intelligence of the reader, speed of thinking and ability to detect relationships all play a part. The reader, by interacting with the text builds schema or organisational structures in order to understand or comprehend the material. "Individual differences in cognitive style, persistence and curiosity are factors which affect the development of comprehension" (Burnes and Page 1985:47). For these authors "readability" of text is fundamental. Matching the readers' skills and interests to books and materials that differ widely in context, style and complexity is important. The problem with the teaching of reading comprehension, according to these authors, is that instruction tends to be product rather than process related. They favour a process approach in which teachers may scaffold or model for students - making diagrams of the content of texts, underlining topic sentences, creating story grammars in which grids of setting, theme, plot and resolution are completed, and the generation of semantic webbing where text ideas are represented visually - the core question being the focus of the web. In the process approach the teacher models, the students generate expectations and are encouraged to apply a set of comprehension monitoring skills to their own reading.

There must also be some motivation on the part of the student to read. Barnett and Irwin (1994:113) tell us "fostering literacy requires the development of the affective predisposition, as well as the cognitive ability to read." Scott, Hiebert and Anderson (1994) note that reading is a motivated process. They state that readers who differ in achievement often differ in their perceptions of their reasons for success or failure. A positive predisposition to read may be related to the particular reading task that is presented to students.

> *Most players in the field of literacy have shifted from thinking of reading as hierarchical or skills based to a constructivist paradigm. A pressing concern is not whether to use authentic literacy experiences but how to embed instruction in authentic literacy experiences for students who are not fluent readers.* (Scott, Hiebert and Anderson 1994:266)

The instruction of students who are not fluent and who experience difficulty in learning to read is the focus of the research.

2.2 Reading difficulty

Just as there is no clear description of the best way to teach reading, there is no clear description of the student who experiences difficulty attaining the skill. Bryant and Bradley (1985:5) write: "The typical example of a poor reader is a distinct individual with his [sic] own pattern of strengths and weaknesses." Different difficulties require different remedies. Pumfry and Reason (1991:94) note that Bryant and Bradley have suggested the "existence of a continua for each component of the reading process, with every child varying in its position on each of the continua, thus recognising the uniqueness of the individual."

Each child is unique. Children presenting with reading difficulty have individual profiles of strengths and weaknesses and, as a consequence, have different needs. Obrzut and Uecker (1994:31) state that "reading disability is a heterogeneous language disorder with multiple subtypes, some of which may have a genetic aetiology." They report a number of neuropsychological theories that are associated with learning disabilities, of which reading could be seen as a subset. Obrzut and Uecker (1994:25) describe difference and delay theories of reading. According to difference theory "cerebral dysfunction may take the form of faulty organisation, of abnormal development of neural cells or patterns of abnormal cellular connections."

The delay theory attributes reading difficulty to difficulties in establishing cerebral dominance. They write that children with learning disabilities, in comparison with controls, are "deficient in their ability to process auditory receptive language unilaterally in the left hemisphere (Obrzut and Uecker 1994:31)." In addition "right hemispherical attentional activation interferes with left hemispherical verbal processing in children with learning disabilities" and "children with learning disabilities experience a greater imbalance in activation between hemispheres, suggestive of attentional-control dysfunction." This would account for the notion, described by Swanson, Lee and Keogh (1990:29), that "learning disabled children's ability to access knowledge remains inert unless they are prompted to use certain cognitive strategies."

Whether neuropsychological theories of delay or difference are accepted, children who experience difficulty with reading are present in classrooms and require education. A number of researchers agree that some children do not discover the graphophonic system without direct, explicit instruction (Barr 1991, Beech 1985, Spear-Swerling and Sternberg 1994). The explicit teaching of phonological skills is suggested for those students experiencing difficulty with reading. Spear-Swerling and Sternberg (1994:93) state: "One cannot become a highly proficient reader by eschewing phonological skills in favour of purely visual skills or by using contextual ability to compensate for faulty word decoding skills." These researchers devised a model that ties together and explains what they describe as the most reliable research findings across age and grade span.

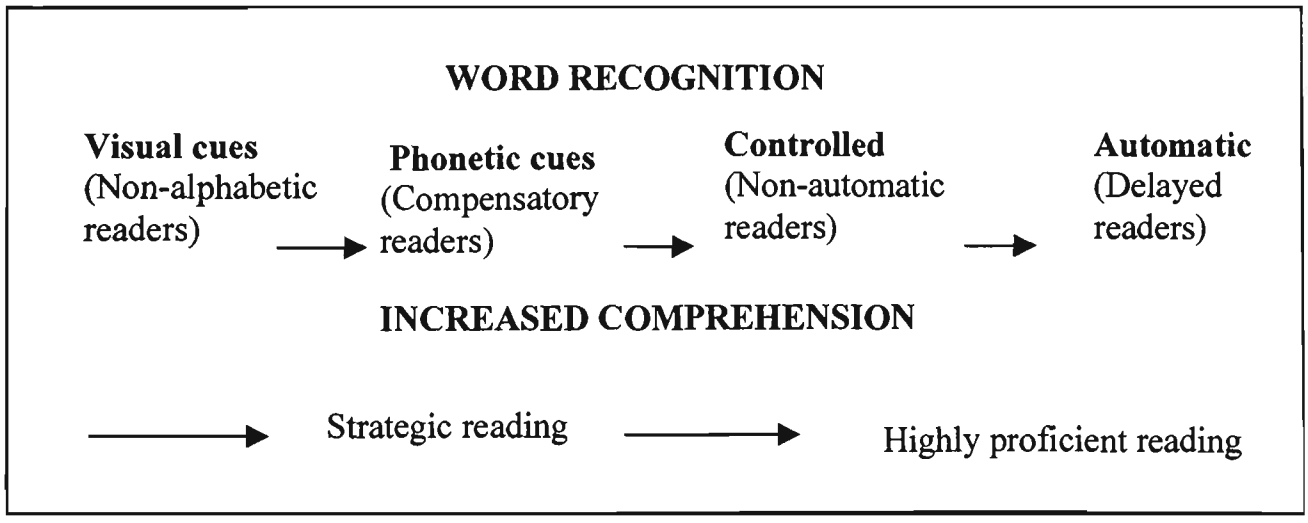

Figure 2. Model of Reading Disability: Adapted from Spear-Swerling and Sternberg (1994:92)

The researchers state that there are patterns of reading difficulty. Non-alphabetic readers have no phonetic skills and rely heavily on visual cues. Activities that promote phonological awareness, letter-sound knowledge and understanding of the alphabetic principle are recommended for students operating at this level. Compensatory readers have limited phonetic skills and rely heavily on sentence context and sight words. Direct instruction in decoding skills and encouragement to apply these in context is suggested for students described as compensatory readers. Non-automatic readers engage in effortful decoding of text and may use sentence context as a cue. These readers, it is suggested, could develop automisation of decoding skills through increased practice in reading. Motivation is seen to be of particular importance for this group. Delayed readers have automatic word recognition but lag behind their peers in reading comprehension. Direct instruction in reading strategies and higher-level comprehension skills that have been missed is recommended for these students. Sub-optimal readers have automatic word recognition but lack higher-level skills of analysis of text.

The authors conclude that "A sound reading program obviously needs to develop both fluent decoding and good comprehension" (Spear-Swerling and Sternberg, 1994:102). The authors propose that a combination of Whole Language techniques with a systematic decoding program would be appropriate for many youngsters who experience difficulty with reading. They suggest that this type of educational program would also be suitable for many students considered non-disabled.

The role of the teacher in selecting and applying appropriate instructional techniques for children is vital. Teachers may take different instructional stances towards reading but they tend to approach the task of teaching reading in the same way for all children in their care. McIntyre (1993) notes that different instructional stances, whether they emphasise sound-symbol correspondence and decoding or emergent and whole language perspectives, do not take into account differences in children. She, like Spear-Swerling and Sternberg (1994), also notes that some children do not observe patterns or cues which allow them to discover the graphophonic system without direct, explicit instruction and intervention. She found that in both types of

classrooms, Code Emphasis and Whole Language, there were children who failed to learn to decode. McIntyre (1993) studied three different children in three different classroom settings. Each teacher had one specific approach to literacy instruction and, in her opinion, taught all children the same curriculum in the same way. Yet what was appropriate for the three children studied, McIntyre argued, may not have been appropriate for their classmates. She concluded that some children need more guidance in order to learn the graphophonic relations necessary for decoding that leads to independent reading. It is her belief that teachers can set up environments in which all kinds of learners can succeed. They may set aside time for more structured activities; they may hold phonics lessons for those students who appear to require them and they may find time to work individually with some students.

Differential or adaptive instruction as described by McIntyre (1993) requires that teachers not only acknowledge that students have specific needs, but recognise that these needs must be addressed. Chall and Curtis (1992) recommend that when working with students described as disabled or below average readers, teachers should undertake diagnostic testing to find out what students know and need to learn, provide clear and implicit instruction geared towards the students' level of reading development and maintain frequent and timely assessment practices. If teachers assess their own students, they may be better prepared to respond to specific needs identified in the assessment.

Boder (1973) has suggested that diagnoses of reading problems may vary according to the discipline of the professional making the diagnosis. Today we have teachers, psychologists and speech therapists regularly assessing children presenting with reading difficulty. Just recognising or confirming that a child has a reading problem and is performing at a significantly lower level than peers is not enough. Specific information would be required in order to set appropriate goals and devise appropriate instruction. Boder (1973:663) was concerned that there had been an underlying assumption in previous research that children with what she termed "developmental dyslexia" were members of a "homogenous group among whom a variety of dyslexic errors occur at random." As a result of her diagnostic assessments, she delineated three atypical patterns of reading difficulty.

It was Boder's contention that a normal reader recognises familiar words through the visual channel (gestalt) and decodes unfamiliar words through the auditory channel (analytic). Students experiencing difficulties with reading and spelling fell into one of three groups she identified. Dysphonetic (visile) students lack word analysis skills. They are unable to identify sounds in words and blend them. This leads to bizarre spelling of words in which visual cues are heavily relied upon. Dyseidetic (audile) students are laborious readers who rely heavily on the sound of words. These children tend to spell phonetically and have difficulty with irregular words. The third group of students was described as "mixed dysphonetic/dyseidetic" or "alexic". Students in this group were more likely to exhibit confusion of reversible letters and did not rely primarily on either visual or auditory channels in decoding or spelling words.

In later work McCarthy and Warrington (1990) describe very similar patterns of reading disorder. They denote three patterns of deficit that implicate dysfunction at the visual level of reading. These are called peripheral dyslexias and include:
a) spelling dyslexia in which there is a loss of ability to recognise words as coherent visual units and patients attempt to read letter by letter;
b) neglect dyslexia which occurs when the patient misreads initial (left neglect) or terminal (right neglect) parts of words; and
c) attentional dyslexia in which the patient can read letters or words in isolation but not in context.

There are two types of central dyslexias described by McCarthy and Warrington (1990). The first is described as reading by sound - the phonological route, whereby spelling to sound correspondences are over relied upon or misapplied. People with this type of dyslexia are said to have difficulty in reading phonetically irregular words. The second type of central dyslexia is described as reading by sight vocabulary or visual route. People with this type of dyslexia are described as being poor at reading non-words or unfamiliar words. These authors, like Boder (1973), also note that both types of central dyslexia can occur concurrently. The reasons for the different types of dyslexia, it was suggested, could be attributed to anatomical differences in brain function. Different loci of lesions were not seen to be the cause of reading disorder but were viewed by the researchers as evidence of dissociation

between components of the reading system that should be intact if normal reading development is to occur.

Whilst advocating multi-sensory approaches to reading remediation for all children, Boder (1973:276) indicated that initial remediation or intervention techniques should vary, dependent upon the specific difficulty experienced by the student. Dysphonetic children, she suggested, should initially be given whole word instruction and should be taught phonics only after the development of a sight vocabulary in order to provide an adequate foundation for further learning. Dyseidetic students should learn readily through phonics and alexic students, she suggests, would learn best through a kinesthetic approach.

There has been some disagreement about the efficacy of teaching through students' perceptual modality preferences. Tarver and Dawson (1978) reviewed fifteen studies undertaken between 1968-1978. All studies investigated the interaction between perceptual modality preference and method of teaching reading. They note: "The deficit oriented approach assumes that perceptual deficits are alterable by remediation" (Tarver and Dawson 1978:6). After the perceptual strengths, weaknesses or preferences of the student have been ascertained, we are reminded that decisions need to be made about whether to teach through the intact modality, remediate any deficiency or use a combination approach. Tarver and Dawson (1978:18) write: "Simply knowing the child's preferred modality does not tell us whether teaching to his [sic] strength or deficit will benefit the child more." The authors questioned whether a child's tendency to approach a task in a particular way was the result of perceptual preference or because past exposure to teaching practices may have favoured one modality. Tarver and Dawson (1978) conclude that modality matching may be applicable to a relatively small proportion of the total population. It would certainly be appropriate in an assessment to discover how a child learns best but the authors suggest that even though learning style may vary from child to child, the demands of any given task remain constant. They therefore state that if a task requires auditory perception, then teaching should be directed to the auditory modality, regardless of whether this is a strength or a weakness for the child.

The suggestion is that the task should be analysed, not the learner. It would therefore be appropriate to look at the requirements of reading tasks at different stages of learning to read. Lewis (1983:232) concurs with this finding stating: "Different instruction according to modality does not facilitate learning to read." He concludes that students with what he terms learning disabilities fail to deploy cognitive resources effectively. These students do not employ selective attention, they are impulsive rather than reflective, they fail to engage actively in learning and do not automise skills. He claims that the goal of instruction should be the engagement of the student in the learning task. Metacognitive and cognitive strategies he argues may be susceptible to training.

Information about students' particular strengths and weaknesses can be gathered in a number of ways. Discovering whether a student is utilising metacognitive strategies, and identifying the exact strategies or modalities a student is using to decode words, involves more than simply attaining reading comprehension scores or reading rates. Closer scrutiny of student response is required. Analytic assessment is viewed as different to traditional diagnostic testing. Carney and Cioffi (1992) write that traditional diagnostic testing simply provides a profile of the current status of students, often in relation to other students, and does little to estimate the student's potential or establish how and under what circumstances the student might learn. These authors write about dynamic diagnosis whereby if a student fails to read a word on a graded word test, the examiner explores instructional strategies to determine the minimal instructional support the learner requires to identify the word (Carney and Cioffi, 1992:108). Strategies suggested by the authors include embedding the word in context, dividing the word into morphemes (roots and suffixes), or dividing the word into syllables. Dynamic assessment of reading comprehension involves analysis of a response to silent reading. Strategies for instruction include:

- specific instruction in comprehension skills such as noting significant details, the main idea and drawing conclusions;
- providing general instructional support through provision of background information on the topic, pre-teaching the vocabulary and providing a purpose for reading; and

- direct instruction of interactive or metacognitive strategies such as directed reading-thinking activity, reciprocal questioning or reciprocal teaching.

Specific instruction in comprehension strategies has been advocated by a number of researchers (Chan 1988, 1993; Reynolds and Salend 1990, and Paris 1992). Poor comprehension of young readers, aged 7 to 8 years of age, might be due to a variety of reasons. Paris (1992) denotes:

- the presence of non-automatic word decoding;
- poor semantic and syntactic analyses of sentences;
- inadequate text level processes of inference or integration; and
- poor metacognitive monitoring.

He states that poor readers do not build adequate models of text when reading and as a consequence they do not make inferences about the text or integrate relevant information into an existing knowledge base as they read. In addition Paris (1992) claims that poor readers often have poor comprehension skills, they do not monitor their reading and fail to realise when they do not understand the concepts presented in text.

Chan (1988) has shown that metacognitive strategies can be taught to students who experience difficulty with reading. In her study fifth and sixth Grade students with reading problems were matched with average third grade readers and were randomly assigned to either a general or specific instruction condition. In both treatments subjects were shown how to monitor texts for internal consistency. In the specific instruction treatment students not only were provided with explicit instruction in how to monitor texts for inconsistency but also were told why particular sentences were inconsistent. Students in both groups were then asked to indicate sentences that did not fit into the test passages and comprehension of the passages was assessed. Poor readers in specific instruction conditions demonstrated significantly higher levels of detection and identification of anomalous text and higher level of comprehension than those students who received general instruction. Whereas poor readers were found to be inferior to the reading-age matched subjects in the general instruction group, poor readers were superior to reading-aged matched students in the specific instruction group.

It was suggested that these results might be due to differences in maturity and general experience. This interpretation of the results was tested by a second study in which a third group of average fifth grade readers were included in the cohort. In the second study, the demonstration passages included two different types of anomalous sentences, those that were internally inconsistent and those that violated prior knowledge. During specific instruction students were shown how to evaluate internal consistency and prior knowledge. The results of the second study confirmed initial findings. Chan (1988:36) concluded: "Explicit instruction in the use of evaluative standards was found to improve comprehension monitoring and comprehension competence of students with reading difficulty." This finding has implications for remedial instruction of students. The study demonstrates that students can be taught how to interact with text and to monitor their own understanding.

Borkowski and Kurtz (1987:132) reached similar conclusions. Students in this study who were described as learning disabled demonstrated a narrow, inflexible pattern of metacognitive strategy alternatives. They were less likely to deploy rehearsal or organisational strategies and possessed a less sophisticated metacognitive knowledge of their own memory abilities. "Research with poor readers has revealed serious deficits in higher-level metacognitive skills" (Borkowski and Kurtz, 1987:138). According to these authors poor readers demonstrate lack of ability in organising story information and they rarely identify incongruous text. It was reported that students with learning disabilities responded well to strategy instruction. This might include training students in rehearsal, elaboration and imagery.

Reynolds and Salend (1990) state that teachers can use a variety of strategies to assist mainstreamed students to comprehend material in textbooks. Some of these strategies are described as teacher-directed. In teacher-directed strategies the teacher modifies text or provides additional instructional material for students. Other strategies are mediated by the students. Students are taught to be systematic in their approach to reading and understanding. Reynolds and Salend (1990) assert that both teacher and student mediated strategies might be used in the context of effective instruction.

Teacher mediated strategies include:

- providing advance organisers for students or previews of the work;
- encouraging semantic feature analysis of superordinate and subordinate concepts and vocabulary;
- drawing relationships charts;
- colour coding or highlighting of text;
- taping books for poorer decoders;
- establishing peer reading or co-operative groups; and
- question insertion prior to or after specific paragraph selection.

Student mediated strategies might include:

- the use of SQ3R - survey, question, read, recite, review - techniques;
- the development of critical thinking maps which list important events, main ideas, other viewpoints, the student's own conclusions and make comment on the relevance of the text;
- the use of self questioning techniques; and
- paraphrasing.

Emphasis on comprehension can only take place once the student is able to decode text. Adams (1994a:842) concludes, "difficulties at the level of letter and word recognition are the single most pervasive and debilitating cause of reading disability." The problem is that students can be caught in a downward spiral of ever increasing problems if reading proves a difficult skill for them to attain early in school life.

Stanovich (1986:364) writes that as early as first grade, after experiencing difficulty in breaking the spelling to sound code, poor readers begin to be exposed to less text than their peers. Poor readers may also find that they are confronted with reading materials that are too difficult for them to decode. The "combination of lack of practice, deficient coding skills and difficult materials results in unrewarding early experience that leads to less involvement in reading related activities."

The consequential lack of involvement or reluctance to read may lead to delays in the development of automaticity or speed at the word recognition level. Stanovich

(1986:364) goes on to state that limited capacity in word recognition drains cognitive resources or produces a mental overload. Resources that should be allocated to higher-level processes such as text integration or comprehension are utilised in decoding. The result is that reading for meaning is hindered; students find reading an unrewarding experience and practice of the skill is therefore avoided or reading tasks are simply tolerated without any real cognitive involvement. Lack of practice or exposure to text can lead to students experiencing further difficulties. Stanovich (1986:378) called this reciprocal causation. He notes that there is evidence to suggest that vocabulary growth occurs through "inducing the meanings of unknown words from context during reading." The effect of reading volume on vocabulary growth means that there is a cumulative advantage for better readers who have more opportunity to develop a larger knowledge base. This larger knowledge base in turn allows better readers to acquire even greater expertise at a faster rate.

Poor vocabulary growth may be related to problems with cognitive processing (McFarland and Wiebe 1987:115). These researchers propose that deficiencies in children's cognitive processing could be attributable to an inadequate knowledge of words and their meaning because adding a concept or a word alters a semantic network. " We assume that the more complex and interrelated one's memory becomes, the more substantial the semantic activation during reading and other activities, the greater number of retrieval routes and the greater the possibility of analogical connections." Virtually all cognitive activity on the part of the child, state McFarland and Weibe (1987:116), is influenced by the content of his or her knowledge base. This is another example of what Stanovich (1986) describes as the "Matthew effect" whereby the rich readers get richer as they access increasing amounts of information.

Students who experience difficulty with reading have reduced opportunity to learn new words. This may be ascribed to either lack of exposure to words they can decode in text or cognitive processing problems. The results are that students may have an impoverished knowledge base. This may have long-term repercussions. Scott, Hiebert and Anderson (1994:255) note that poor readers have been described as passive, showing symptoms of learned helplessness. This is characterised by a persistent belief that they are unable to prevent negative outcomes or achieve

positive outcomes even when conditions allow them to be in control. These students exhibit both low persistence and low expectation of success. They have a low self-concept regarding their ability.

Learned helplessness is a trait described by a number of authors (Luchow, Crowl and Kahn 1985; Kronik 1988; Ho and McMurtrie 1991). Miller (1986) has described learned helplessness as occurring when the individual perceives non-contingency - that is, when students believe that failure will occur whether they try or not. Holt (1982) tells us that expectation or fear of failure may lead students to think and act in particular ways and to adopt strategies for learning which are different to those of more confident children. These strategies he describes as "self-centred, self-protective, and aimed above all else at avoiding trouble, embarrassment, punishment, disapproval or loss of status" (Holt, 1982:91). Holt concludes that the feeling of incompetence has an advantage for students in that it not only reduces what others expect and demand of them but it reduces what they expect or demand of themselves.

Whilst it is logical to assume that failure will have consequences for students and will impact on self concept, Fry (1992:216) has cautioned educators not to over emphasise these factors: "In most instances of self-monitoring, the problems may reside in the child's faulty attentional and memory processes rather than in the child's inferential judgements about causes of one's success and failures." Fry (1992) suggests that adults should shape the type of self-monitoring in which the child engages in order to avoid negative focusing on luck or natural aptitude.

Self-concept and personality traits are one of four factors that Lowe (1994) believes contribute to reading disability. Along with self-concept - curriculum, physical and socio-cultural factors are considered to contribute to reading problems. In considering curriculum Lowe points to teacher effectiveness, the learning environment teachers provide and the methodologies they employ. Physical factors include visual, auditory and speech problems, illness, neurological limitations, dyslexia and attention deficit disorder. Socio-cultural factors include home environment, family relationships, socio-economic status and ethnicity. In studying nine adults who experienced difficulty with reading over a 12- month period, there were five emergent themes:

- Relationship with self: All participants perceived themselves as failures and as different.
- Knowledge of the reading process: There was an overemphasis on graphophonic relationships and reading did not make sense to participants.
- Past literacy experiences: All participants recalled specific experiences which contributed to their failure. Reading and writing was avoided for fear of reliving humiliation and panic.
- Relationship with significant others: Parental expectations were seen as important and being able to share private thoughts was crucial.
- Coping strategies: This involved avoidance of reading tasks.

Reading difficulties may be due to any one, or a combination of these and other factors outlined in the research. These include inability to decode, poor comprehension, physical or psychological factors. It is a community expectation that the role of the teacher is to both identify and assist students to overcome difficulties.

2.3 The role of the teacher

The majority of students who experience difficulties with learning, writes Chan (1993:22), do so "not because they lack the ability to learn but because of their inefficient and non-strategic ways of learning." Non-strategic ways of learning include limited understanding of how to set goals, make plans, design work routines, monitor progress and evaluate for self-improvement. The provision of success experiences for students is vital. Chan (1993) suggests that this can be achieved by teachers' ensuring that work tasks are organised so they are based on what students have succeeded with in the past. Teachers should ensure that the major part of the content in any area is at a level that could be completed by most students. This planning procedure is also suggested by Schumm, Vaughn and Leavell (1994). Chan (1993) states that goal setting, self-evaluation and self-reinforcement skills should be explicitly taught and independent thinking should be fostered in students. Teachers should also foster connectedness. That is, they should provide students with ideas which are meaningful and make explicit the way elements of the knowledge base relate to each other, illustrating this through techniques such as networking and concept mapping and drawing on students' prior knowledge of specific topics. Interactive teaching involves the teachers using dialogue to describe strategic

behaviours and the students verbalising their own thinking and learning processes, scaffolding learning and then "fading" or gradually removing this verbalisation so that the behaviour becomes internalised.

It is the role of the teacher to set objectives for all students. It could be argued that the setting of specific, appropriate and achievable goals might perhaps be more critical in order to ensure the success of those students who experience difficulty. These objectives may be set in terms of:

- the reading skills that are to be developed;
- the provision of explicit instruction to foster development of those reading skills;
- the provision of opportunities for students to practice their reading in supervised and independent settings; and
- encouragement of the application of reading skills in different situations.

Some students will require less instruction than others. It may not be appropriate or necessary to give specific instruction to all children in a class. Durkin (1993:29) notes that "providing reading instruction is desirable only when its objective has not been achieved by the student being instructed." She also cautions teachers to be careful that the "objective relates directly to what the students need or want to read."

Ruddell's (1995:462) research into influential teachers and the interviews he undertook with them, led him to record the following ten insights that they held. Influential teachers stated that they aim to:

- develop clear purpose and instructional plans that facilitate successful development and resolution of instructional episodes;
- emphasise activation and use of students' prior beliefs, knowledge and experiences in the construction of meaning;
- incorporate higher level thinking questions, questioning strategies and sensitivity to students' responses in conducting instruction;
- orchestrate instruction using a problem solving approach to encourage intellectual discovery by posing, exploring and resolving problems;
- monitor students' thinking, use verbal feedback and ask subsequent questions that encourage active thinking;

- understand the importance of text, task, source of authority and socio-cultural meanings in negotiating and constructing meaning;
- involve students in meaning negotiation based on the text by encouraging interaction between students, self as teacher and the classroom community of learners;
- share teacher authority in discussions to encourage student thinking, responsibility, interaction and ownership of ideas in discussion;
- understand instructional stance, the role it plays in setting instruction purpose for students, and the importance of using internal reader motivation to enhance student interest and authentic meaning construction;
- develop sensitivity to individual student needs, motivations and aptitudes but hold appropriate and high expectations for learning.

In meeting these aims teachers must make specific decisions about how and when to carry out instructional techniques.

> *When professionals in the learning disability field argue whether teaching should occur from the 'top down' or 'bottom up', the answer should be 'both'. If either method is used exclusively some learning disabled children will fail to learn. We have to determine, with each student, whether the breakdown in functioning is occurring at the level of detail, schema pattern or rule, inference, meaning, metacognition or a combination and direct our teaching accordingly.* (Kronik, 1988:23)

In order to do this teachers must understand the reading process and how individual children learn, have the ability to assess student needs and set clear goals and prioritise them in order to ensure that the needs of individual students are met. Just how teachers go about making instructional decisions that affect their practice is covered in the next part of the literature review.

Educators make decisions about the strategies and methods that they will employ in their teaching practice. These decisions must be based on knowledge held by the teacher. It is proposed that teacher knowledge encompasses beliefs, affect and social conditioning, professional experience, professional knowledge and critical episodes. The literature on teacher thought and decision making is reviewed separately. Teachers utilise implicit and explicit knowledge to build theories and principles.

Adaptive educational practices can evolve as a result of knowledge held by teachers and the types of theories and principles that they have subsequently developed.

2.4 Teacher knowledge

Teacher knowledge can be conceptualised as being derived from teachers' professional training and teaching experience, from teachers' personal beliefs and the thought processes that teachers employ. The work of Maddox (1993) provides a useful model for viewing teacher knowledge. The researcher has attempted to express Maddox' theory diagrammatically in Figure 2.3:

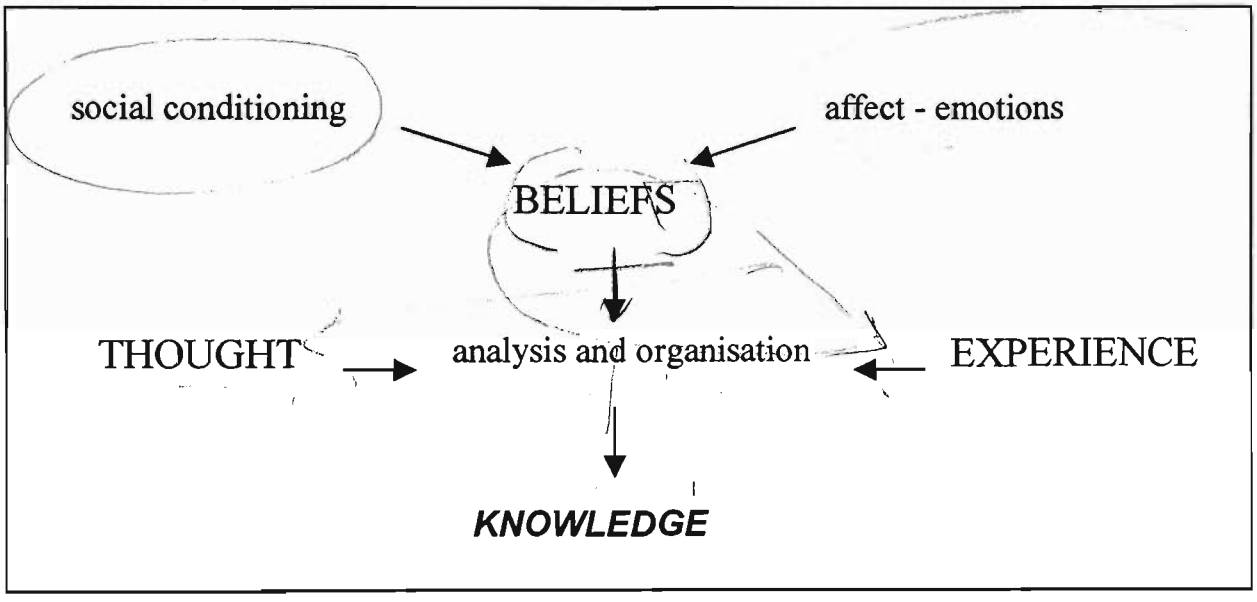

Figure 3: The Maddox theory of knowledge: Adapted from the work of Maddox (1993)

Maddox (1993:156) writes that human knowledge is established by both experience and thought. In his opinion merely acquiring information does not constitute knowledge. By analysis and abstraction, sensory data drawn from experience are ordered and thus form knowledge proper. The organisation of the information or data is seen to be of importance, in that new learning needs to be incorporated into the existing body of knowledge that the individual holds. A good background of ordered information, states Maddox (1993:96), facilitates the acquisition of further knowledge.

Acting upon information is seen to be important in the acquisition of knowledge. Plotkin (1994:20) defines knowledge as a relationship between the organisation of the brain and the specific features of the order of the outside world. Knowing

something, according to Plotkin, involves incorporating the thing that is known into ourselves. In such a process, the knower is changed by the knowledge. Plotkin goes on to say that knowledge is what gives our lives order. Expressed diagrammatically in figure 2.4, the process is linear.

knowledge ⟶ *influences* ⟶ **thinking** ⟶ *determines* ⟶ **action**

Figure 4 Knowledge to action: Adapted from Borko.H. & Putnam. R.T. (1995)

Thought is important in the process of gaining knowledge but knowledge, according to Maddox (1993), is derived from both experience and beliefs. Cognitive psychology gives us a means of examining how we arrive at particular forms of knowledge and develop our beliefs, and how we remember and classify particular experiences. "All direct experience," says Maddox (1993:19), "is capable of being checked and validated by direct observation but the process of validation is fallible." This is thought to be because perception itself is highly selective and our memory is very schematic and imperfect.

We may build what Maddox (1993:98) describes as "elaborate symbolic representations of those parts of the environment which are of special interest to us." Because of our particular beliefs, we may abstract attributes from the things we perceive and group common experiences together. This may be done unconsciously.

Maddox (1993) notes that beliefs, thought and experiences are all influential on the acquisition and development of human knowledge. The literature on teacher thought, experience and belief will therefore be examined. It has been proposed that these factors influence teacher knowledge and, as a result, impact on decision making. A short review of the literature on decision-making will also be made.

2.4.1 Beliefs of teachers

The concept of belief is a difficult one to grasp. It has been argued that when teachers are confronted with a difficult situation or "entangled domain" where they are unsure about what information is required or how to act they are more likely to fall back on their beliefs and belief systems (Pajares 1992:311). Pajares (1992) notes that researchers have thought of beliefs as framing or defining tasks where individuals

use strategic thought to select cognitive tools in order to solve problems. Tasks and problems are therefore defined by beliefs.

Maddox (1993:3) proposes that knowledge is something more than belief and states: "If we know something we should be able to justify it and explain why it is true, cite evidence for it and show that it can be verified." The factual underpinning of beliefs however is often flawed. We are not often put in a position where we are required to question or verify beliefs. Knowledge has justifiable, supportable claims but beliefs are not necessarily based on fact.

Pajares (1992) tells us that beliefs are based on evaluation and judgement and knowledge is based on objective fact. People's beliefs are not always obvious and may be difficult to assess. Whilst "knowledge systems are open to evaluation and critical examination; beliefs are not"(Pajares 1992:311). Beliefs cannot however be ignored. After reviewing the literature on teacher beliefs, Pajares (1992) concluded that beliefs influence teachers' knowledge acquisition and interpretation, task definition and selection, interpretation of course content and comprehension monitoring.

All behaviour involves a choice between two or more alternatives according to Azjen and Fishbein (1980:79). In order to completely understand behaviour these writers propose that it is necessary to identify the beliefs related to the performance of each behavioural alternative. There is a growing recognition that the beliefs held by teachers about teaching and learning can guide decision-making and it is important that we consider teacher beliefs when attempting to interpret teacher behaviours (Prawat 1985; Reid 1986; Pajares 1992; Johnston 1993).

> *Human persons behave publicly, certainly; but one cannot understand human behaviour without attending to and considering as important the subjective factors, including feelings, emotions, motives, intentions of which behaviour is an expression, and of the inner personal history which shapes sentiments and attitudes.* (Reid, 1986:69)

Azjen and Fishbein (1980:80) argue that a person's attitude towards behaviour is a function of belief that performing behaviour leads to various outcomes. There is a

subsequent evaluation of those outcomes. People use the information available to them in a reasonable and rational manner to arrive at their decisions. However, the behaviour of individuals will not always be reasonable or appropriate from an objective point of view. Azjen and Fishbein (1980:244) propose that this is because the information available to individuals may be incomplete or incorrect. Despite this, they argue that a person's behaviour follows logically and systematically from the information that is accessible.

Azjen and Fishbein (1980:244) developed a theory of reasoned action. According to this theory two types of beliefs underlay any action - behavioural and normative. The authors feel that it is reasonable for individuals to weigh both personal feelings (attitudes) and perceived social pressures (subjective norms) in arriving at and carrying out intentions. In the opinion of these authors, many behaviours that appear unplanned are in fact intentional.

Whilst some researchers have found consistency between teachers' beliefs and classroom practice (Richardson 1996, Haste and Burke 1977), other studies have found the relationship between beliefs and practice to be less consistent (Duffy 1982; Paris, Wasik and Turner 1991; Muchmore 1994; Schumm, Vaughn, Gordon and Rothlein 1994).

Schumm et al. (1994) concluded that even amongst skilled teachers, gaps exist between beliefs, practices and skills. They found that even teachers who were highly skilled in planning and making adaptations relied heavily on incidental, situation driven instruction to accommodate individual student needs. These researchers found that individual planning for students was rare, even where teachers believed this was appropriate action.

Knowledge and belief are not always static entities. Harrington (1994:190) writes, "knowledge is constructed, built on previous knowledge, coupled with experience, transformable, evolving and consequential." She cautions her readers not to limit themselves to a rational/logical way of knowing because what she terms intuition and insight may lead to deeper understandings that could not be achieved rationally. Teachers, Harrington (1994:193) states, have been trained to develop declarative (the

what) and procedural (the how) knowledge but have less frequently been trained to develop contextual knowledge which she describes as involving teachers knowing more about themselves and their relationships with their students and the community. She urges teachers to make a broader commitment to "all of the children in their care and the multiplicity of views that they may encompass." In effect Harrington is encouraging educators to be aware of their attitudes, values and beliefs and how these impinge on teaching children who bring different attitudes, values and beliefs to the classroom.

This may not be a simple undertaking. It is not enough to simply raise beliefs to consciousness; critical evaluation of personal beliefs is required. Tobin and La Master (1992) note that while teachers' beliefs affect curricular and instructional choices, the content covered in courses and the way children's understandings are evaluated, teachers seldom question what the authors call their assumptions or the values that underlie those assumptions. The authors found that beliefs can be changed when specific roles in teaching are reconceptualized; noting "it was not a case of challenging specific beliefs one by one, but of making sets of beliefs no longer applicable to a particular role (Tobin & LaMaster 1992:135)."

Encouraging others to change previously held beliefs is not a simple process. Prawat (1992:357) notes that several criteria need to be met before a change in belief systems takes place. Teachers must be dissatisfied with their existing belief in some way. They must find the alternatives offered both intelligible and useful in extending their understanding of new situations and they must find some way of connecting the new belief with their earlier conceptions.

2.4.2 Affect and social conditioning

Many precepts, beliefs and ideas, according to Maddox (1993:111), are tinged with affect because "inputs to the thought centres of the brain are closely associated with emotion and arousal." The author goes on to report that many of our emotional responses to persons and events are conditioned responses and our beliefs therefore can be said to be the products of our social upbringing. Affect and social conditioning, as viewed by Maddox influence belief systems.

In writing about the need for teachers to look beyond the development of skills and techniques of teaching, Carr (1994:33) notes, "the idea of virtue provides a better model for understanding professional competence than skill." For this author, good or effective teaching is not simply centred on the ability to deliver curriculum but involves the exhibition of what he calls intellectual and moral virtues – "love of knowledge, intellectual curiosity, honesty, integrity, patience, fairness, respect for other people, sensitivity to their feelings and so on (Carr 1994:49)."

The views of Elbaz (1992) appear to coincide with those of Carr in 1994. She states that we have valued cognitive over affective knowledge in research. It is her opinion that moral concern pervades all of teachers' work. Elbaz (1992:425) searched teachers' stories in order to identify the qualities that characterize teachers' knowledge as moral knowledge. The qualities identified were hope, attentiveness and caring for difference. She writes that hope rests on a detailed perception of children's lives. Attentiveness is described as the ability to look for and notice detail, to remember the detail and act upon it. Caring for difference encompasses the acknowledgement of the uniqueness of each child. She notes: "When we look at the way teachers make judgements about pupils and their concern to see and understand correctly what is going on, we are also looking at the underlying structure of caring for difference" (Elbaz 1992:430).

What Carr (1994) calls virtue and Elbaz (1992) terms moral concern are linked to the belief systems held by teachers. Teachers bring more to the classroom than knowledge of curriculum or a set of educational procedures to follow; they bring their attitudes, beliefs and values. The extent to which individual teachers act morally or ethically will be determined by the belief systems that they hold.

Johnston (1993) used case study methodology to closely examine the process of a class teacher's thinking about her Grade 2 curriculum. The sources of some of the teacher's ideas were also sought. The findings were presented in the teacher's image of teaching, her image of the subjects she taught, her image of her students and her image of the situation in which she worked. The main principle that the teacher appeared to apply to her work was that children are active seekers of knowledge. A major finding of the study was that the teacher did not apply abstract knowledge. The

deliberate process of decision-making was based on her personal values and life experience. Johnston (1993:481) notes: "There was a strong moral dimension in the process of deliberation used by Helen." Johnston concluded that teacher educators should not present curriculum development as a technical process but should emphasise and acknowledge the need for teachers to reflect on their own values and beliefs. She, like Harrington (1994), writes of the importance of "raising to consciousness" the implicit values, beliefs and understandings that teachers have of their classrooms.

2.4.3 Teacher experience

Teacher experience or the length of service of the teacher may be factors that, like belief, influence the knowledge held by the teacher. There is some evidence that experienced teachers view the world in ways different from novice or inexperienced teachers. Berliner (1987:75) notes that research comparing expert and novice teachers indicates that expert teachers have a fully developed student schemata or mental representation of typical students. They find others' opinions of students untrustworthy and prefer to use their personal experience and knowledge to develop concepts or ideas about their pupils.

The idea that teachers have knowledge and expectations of students based on their past experiences and the concept of normal or expected behaviour is supported by Clark and Peterson (1986:280) when they write: "experienced teachers have preconceptions about the students in their classes even before they have met them." It is the belief of these researchers that teachers will have some idea of the cultural and socio-economic mix of the class, the range of skills to expect, the types of misbehaviour and discipline problems that will occur and the extracurricular activities in which their students will participate. This knowledge will be based on experiential or episodic knowledge that educators construct during the teaching process.

Eggleston (1979:7) looked at the effect of experience on decision-making and noted that the proportion of immediate to reflective decisions is greater for inexperienced teachers. He writes that survival can dominate the concerns and the decision making of the teacher. The survival factor can be vital for less experienced teachers. He

observes "unless the teacher can 'get it right' there may be no more decision making for him to do." Mitchell and Marland (1989) in a later study found evidence to support the findings of Eggleston. They found that the inexperienced teacher in their study indicated engagement in more thinking than the experienced teacher during interactive segments of the lesson that involved questioning. The researchers attribute the variance to differences in the teaching context but also describe how experienced teachers simplify their representations of the task through chunking information and utilising their ability to be selective in order to deal with the heavy demands that interactive teaching imposes on their information processing. Experienced teachers may not feel they have to respond or relate to all information that is presented to them in a teaching situation. They may have developed the ability to chunk or group information and they may also respond selectively - ignoring some information and acting on other data that is available to them.

2.4.4 The development of professional knowledge

Some selective behaviour may be attributable to the training or professional development that teachers have undertaken and the professional knowledge that they develop. All teachers have particular strategies in their teaching repertoire that they employ in particular situations. Strategies utilised by teachers are developed as a result of personal experience, during pre-service training, as a result of professional development or as a consequence of an exchange of ideas between practicing teachers. Professional development can be formal or can evolve from teachers' personal research on topics of interest.

Not all professionals acquire professional knowledge in a systematic way that will ultimately improve practice. Adelman and Taylor (1994) describe three ways professionals assimilate new information, concepts or ideas into their existing knowledge base. Naive eclecticism is described as the tendency of some practitioners to simply keep their eyes open for every new idea that crops up and to adopt these new ideas with little concern for validity or consistency of approach. Applied eclectism involves the practitioner holding both a repertoire of strategies and also rationales for their use. Adelman and Taylor describe scholarly eclecticism as involving systematic theoretical and philosophical analyses of the information held.

New information is constantly being presented to teachers. Professional development could be viewed as a means of reinforcing existing knowledge or providing teachers with additional knowledge with a view to influencing or changing teaching behaviour. Chapman et al. (1991) note however that educational practices have remained remarkably stable over time, despite repeated reforms. New knowledge can be presented in professional development sessions but may not be assimilated and accommodated by teachers.

Fullan (1993:54) notes that the core culture of teaching is difficult to change. This, he claims, is partly because the problems that teachers face are complex and difficult to resolve and partly because most strategies presented to teachers in training and professional development fail to focus on teaching and learning. Fullan and Hargreaves (1992) write that professional development programs should recognise the fact that teachers learn by doing. Links must be made with participants' prior knowledge and teachers need opportunities for reflection. The administration of the school must also be supportive of suggested changes and an open, flexible environment should be in existence in the school. Smylie (1988:11) also writes of the importance of the acceptance of new ideas and strategies by school administration, stating: "In deciding whether to adopt new knowledge and skills, teachers are likely to rely on knowledge, beliefs and perceptions related to their own practice and on cues from the organisational environment of their schools and classrooms."

Fullan (1991:316) further notes that professional development sessions should take place over extended periods of time. It is his belief that single, isolated workshops are ineffective. He suggests that teachers should select the topics presented, there should be follow up and support for topics presented and opportunities for evaluation and review.

In order for the ideas to be accepted and accommodated by participants in teacher professional development programs, Fullan (1993:80) states that teachers must be made "cognisant of the links between the moral purpose at the school level and larger issues of educational policy and societal development." Teachers do not operate in a vacuum. They have responsibilities to their students but also to the wider community.

Fullan (1991:119) observes that because of isolation and the norm of not sharing that has existed in schools, teachers have not developed a common technical culture. Fullan (1993) suggests that teachers need to be more interactive and collaborative. It is his contention that teachers need to become involved in continuous inquiry and learning and seek new ideas outside their own settings. If more teachers were to become involved in communities of inquiry, the goals of education could be advanced.

Differences in the professional knowledge possessed by specialist and non-specialist teachers and how they use and organise this knowledge in order to interpret classroom events and solve problems has been shown to be directly related to the specific training and experiences they have been exposed to. Blanton, Blanton and Cross (1994) studied the responses of 20 general education and 20 special education resource teachers to a videotape of a reading comprehension lesson. The findings of their study indicate that both groups of teachers identified the same solutions to problems presented and possessed a similar repertoire of knowledge but differed when identifying and interpreting problems. The special education resource teachers had more elaborate organisation of knowledge from which to generate interpretations and problem statements concerning students who presented with learning problems and this elaborate knowledge was indexed to possible solutions. These teachers were obviously drawing upon information that was presented to them in their training and as a direct result of their specialised experience. Resource teachers emphasised curriculum and instructional variables whilst classroom teachers placed more emphasis on social and behavioural variables and classroom management. This led the researchers to hypothesise that resource teachers had a higher tolerance for behaviours that deviate from those of other students.

An explanation that the researchers did not explore was the possibility that the training of the resource teachers emphasised curriculum solutions to behavioural problems. That is, it is possible that if the curriculum is appropriate and the student is presented with tasks that are achievable, then behavioural problems may not be as prominent. A major conclusion of this study was that it would be reasonable to expect pre-service teacher education programs to provide teachers with clinical

experiences involving students with learning disabilities. In this way, these students would be advantaged because their teachers would be better placed to develop appropriate curriculum to meet their needs.

Teachers obviously draw on training and previous teaching experience in developing their knowledge base. Berliner (1987:61) reminds us however that experience will only instruct those who have a motivation to excel in what they do. Affect and social conditioning have been discussed but the question remains - How does personal experience contribute to the knowledge of teachers and what motivates teachers to excel?

2.4.5 Critical episodes

Goodson (1994:118) notes "life experience and background are obviously key ingredients of the people that we are, of our own sense of self." He refers to the importance of critical incidents in moulding teachers' styles and teaching practices. Pajares (1992) highlights the importance of critical episodes and images in the lives of teachers. These critical episodes help explain how teachers develop their educational belief structures, sometimes even before they have undertaken their pre-service education. Goodson (1994) advocates the use of life history data in researching teachers. It is clear to him that teachers' previous life experience and background help shape their view of teaching and the essential elements of their teaching practice. He notes that teacher life styles both in and outside the school, their identities and their culture will all impact on their views of teaching. As well as considering teachers' life styles, Goodson advocates that the stage teachers have reached in their career should be a focus for the researcher. Critical incidents in teachers' lives and work that might affect their perceptions and their practice should also be considered.

Experiential knowledge is important to teachers. Clandinin (1986:3) writes: "To assume that a teacher could somehow cut free of her history and approach each situation without the benefit of past experience would be absurd." She states that Elbaz' (1983) notion of image as a component of teacher knowledge provided a starting point from which to think about how past experiences could have guided the teacher. Clandinin (1986:16) researched the personal experiences of two teachers in

order to "understand experience as it crystallizes in the form of images and forms part of the teachers' personal practical knowledge." Through her research she came to see that emotion and morality were dimensions of the images teachers constructed of their work.

Individuals may view particular or specific incidents as critical if they either exemplify or challenge prior belief systems. Critical incidents or episodes may be used to support existing belief systems or they may contribute to the development of new beliefs.

2.5 Teacher thought

Central to knowledge is organisation of information. New learning has to be incorporated into the existing knowledge base held by the individual. Mitchell and Marland (1989), in their review of the research on teacher thinking, point out that there has been two ways of looking at teacher thought. The first involves research on how teachers think pre-actively and interactively and the other focus has been on the domains of teacher knowledge or the different kinds of knowledge that teachers draw on in doing the work of teaching.

Clark and Peterson (1986) describe three ways in which teacher thought has been measured. The first, simulated recall, involves teachers reporting on their thoughts and decisions after a tape of their lesson has been replayed for them. Policy capturing, a second way of measuring teacher thought, entails teachers being asked to make judgements or decisions based on hypothetical situations. The third measurement involves journal keeping at the end of lessons, where teachers record their reflective thoughts and responses to their lessons. Researchers need to be careful when studying teacher thinking as the context in which the thinking takes place will almost certainly affect the data that is collected.

Wong (1993) points out that cognitive psychologists view individuals as active change agents of their information processing and constructors of their own understanding, rather than passive recipients of environmental stimuli. Teachers may need to be selective, making decisions about the information that they will attend to and that which they will not act upon. This may be dependent upon the teachers'

ability to relate the information to the prior knowledge that they hold. Teachers may also need to order the information that they have at their disposal in order to develop schema with which they can work. Mayer et al. (1994:143) describe how teachers may personalise reactions to students, attempt to make sense of classroom events and predict student responses. They may also form an image of their class as a whole in an effort to make sense of the information they gather about individual students.

Etchbeger and Shawk (1992:411) note that knowledge does not exist outside of a person. They state that understanding of any event or problem occurs only when relationships are made to existing understanding in the learners' mind. The teacher in their study was able to change the concept of her teaching through reflection on how her students learnt. Etchberger and Shawk (1992) conclude that reflection, when acted upon, generates powerful transformations. Accordingly teachers will construct their own understanding of the way children learn as they interact with their students and colleagues, solving the problems that arise everyday in the classroom. The question is - If teachers work as problem solvers, what professional knowledge might they draw upon in reaching solutions to the problems with which they are faced?

Burroughs-Lange et al. (1994) write that teachers are constantly interpreting, defining and redefining their professional knowledge. These authors note that the knowledge constructed by individuals can therefore best be examined through scrutinising situations as teachers see them and as they believe them to be.

All thinking and knowledge is contextual. Lampert and Clark (1990:21) note, "all knowledge is a joint construction of the mind and the situation in which the mind finds itself confronted with a problem." The authors record their belief that the knowledge teachers use to make adjustments to their teaching is contextual, interactive and speculative. In certain situations particular knowledge bases will be drawn upon and specific teaching strategies utilised. It has been noted that the actions undertaken by teachers however may not always be the most appropriate for their students.

An argument (in research) is that teachers act reasonably within the situations they construct. Thus, research on teacher thinking has made that reasonableness explicit, showing that teachers often act on the basis of reasons and reasoning. But that conclusion does not imply that the reasons or reasoning are necessarily appropriate, valid or logical, or that they will lead to effective action. Indeed the research often reveals that teachers do not act in the best manner to achieve their own goals, or reveals that teachers do not have accurate information or theories about their students or about their own actions. (Floden and Klinzing, 1990:17)

2.6 Decision making

The knowledge held by teachers, developed through interactions of beliefs, experience and thought is utilised in decision making when teachers attempt to solve the problems with which they are faced every day.

Decisions about teaching, according to Wilson, Shulman and Richert (1987:107), are based on practical knowledge. Practical knowledge includes:

- content knowledge: understanding of the facts or concepts within a domain as well as knowledge of the subject matter; and
- substantive knowledge: the ways in which the fundamental principles of a discipline are organised.

As well as practical knowledge of the subject, general pedagogic knowledge is required. This involves knowledge of the theories and principles of teaching and learning, knowledge of learners and knowledge of the principles and techniques of classroom behaviour and management. Wilson et al. (1987) write that teachers think about a variety of issues during the pre-active or planning stage and the interactive or instruction stage of teaching.

It is possible to view decision-making and teacher thought as the way teachers manage the intricate nature of the teaching process. Pasch et al. (1991) note that teachers make three different kinds of decisions when handling the complexity of teaching:

- decisions made before teaching or planning decisions;
- decisions made during teaching or implementation decisions; and

- decisions made after teaching, decisions involving reflection, prediction and redesign.

Planning decisions are made before teaching. Implementation decisions, those made during teaching, involve teacher observation of student response and then subsequent actions or modifications to actions or behaviour. Decisions made after teaching entail reflection, predictions and the redesign of practice. Teachers' decisions therefore have a direct impact on their behaviour and practice.

It has been said that teachers draw heavily on routines when they plan (Clark and Yinger 1987:86). Planning, according to these researchers, is "a process in which a person visualises the future, inventories means and ends and constructs a framework to guide his or her future action." Clark and Yinger (1987:95) further point out that teacher planning influences opportunity to learn, content coverage, grouping for instruction and the general focus of classroom processes. Clark and Yinger note however that the finer details of classroom teaching are unpredictable and not planned. What cannot be planned is the response of the students to the proposed lesson.

Interactive decisions, or those made during teaching, are the direct result of student response to lessons and activities presented and the teaching methods and strategies employed by the teacher. Teachers behave or act in certain ways and their actions have an effect on students. Clark and Peterson (1986:257) developed a model of teacher thought which can be interpreted as having two main domains - (a) teachers' thought processes and (b) teachers' actions and their observable effects. These two domains relate to each other. Teacher planning, interactive thoughts and decisions along with the personal theories and beliefs of teachers are thought to impact on teacher behaviour.

Clark and Peterson (1986:257) believe that teachers' thought processes influence and are in turn influenced by the theories and beliefs held by the individual, the plans they make and their interactive thoughts and decisions. Teacher thoughts and subsequent decisions are related to teaching behaviours which both influence and are influenced by student classroom behaviour and achievement. Decisions impact upon

teaching practice; thus teachers behave in certain ways and their behaviour has observable effects on students. The response of students will then in turn affect teacher behaviour and so the interactive cycle continues.

Interactive decision-making can defined as a deliberate choice to undertake a specific action in response to students. In the threshold theory of interactive decision-making Clark and Peterson (1986:277) propose that interactive decisions are only made when student response behaviour is beyond the threshold of tolerance. The authors present the model represented in Figure 5.

This model indicates that teachers follow set plans and deviate only if they perceive that students are not responding appropriately. Path 1, described by the authors as "business as usual" was observed most frequently - 61 to 71% of the time. Of course teachers' tolerance levels will differ. Tolerance for difference could be described as a direct result of the beliefs teachers hold about their students. If the behaviour of students does not fall within tolerance levels however, this still does not mean that an alternative response or behaviour on the part of the teacher will take place. If no alternative response is available in the teacher's repertoire or the teacher does not know how or wish to respond, then no new behaviour or change in behaviour will take place.

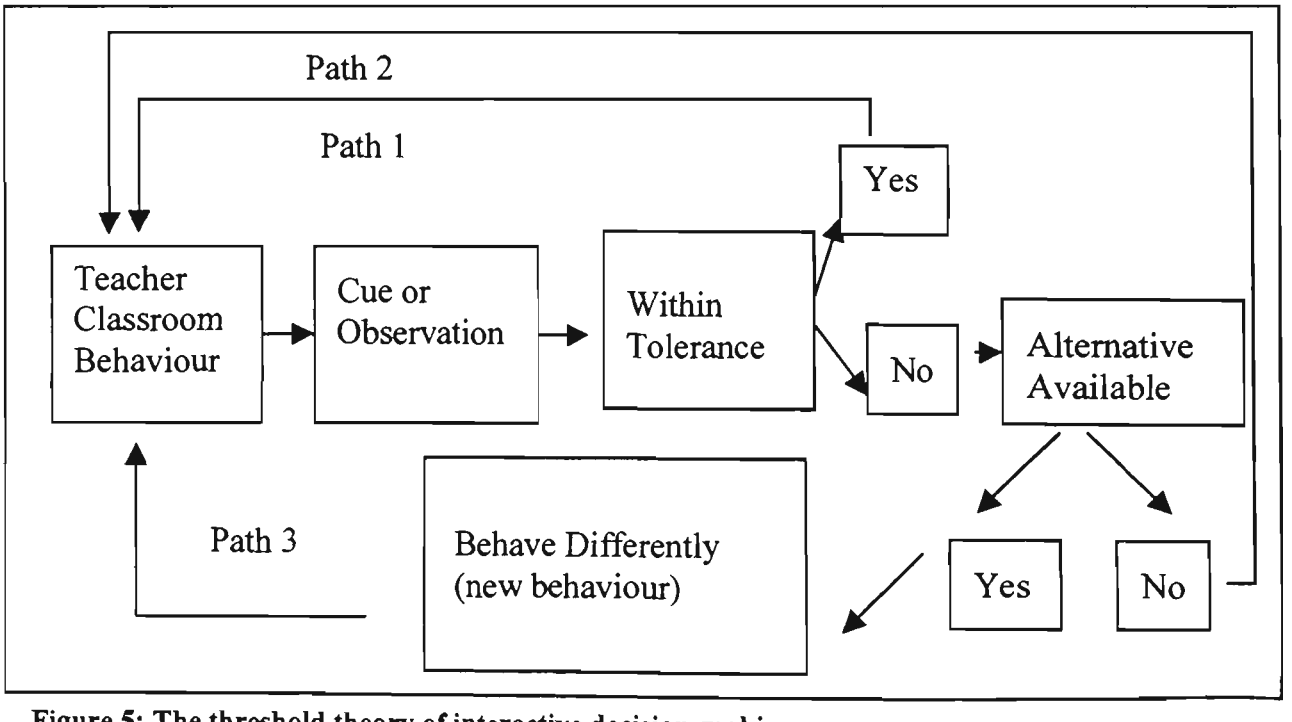

Figure 5: The threshold theory of interactive decision-making
Clark and Peterson (1986)

Clark and Peterson (1986:275) report the work of Perc Marland undertaken in 1977. Marland found that interactive decisions, made because the behaviour of students was not within the tolerance levels of teachers, occurred when student deviance, noise, restlessness, inattention or disruption was present. This accounted for 20% of observed interactive decisions. Incorrect response, unsatisfactory responses, delayed or incomplete student response accounted for 19.5% of teachers' interactive responses. Students' apparent lack of understanding accounted for only 3% of interactive decision-making. In this study however "only 24% of interactive decisions involved the teacher's explicit reference to consider one or more alternatives and evidence that the teacher followed through with a choice of alternative" (Clark and Peterson 1986:275).

Decisions made after teaching involve reflection. Conditions in classrooms are not static and predictable. Solutions to problems that arise and subsequent consideration of different options may not be practically undertaken during teaching but may require a reflective stance. Calderhead (1987) believes that teaching is a reflective, thinking activity in which teachers have a goal orientation in relation to their clients. One might assume that the goals of teaching might be either to impart knowledge and skills or to facilitate the discovery and development of knowledge and skills. Teachers, according to Calderhead (1987), must use their knowledge to solve complex problems through analysing, interpreting and making judgements in a situation where there are competing demands, where unexpected events often occur and there are disruptions to set plans. Calderhead writes that one of the characteristics of expert teaching is the way in which teachers can employ and adapt routines sensitively to the situation at hand.

Reflection, in the view of King and Kitchener (1994), requires continual evaluation of beliefs, assumptions and hypotheses against existing information and knowledge and other interpretations of the data. Many of the problems faced by adults require thinking that takes into account situations that are constantly changing and sometimes there needs to be a consideration of competing perspectives. At times people may need to assimilate information by using the current knowledge and structures they have at their disposal to interpret information. At other times existing

knowledge or structures may need to change in order to accommodate the information presented. King and Kitchener (1994) note that assimilation and accommodation occur throughout life and these account for changes in the way people view the world.

In writing about reflective practice in education Ross (1990) records the view that introspection, open-mindedness and willingness to accept responsibility for decisions and actions are important in the development of reflective teaching. Two types of reflective teacher are described; the introspective teacher who thoughtfully considers classroom events with an eye towards improvement, and the open minded teacher who is willing to consider new evidence and the possibility of error. "The characteristic of mature reflective judgement is the ability to view situations from multiple perspectives and the ability to search for alternative explanations" (Ross 1990:99).

The decision making process can be described as cyclical. In the ideal situation teachers would thoroughly plan their lessons, they would make interactive decisions as their lessons progress and then they would reflect upon the outcomes, adapting and modifying future plans based on the outcomes of their observations and judgements. The role of the teacher could therefore be described as interpretive.

All decisions and judgements, whether made pre-actively, interactively or in evaluation must be based on information held by the teacher. There are many kinds of knowledge bases teachers draw upon in making decisions about teaching. Learning to be systematic in decision-making and to be aware of the cognitive processes involved during decision-making takes practice, according to Greenwood and Parkay (1989). They claim that teachers use their knowledge in a uniquely practical way and draw upon their knowledge of:

- the context of a particular situation;
- various theories of practice;
- social conditions and constraints; and
- self and their teaching experience.

In order for judgements, decisions or plans to be made teachers must make sense of the information they have about the teaching situation in which they find themselves, their knowledge of curriculum and subject content, their students and, to some degree, their knowledge of themselves as teachers and learners. Shavelson and Stern (1981) write that certain assumptions are made of teachers. The first assumption is that teachers are rational professionals who carry out decisions in an uncertain and complex environment. The second assumption that they make is that the capacity of the human mind for formulating and solving complex problems is very small compared to the ideal. Lastly there is an assumption that the behaviour of teachers is guided by thoughts, judgements and decisions. These thoughts, judgements and decisions, according to Shavelson and Stern, are based on information about students. The authors note that this information might relate to students' general ability, their self-concept, sex, participation, degree of independence, and their classroom behaviour and work habits. Information about the task to be performed is also vital, the goals that are to be strived for and the resources and materials that are available to the teacher are also important aspects that might impact upon selection of teaching strategies or methods.

Clark and Peterson (1986) remind us that constraints made by governments and school principals should also be considered as factors that affect decisions made by classroom teachers. They note that the extent to which responsibility and participation in decision making are given to teachers has been shown to be an important variable that defines effective schools (Clark and Peterson 1986:258).

Hence decisions may be based on thoughts or judgements relating to professional knowledge of curriculum and teaching methods, knowledge of students and policies or constraints made by governing bodies of schools. Past experience and the way teachers interpret this experience may also be an important factor. It is possible that experienced teachers may be better placed to interpret the information available to them because they have established theories and principles that work for them.

2.7 Theories and principles held by teachers

Fawcett and Downs (1986) tell us that a theory is a statement that purports to account for or characterise some phenomenon. These authors view theories as the way people impose order. Theories "provide systematic ways of viewing a basically chaotic world." Merriam (1988:55) writes that a theory integrates pieces of knowledge into a whole, making sense out of information by summarizing what is known. She notes that a theory offers a general explanation of the phenomenon under study. The concept of teachers as theory builders is not new. The question to be asked is: What principles or theories do teachers hold?

Osborne and Marland (1990) suggest that teachers have theories about how to be effective in the classroom. These theories find expression in, and influence the way teachers think and act in the classroom. The fact that teachers' theories are partly conscious leads to the fact that they can only be partially articulated. Osborne and Marland further believe that teacher behaviour may not always be congruent with their theories of action. The researchers carried out an intensive study of a teacher, observing her in the classroom context and carrying out in depth ethnographic interviews to provide what they termed "emic" or "insider" perspectives on the culture of the classroom. They concluded that when thinking about tactics to be employed in the lesson, the teacher did not draw directly on her repertoire of principles, tactics and models of classroom practice. The tactics she reported thinking about during lessons were quite different to those reported in the non-interactive and ethnographic data.

The teacher possessed two main schemata - the first involved anticipating problems and adopting problem avoidance measures and the second consisted of ways of reacting to student responses, initiatives and other of their behaviours. "Observation and lesson videotapes provided evidence of a close match between teacher theory of action and classroom practice however, except on rare occasions, no links were found between the teacher's theory of action and interactive thinking. Immediate classroom context was important (Osborne and Marland, 1990:107). In planning teachers might draw upon their professional knowledge of the subject matter they are teaching and how this fits into the general aims of the curriculum, the materials and resources available.

Theories of teaching and learning may not necessarily be drawn upon in the classroom context where the response of the students and other outside factors may be more crucial in influencing practice than professional knowledge. In this way teachers' behaviour or actions may not always match their educational theories.

The theories held by teachers have been described as implicit. Clark and Peterson (1986) propose that implicit theories are the frames of reference through which teachers perceive and process information. These principles include:

- The principle of compensation where teachers positively discriminate in favour of shy, introverted, low ability or culturally impoverished students;
- The principle of strategic leniency where teachers ignore infractions made by students needing special attention;
- The principle of progressive checking whereby teachers periodically check on the progress of low achieving students;
- The principle of suppressing emotions where teachers do not let students know their true feelings.

These principles may be based in part on information acquired formally but may also be based on teachers' belief systems. Teachers are constantly required to solve the dilemmas of how to respond to the needs of heterogeneous groups of children in classes where children present with a range of abilities and bring very different sets of past experiences and prior knowledge to the learning situation.

There are those who agree that adapting instruction to meet specific needs is a reasonable ideal but who also recognise and acknowledge the limitations of teachers as they work in the classroom context. Schumm and Vaughn (1991), researchers who have studied adaptive instruction extensively, have noted that successful education for students with specific needs will depend upon both teachers' previous success at making adaptations and their willingness to make any modification in response to individual need. This willingness to make changes in instruction may relate to a number of factors. Among these are teachers' professional knowledge, their prior experiences and perceived success or failure in educating children with special needs, and the beliefs, attitudes and theories that they hold about teaching. All of

these factors will influence the judgements and decisions teachers make about the teaching process as they work with children in classrooms. Response to diversity or individual need and the adaptation of instruction is the topic of the next part of the literature review.

2.8 Adaptive instruction

Many studies have been undertaken in order to discover how teachers cope with mainstreaming or the integration of special needs students into regular classrooms, particularly at the beginning of the integration movement (Goodspeed & Celotta 1982; Madden & Slavin 1983; Hegarty 1985; Stainback et al. 1985; Scott 1988). Issues arising from this research included the preparation of teachers for the integration process and strategies and instructional practices which might facilitate the inclusion of students with special needs. Obviously teachers were going to need to adapt their classroom techniques and practices in order to cater for students who were being integrated from segregated settings and teachers' perceptions of their own preparedness for the task was an issue. Scott (1988) interviewed twenty Victorian teachers who had integrated mildly intellectually disabled students into regular classes and twenty teachers who had referred students to specialist settings. She found that teachers in the study did not generally think that the curriculum available to them catered for special needs students. There were few differences identified in the two groups of teachers. They had similar training and teaching experience. The only differences identified between referring and integrating teachers was that significantly more teachers who referred children to special schools reported that the special needs child directly affected classroom organisation, made large demands on their time and impeded the progress of other students.

A major finding of Scott's study was that the behaviour of the student was of paramount importance. If the student's behaviour was considered problematic, then it was more likely a segregated setting would be recommended for the child. It is possible that the type and degree of disability are factors that influence instructional practices and teacher preparedness to make adaptations or modifications to teaching practice.

Evidently teachers have a number of concerns about their ability to make adaptations in response to diversity. Some of the adaptations that teachers utilise have been identified in the literature.

Ysseldyke et al. (1990) noted that while there was an assumption that classroom teachers use a variety of procedures and arrangements to adjust for the needs of students who have mild learning problems, very little was actually known at that time about how teachers catered for their needs. In order to discover more about adaptation Ysseldyke et al. (1990) sent a questionnaire to 240 special education teachers across the United States. These specialists were asked to pass the questionnaire on to their regular education colleagues. The researchers received responses from 197 teachers across 35 states. Most teachers reported that they had between one to five students with mild handicaps in their classrooms. Almost half of those surveyed indicated that other adults helped in their rooms - 15% had teacher aides, 18% received assistance from other teachers and 17% utilised the services of volunteers.

Teachers in this research rated 15 statements of instructional adaptation from 1-7 for desirability and feasibility of implementation. In general teachers found all of the adaptations presented for consideration as highly desirable but rated their ability to make the adaptations lower. It is noteworthy that the adaptation that teachers believed they were least likely to carry out in their classes was also the one that received the highest average desirability rating – "holding the student accountable for his/her performance and quality of work." The conclusion drawn from the study was that there is little indication that teachers change their instructional methods when students with disabilities are placed in their classrooms. The researchers suggest that general educators either do not see a way to alter their classroom environment or are unable to implement changes. They note that this study provided an interesting but limited picture of some of the practices employed by regular teachers.

Ysseldyke and his colleagues (1990) studied teacher response to students with mild disabilities. They noted at that time there were increasing numbers of children with mild learning problems in the USA who were declared eligible for special education

services. This is not the case in Victoria where students with learning disabilities do not meet criteria for teacher aides or additional special needs funding.

Much of the research on adaptation of instruction has been undertaken with teachers who are working with children identified as having special educational needs. These might include children with a variety of disabilities. Schumm and Vaughn (1991) looked at how teachers in elementary, middle and high schools made adaptations for mainstreamed students. An intensive search by these authors yielded very little information that addressed curricular adaptations made by general educators for special education students. The purpose of their research was to assess teachers' willingness to make adaptations for special learners in their classroom. Thirty items relating to adaptation were presented in survey form to 93 teachers in the study. All adaptations were perceived by teachers in the study to be more desirable than feasible. The types of adaptations that were considered most desirable were: providing reinforcement and encouragement, establishing a personal relationship with the mainstreamed student and involving the mainstreamed student in whole class activities. The researchers noted that teachers rated adjusting long term goals, modifying the physical environment and adapting regular materials and scoring criteria as less desirable than other adaptations. They hypothesised that this was because many teachers lack the skills and knowledge to make such adaptations. In their conclusion Schumm and Vaughn (1991:24) note that successful education for these students "will surely relate to classroom teachers' success at making - and willingness to make - adaptations."

If teachers do not believe it is feasible to make adaptations for students with disabilities, how do they respond to students who have specific problems such as reading disability?

In a later study Schumm and Vaughn (1995) carried out extensive conversations with classroom teachers. Most teachers reported that they did not feel they possessed the knowledge, skills and confidence they needed to teach students with disabilities in general education classrooms. If teachers believe that they do not have the skills or confidence to carry out formal or specialised adaptations, it is possible that they

might make some routine adaptations in direct response to student's inability to cope with lessons presented.

Routine and specialised adaptation was the focus of a study by Fuchs et al. (1992). These researchers scrutinised instructional plan sheets and administered a questionnaire to 110 elementary and middle school teachers in order to study the routines teachers establish to cater for learning disabled students and the specialised adaptations they made in the light of perceived student difficulty. The researchers administered the questionnaire to teachers in order to determine perceived time devoted to the learning disabled student, the teachers' participation in school decision making, their perceived inadequacy of planning time and their knowledge of handling disruptive behaviour. Reasons were sought for teacher behaviour.

Whereas the previous studies all researched teacher response to mainstreamed students, the focus of the Fuchs et al. (1992) study was teacher response to the needs of students with learning disabilities. The researchers assessed three students from each class in order to determine discrepancy between learning disabled, average achieving and low achieving students' performance in mathematics and reading. The researchers concluded that adaptation, particularly in reading, appeared to be determined by the severity of the at risk child's academic problems. In mathematics classes however, the teachers' judgements of their ability to deal with student disruption appeared to "help determine the extent to which they established their classroom structures to allow for relatively complex routines that permitted ongoing adaptation." Fuchs et al. (1992) concluded that increasing teachers' skills in managing potentially difficult behaviour might increase their ability to engage in instructional adaptation.

Whilst teachers appear to have been very honest about their instructional methods and concerns relating to the education of students with disabilities, a limitation of the aforementioned studies is that self-reports are used as a means of discovering how teachers deal with diversity. There is frequently discrepancy between what people do and what they say they do. It is important that researchers look beyond the publicly expected and official versions of reality. Schumm and Vaughn together with McIntosh, Haager and Lee (McIntosh et al. 1993) interviewed and also observed 60

teachers of Grades 3-12 who each had a mainstreamed student with a learning disability in their class. Teachers in this study were not selected randomly. They were identified by their principals as successful teachers of mainstreamed students. Observations were made of each of the students using the Classroom Climate Scale that was developed to provide data about teacher and student initiated behaviours, student interaction and classroom climate. Data were analysed quantitatively.

The primary purpose of the research was to establish the extent to which teachers in different class levels accommodated learning disabled children. The overall finding was that general classroom educators treated students with learning disabilities in much the same way as other students. They were found to be accepted, treated fairly and worked on the same activities with the same materials. However there was little differentiation of instruction to meet the needs of students with disabilities. The learning disabled students were found to be included but participated little. They infrequently asked for help, did not volunteer answers to questions, they participated in teacher directed activities at a lower rate and interacted with both the teacher and other students at a lower rate. These researchers concluded that there was an implicit pact between teachers and students with learning disabilities of: "You don't bother me and I won't bother you."

McIntosh et al. (1993) collected data on teacher interactions with one child in each class who was identified as mainstreamed learning disabled. It would generally be expected that there would be more than one child in each class who would require some modification or adaptation of instruction in order to benefit fully from the educational program offered. It is accepted that there could be between 10-16% of children who experience difficulty with learning in Australian schools (National Health and Medical Research Council 1990; Louden et al. 2000).

In a subsequent study Schumm and Vaughn together with Gordon and Rothlein (1994) investigated teachers' beliefs, skills and practices in planning and making adaptations for mainstreamed learning disabled students. Sixty educators, who were also identified by administrators and peers as being effective teachers of mainstreamed students, were asked to complete a survey assessing beliefs, skills and practices. A subset of 12 teachers was interviewed and their classrooms observed in

order to provide added insight into and evidence of their adaptive instructional practices. At no grade level did the researchers find extensive, individualised planning for mainstreamed students with learning disabilities. They did find that there were significant correlations between teacher self-reports of beliefs and practices, beliefs and skills, and practices and skills but no significant correlation between beliefs and skills. This was thought to be due to the fact that many teachers reported that they were skilled in adapting course content but did not do so. Interviews with the twelve teachers indicated that mainstreamed students were expected to master the same content as students who were not considered to be learning disabled. The results further suggest that even when teachers recognise adaptations as valuable and those teachers are perceived as skilled in making adaptations, the feasibility of actually implementing the adaptations is often low. Lack of time was given as a reason for not making adaptations. The researchers conclude that adaptations need to be feasible for general educators to implement and barriers to implementation need to be taken into consideration in professional development programs.

A review of the literature on adaptive instruction shows:

- Teachers view adaptations as desirable but rate their ability to make them lower (Ysseldyke et al. 1990).
- Teachers rate adaptations that involve changes in planning and curriculum use as less desirable than those adjustments that involve the social and motivational adjustment of the mainstreamed student (Schumm & Vaughn 1991).
- Instructional adaptation, both routine and specialised, appears to be determined by the severity of the at-risk student's academic problems - more heavily in reading than mathematics. In mathematics teachers' judgement of their capacity to handle student disruption determined the extent to which they made adaptations (Fuchs et al.1992).
- General classroom educators treat students with learning disabilities in much the same way as other students (McIntosh et al. 1993).
- Even among skilled teachers gaps exist between beliefs, skills and practices in planning and making adaptations for students with learning disabilities (Schumm et al. 1994).

- Barriers to the implementation of adaptations such as class size and limited planning time need to be taken into account in training teachers (Schumm et al. 1994).

The studies in this review have focused on data collected through teacher surveys, observations and interviews with a view to discovering more about adaptive instruction for populations of children who were mainstreamed or integrated - children with mild learning problems, mild intellectual disability and children identified as learning disabled. At this point, studies involving adaptive instruction for the particular and specific population of children experiencing difficulties with reading have not been reviewed unless the aim was to specifically report on particular intervention programs which have been implemented in schools (Jenkins et al. 1994).

2.8.1 Adapting instruction in response to reading difficulty

A study by Jenkins et al. (1994) examined an alternative approach for organising reading instruction in order to accommodate individual differences in reading ability. The study involved scrutiny of the Co-operative Integrated Reading and Composition (CIRC) program. The features of the CIRC include teaching the whole class in the absence of grouping and utilising the same instructional material for all. There was increased support for the low achievers in these classes with cross-age and peer tutoring being undertaken. Supplementary phonics instruction was also provided to the experimental CIRC group who also received classroom-based instruction from compensatory and special education teachers.

It is not surprising with this degree of intervention that the experimental program had significant effects on reading vocabulary, total reading and language scale scores and marginally improved reading comprehension across all student groups studied - regular, remedial and special education. The researchers state that there were no treatment effects on behaviour ratings. It was noted however that the program required some withdrawal of students for specialised decoding instruction with the researchers commenting:

> *We take some comfort in noting that other researchers who have achieved success in accommodating individual differences have had to add some form of intense supplemental assistance over and above classroom reading programs.* (Jenkins et al., 1994:356)

The focus of the proposed research is how classroom teachers might respond to diversity in reading ability of their students, however the research on adaptive instruction in reading appears to focus on withdrawal programs (Wasik & Slavin 1993). There is a tendency to withdraw students for appropriate intervention instruction.

Wasik and Slavin (1993) state that one-to-one tutoring is an option that is often being considered in U.S. programs with young students to prevent early reading failure. The researchers review five of these programs. Two programs utilised in Victorian schools will be outlined. Reading Recovery is described as a program based on psycholinguistic principles in which the reader constructs meaning from print. A systematic one-to-one tutoring is undertaken with children in first grade. Success for All is a one-to-one tutoring program undertaken by certified teachers for students in Grades 1-3. Its underlying philosophy is that there is a degree of regularity to language and that direct presentation of information about letters and sounds is viewed as a helpful strategy that children can use to decode words. This program emphasises reading as a strategic process. It involves systematic phonics instruction, the extension of students' sight vocabulary through whole word naming and the reading of meaningful, connected text.

The conclusion drawn by Wasik and Slavin (1993) is that one-to one tutoring shows potential as an effective instructional innovation. Unfortunately, because of the nature of the work, this type of intervention is costly in terms of staffing. The other consideration is how the students cope when they return to the general classroom situation. Even if an intervention is being undertaken, the classroom teacher may still need to make some modifications when the child is present in class. If there is no intervention, then the responsibility for the instruction of the child will rest solely on the classroom teacher.

There is a vast body of research on the teaching of reading and a growing collection of research on the subject of reading difficulty. Adaptive educational practices are responses to the perceived needs of individual students. Any adaptation of instruction must be based on teachers' current practices and the knowledge they hold about reading and reading difficulty. The way teachers develop and utilise their knowledge has been shown to be dependent on beliefs (Pajares 1992), social conditioning (Elbaz 1992; Carr 1994; Johnston 1993) and their experiences in teaching, including professional development (Eggleston 1979; Berliner 1987). The way teachers think, the bases upon which they make their decisions and the theories and principles they hold may all impact upon their ability to develop and draw upon a repertoire of teaching strategies that are responsive to the needs of individual students.

CHAPTER 3
THEORETICAL FRAMEWORKS AND EMERGENT PREDICTIONS

This section of the Literature review was predominantly written during the phase of data analysis. In reviewing the literature prior to undertaking the research project it had become manifest that:

- there is no one accepted way of teaching reading to students;
- children who experience difficulty with reading are not a homogenous group, they are different and require different forms of intervention or instruction;
- teachers' views of reading, personal belief systems about individual difference, their experience and the sources of knowledge they draw upon when dealing with difference and diversity will impact on their instructional behaviour.

The objectives of the research were:

- to describe the methods, routines and procedures utilised by Victorian teachers of upper primary classes (Grades 5-6) as they dealt with diversity in the classroom;
- to describe a small population of Victorian students in Years 5-6 who experience difficulty with reading;
- to identify both proactive and reactive adaptations made during reading instruction and describe the conditions under which they occur;
- to identify the knowledge and beliefs teachers draw upon in responding to individual difference in the classroom.

Research questions were developed to meet the objectives of the research:

1) How are teachers prepared for the task of teaching students with diverse educational needs?
2) How do school systems and administrators support those staff members who are given the responsibility of teaching students who experience difficulty with reading?
3) What teaching styles are utilised by teachers in their daily interactions with students?

4) How do teachers beliefs influence the way they teach reading to students who experience difficulties?
5) What characterises those students described by their teachers as experiencing difficulty with reading?
6) How do Victorian teachers of Grades 5 and 6 respond to the needs of students who experience difficulty with reading?
7) How do teachers differ in their approach to adaptive teaching practice?

In order to achieve these objectives and respond to the research questions it was proposed that teachers would be observed during reading lessons and teacher interactions with students experiencing difficulty would be noted. Follow up interviews were be undertaken, during which teachers were asked to describe their teaching practices and explain the rationale for specific teaching behaviours.

In order to filter the information that was gathered, theoretical frameworks were sought for three areas of study presented in the literature. Three areas – teachers' theories about reading, teacher's beliefs about learners and teachers' ways of knowing emerged as possible predictors of adaptive teaching practices. Teachers' theories about reading are developed through their own experience and training. The particular skills and needs of students may also influence the way that teachers present reading instruction along with expectations of school administrators and the kinds of support administrators provide. Information collected in an effort to respond to research questions 1, 2, 5 and 6 will therefore provide important information on teachers' theories about reading. Method of presenting reading instruction or reading lessons will be investigated through analysis of information collected in response to research question 3. Teachers' beliefs about learners will be investigated through research question 4. Teachers' ways of knowing will be investigated through analysis information collected through research questions 6 and 7.

3.1 A theoretical framework for investigating reading

During the period of data analysis, the debate over the best method of instructing students in reading continued to rage (Tumner and Chapman 1996; Hempenstall 1996; Baumann et al. 1998; Reutzel 1999; Alexander 1999; Hill and Crevola 1999 and Hall 2000).

Tunmer and Chapman (1996) strongly criticised the Whole Language approach to literacy instruction in their paper titled "Whole Language or Whole Nonsense?" Tunmer and Chapman (1996:78) noted that whole language theorists described reading as the utilisation of minimal word level information to confirm language predictions. Tumner and Chapman (1996:83) suggested the use of a metacognitive strategy approach to teaching that promoted active problem solving with regard to graphic information. These researchers vigorously advocated the development and use of letter-sound knowledge in beginning readers.

Hempenstall (1996) was equally critical of the Whole Language movement. He argued that the instructional methodology employed by Whole Language proponents was in conflict with much empirical evidence, particularly in the area of provision of corrective feedback where "purists" see correction as "an unnecessary interruption to the comprehension process." After reviewing the literature, Hempenstall (1996:31) concluded that "the pendulum has swung", indicating that the trend was for a move away from Whole Language teaching. He was concerned however that there were few professionals in Australia who were prepared to promote reform at the political level and create change in our schools.

The most convincing research on the Whole Language/Phonics debate was recently completed in the U.S.A. (Hall, 2000). In 1997 the National Reading Panel was initiated and funded by Congress of the United States. Its role was to identify the reading research in which policymakers and the public should have confidence. The National Institute of Child Health and Human Development (NICHD) oversaw the Panel. The Director of the NICHD asked the Panel to identify the most effective instructional approaches used to teach reading. Only experimental studies and quasi-experimental studies were selected for examination. Each study was then held up against the Panel's strict criteria. Only a small percentage of studies met the criteria and were considered.

The Panel concluded that effective reading instruction includes:

- teaching children to break apart and manipulate sounds in words, a skill often referred to as phonemic awareness;

- teaching children by using phonics, an approach that explicitly teaches that the sounds in words are represented by letters of the alphabet which can be blended together to form words;
- having children practice what they have learned by reading aloud with guidance and feedback;
- applying strategies to guide and improve reading comprehension.

Hall (2000) states that whilst on the surface the conclusions are not much different from other reports, the Panel's report does not have many of the caveats and qualifying phrases used previously. She notes that the conclusions were drawn from rigorous analysis of data and so more definitive statements could be made. Clearly stating that the most effective way to teach reading includes instruction in phonemic awareness and phonics equates to a major breakthrough in reading education. This has implications for those who have a purist approach to Whole Language.

Whole Language instructional methodologies have been questioned by reading researchers over the last decade. Hempenstall (1996:30) notes that "some teachers are aware of 'what works' in their classroom and "pragmatically incorporate aspects of different models into their reading program." He suggests that these teachers offer an eclectic program without the deficiencies of the purist model.

This contention is supported by international research. Baumann et al. (1998) undertook a nationwide survey of instructional beliefs and practices of elementary school teachers in the United States. They found that teachers do not generally assume a polar either/or approach to phonics and whole language, but tend to provide children with a more balanced eclectic program involving both reading skill instruction and immersion in enriched literacy experiences.

Hempenstall (1996) warns however that whilst good teachers will use what is effective, we should be concerned about inexperienced teachers and those who are less analytic about their practice. He states that an approach that is found to be fundamentally flawed must be either revised or replaced.

The eclectic approach has been given a name - Balanced Reading (Reutzel, 1999). Balanced Reading is described as a "combination or blend of whole language and phonics instruction." As Reutzel (1999) points out, it is not a new term. He notes that for decades educators in New Zealand have called their programs in reading instruction "Balanced Reading Programmes."

> *...the balance discussed in New Zealand embraced far more complex constructions of instructional practice than do the current simplistic and undisciplined expressions of eclectic thinking and rhetoric surrounding balanced reading instruction in the US today: phonics versus whole language. The balance offered by New Zealand addressed issues of environmental design, assessment, modeling, guidance, interactivity, independence, practice, oral language acquisition, writing and reading processes, community building and motivation.* (Reutzel, 1999:322)

Reutzel (1999) notes that the movement towards balanced reading should be made in the light of proved practices of the past. He counsels that the U.S. needs a national thrust to align reading instructional practices for a sustained period of time. It is the drive towards systemic approaches to teaching and an aim for consistency of approach that has received attention in Victoria.

Hill and Crevola (1999) are concerned with improving literacy outcomes in Australian schools. They argue that whole school approaches to improving literacy are the most effective. They observed that in most schools there were classes in which students made rapid progress, but there were other classes in which little or no progress was made. Their aim was to minimise the variation that existed within schools. Hill and Crevola (1999) argued that high expectation of students, engaged learning time and focused teaching that maximises learning within each student's zone of proximal development were indicators of effective teaching. They achieved improved early literacy outcomes through the promotion of whole school approaches to teaching. This involved:

- commitment to a two hour uninterrupted daily literacy block for all students,
- the establishment of rigorous performance standards;
- a focus on data-driven instruction;
- the use of Reading Recovery for students in Year One who do not make adequate progress;

- the appointment of an early years literacy co-ordinator with at least 0.5 time release in each school;
- on-going externally provided and structured professional development for teams of teachers;
- on-site professional development; and
- separate professional development for principals.

It is not surprising that Hill and Crevola (1999) were able to promote change and development in schools where this much professional development and support for change was put in place.

At the time of data collection in the current research, (in 1994 and 1995), these supports were not in place for teachers in Victorian schools. It was necessary to locate a reading theory that could be used as a framework for analysing data collected in classrooms that related to the teaching of reading. Method of teaching reading (eg. Whole Language, Phonological Processing Model, Genre Approaches) was explored in some detail during early analysis of the data. After much exploration of the data, alternative explanations were sought for differences in teaching behaviours. Teaching strategies employed by teachers are presented along with teachers' descriptions of the methodologies they utilised in their practice. After close analysis of the data, teaching strategy or style rather than teaching method was considered. Socio-cognitive reading theory was selected as an appropriate framework. It is possible to review teachers' reading lessons in the light of this theory.

In socio-cognitive theory, education is a social process that involves people interacting and working together. Vygotsky (1962) developed an instructional model based on socio-cultural theories of learning. His theory of the zone of proximal development describes how children move from regulation by others to self regulation during adult-child interactions. The concept of scaffolding, developed by Palincsar (1986) is based on this theory. Scaffolding describes a process whereby assistance and explanation is provided and then gradually withdrawn as student skills develop. In defending the use of this particular metaphor to describe a process of instruction she writes:

> *I have noticed that educators readily appropriate this metaphor when it is introduced in conversations about teaching and learning, perhaps because it captures multiple dimensions reflective of teaching/learning processes, providing an instructional context that is at once supportive, flexible enough to accommodate individual differences among learners, and designed to cede increasing responsibility to the learner.*
> (Palincsar, 1998:373)

Socio-cognitive reading theory (Ruddell and Unrau 1994:155) is especially sensitive to the importance of social context of the classroom and the influence of the teacher in the reading process. Socio-cognitive reading theory hypothesises that development of the prior knowledge of the reader, motivation to read, attitude towards reading content, reader stance and socio-cultural values and beliefs are all important factors in the reading equation. The theory as outlined by Ruddell and Unrau (1994) acknowledges that reading is a linguistically based process. Phonological, syntactical and lexical knowledge is therefore important.

Whilst in this model the skills, beliefs and knowledge of the reader are deemed important, it is the influence of the teacher that is emphasised. "Socio-cognitive reading theory recognises that teachers' prior knowledge and beliefs about instruction and their knowledge and use of control during instruction is critical to literacy development in the classroom" (Ruddell 1995:454). In the Model reading is described as an interactive process. Language knowledge, text processing strategies, knowledge of classroom interaction patterns, personal and world knowledge are said to be stored in readers' episodic memory as images of personal experience. The role of the teacher is to employ clearly formulated instructional strategies that embody focused goals, plans and monitoring of student feedback. Affective attributes of teachers also feature in the model.

Ruddell and Unrau (1994:1023) note that successful teachers have personal characteristics that shape they're teaching. They are described as "warm, caring, and flexible, while having high expectations of themselves and their pupils." The authors further add that such teachers have a motivation to engage students, are aware of the socio-cultural beliefs and attitudes of themselves and their students and have a working knowledge of the reader's meaning construction process. They possess knowledge of literature and content areas and are able to draw upon a range of

teaching and metacognitive strategies. These teachers respond to individuals within groups and are aware of the need to shape individual behaviour through interaction. It is the interactive nature of the teaching experience that will be explored in the research.

Socio-cognitive reading theory is aligned with constructivist approaches to teaching. Selley (1999:4) notes that constructivist teaching differs from the didactic transmission mode during which the teacher tries to transmit knowledge to the child and the child is expected to receive it. He also argues that it is different from the unguided discovery mode in which the teacher facilitates but does not interfere and allows the child to develop naturally. The constructivist method of teaching, according to Selley (1999:4), "requires the teacher to take a very active role and one which calls upon expertise, knowledge and professionalism." Selley (1999:17) delineates the steps required for the introduction of constructivist teaching. At the basic level teachers are required to estimate or assess the knowledge of the class and plan tasks that match this. At a differentiated level, teachers take account of the range of ability within the class and plan tasks that allow children to work at their own level, with a range of cognitive outcomes. At the individualised level teachers assess children's individual knowledge, diagnose specific misunderstandings and plan individual interventions to remedy these.

It can be seen that socio-cognitive, and constructivist theories of teaching and learning are aligned with Palincsar's (1998:242) socio-cultural perspective. This perspective assumes that "the driving mechanism for learning is found in the interactions among people." According to Palincsar (1998), difficulties that children experience in school are best understood by examining the contexts in which they are learning. A socio-cultural approach is at odds with reductionist approaches where learning is decomposed to discrete skills. According to this theory, learning occurs in holistic, meaningful activity. Finally, knowledge is seen to be acquired through interaction with more knowledgeable others. Terms such as socio-cognitive reading theory (Ruddell and Unrau 1994, Ruddell 1995), socio-cultural perspective (Palincsar 1998a), and social- constructivist perspective (Palincsar 1998b) have been used to describe similar views of teaching and learning.

It would be possible to ascertain whether teachers in the study based their teaching on the socio-cognitive model. If this were the case the researcher could expect to see teachers working in a deliberate and planned manner with individual students in order to assist them to develop literacy skills. Interaction with individual students would be a regular occurrence in classrooms where teachers utilise a socio-cultural approach.

3.2 A theoretical framework for investigating teacher belief

As the data were analysed, it became apparent that teachers in the research did not always teach in a manner that was consistent with their stated views or beliefs. Fang (1996) undertook a systematic review of the literature on the relationship between beliefs and practices with a view to elucidating the recurrent themes of consistency and inconsistency between beliefs and practices. Fang (1996) noted that beliefs act as a filter through which instructional judgements and decisions are made. He observed that research into beliefs about reading generally attempts to characterise teacher beliefs around the theories of reading they hold such as top-down/bottom-up/interactive-transactional theories. Some characterisations have also been made around methodological divisions such as phonics or whole language instruction. Fang (1996) located a number of studies that supported the view that teacher's beliefs relate to their classroom practice. An example is when teachers who believe that the sub-skills of reading must be learned before meaning can be determined use a skills or work approach to teaching reading. Fang (1996) reports however that research that involved multiple measures of teaching practice, including classroom observation, simulated recall, think-aloud protocols and focused interviews, supported the inconsistency thesis. One study found that a teacher's beliefs were largely consistent with her choice of hypothetical lesson plans but the relationship between beliefs and actual instructional practices was inconsistent. Fang (1996:53) suggests that this inconsistency may be due to the complexities of classroom life. He argues that these complexities "can constrain teachers' abilities to attend to their beliefs and provide instruction which aligns with their theoretical beliefs."

Jordan, Kircaali-Iftar and Diamond (1993) propose that teachers may hold particular belief systems that impact on their teaching of children who experience difficulties with learning. They describe the restorative or traditional belief system in which the

student is regarded as having a problem. As the teacher believes that there is something wrong with the child, then the most likely action of the teacher is to refer the student to a specialist who has expertise in the area of special education The belief system at the other end of the continuum is termed ecological or preventative. Teachers who hold this type of belief regard students' problems as resulting from the interaction of the students with the environment. Teachers who hold preventative beliefs accept that most students can profit from instruction in the regular classroom if it is suitably adapted or modified. These teachers may call upon a specialist teacher to clarify the nature of the students' learning characteristics or to help identify appropriate instructional approaches and resources.

Jordan et al. (1993) studied 26 elementary classroom teachers in 13 schools in semi-urban areas of Ontario. They interviewed teachers and administered a beliefs questionnaire. They found a positive correlation between self efficacy and preventative beliefs. Teachers who held preventative beliefs were also confident that they could perform the actions necessary to create a positive outcome with their students in the regular classroom. Teachers with restorative beliefs tended to see parents and others as more influential in affecting learning outcomes.

In a subsequent study of teacher belief Jordan, Lindsay and Stanovich (1997) described two belief systems that characterised the extremes of the continuum. At one end is the pathognomic perspective in which the teacher assumes that a disability is inherent in the student. The term pathognomic implies the naming of a pathological state. At the other end of the continuum is the interventionist perspective where student problems are attributed to the interaction of student characteristics with the environment. Jordan et al. (1997) note that research on adaptive instruction has generally been considered at the macro-level such as provision of alternative programs or interventions. These researchers looked at micro-level adaptations when they studied individual student-teacher interactions. They recorded and analysed the conversational interactions of nine teachers and their third grade students. Teachers who saw themselves as instrumental in effective inclusion of students engaged in more academic discourse with their students. These interventionist teachers were able to orchestrate more academic interactions with students and the quality of their interactions was higher. They interacted more with

students who were exceptional and at risk and seemed to focus their energy when student comprehension of material was low. They interacted with their typically achieving students as frequently as those teachers who were rated pathognomic did. Pathognomic and mid-rated teachers were less successful in cognitively engaging students. As a result Jordan et al. (1997) conclude that teachers rated pathognomic may be less successful in raising student achievement.

It is possible that the lack of interaction stems from low expectations of teachers. Jordan et al. (1997) suggest that pathognomic teachers avoid instructional interactions because they do not see these students as their responsibility or they do not feel confident in interacting with low achieving students. It was noted that pathognomic teachers had lower expectations of these students. Jussim et al. (1998:18) note "teachers low in teaching efficacy may feel less able to improve the skills of low expectancy students." They note the cyclic effect that is created when these teachers spend less time and effort with low achieving students and differences between high and low achieving students are exacerbated. Jussim et al. (1998:36) further note that this differential treatment is likely to influence students' intrinsic motivation. They hypothesise that school may be an "unfriendly environment" for students who are the target of low expectations.

In line with the predictions of Fang (1996), recent research has found that the attitude of school principals can impact on teachers' practices. Jordan and Stanovich (1998) found that the strongest predictors of effective teaching were teachers' responses on the pathognomic-interventionist scale along with the school principal's attitudes and beliefs about heterogeneous classrooms and a report of the school's pathognomic-interventionist orientation. Data were collected in 33 classrooms from 12 primary schools in Ontario. Teachers and principals provided questionnaire data. Teachers were interviewed and observed using an instrument designed to measure effective teaching behaviours. Effective teaching was operationalised along four categories - classroom management, organisation and management of instructional time, lesson presentation and seatwork management (which includes monitoring of students and provision of additional instruction as needed). There was a strong relationship between the principal variable and effective teaching behaviour, indicating the principal's leadership affects student achievement. The researchers

conclude that staff development that is aimed at improving instruction in heterogeneous classes should be school wide and should involve developing a collaborative ethic in the school.

Teachers in the current research might hold particular belief systems about the students in their care. It might be useful to examine whether particular belief systems, and in particular beliefs about the ability of students, bear any relationship to teachers' propensity to adapt instruction.

There is some problem with the number of terms used in previous research. Interventionist will be the term used to describe those teachers who believe that progress can be made through modification of the teaching and learning environment. Teachers who focus on the child's disability or problem - those who hold disability inherent beliefs will be described in this research as having pathognomic belief systems.

3.3 A theoretical model for investigating ways of knowing

Adaptive instruction requires knowledge on the part of the teacher. Depth and breadth of teacher knowledge can be gauged to some extent by the knowledge teachers have about their students. Another way of investigating knowledge is to look at how knowledge of students is acquired, or teachers' particular ways of knowing. McAninch (1993), drawing on the work of Belenkey et al. (1986), looked at the way teachers think or know and their response to the task of teaching. She writes that first hand teachers often value experience and intuition over analysis and reflection. This, she hypothesises, is because "teaching has a multidimensional quality and there is lack of tangible product." McAninch (1993) believes that teachers work in a context that is characterised by continual demands for action, pervasive ambiguity due to lack of tangible product, relative isolation and a heterogeneous clientele. Her approach is supported by other literature (Clark and Peterson 1986), when she states that the way teachers think and know is affected by external influences.

> *... because of the induction and socialisation arrangements characteristic of the occupation, teachers must independently construct ways of perceiving and interpreting classroom events. Teachers' perceptions and interpretations are likely to be shaped by strands of popular ideology, not only about the nature of schooling and teaching, but also regarding human nature, intelligence, social class, race, and so on.* (McAninch, 1993:48)

To illustrate the way individual teachers think, McAninch describes the five ways of knowing which are based on the work of Belenkey at al. (1986). Belekney and her co- researchers developed a psychological model of women's intellectual growth that outlined perspectives from which women know and view the world. Belenkey and colleagues note that the orientations or perspectives they outlined do not exclusively characterise women. It is their belief that similar orientations can be found in men's thinking.

- The "Ways of Knowing" Model proposes that the first way of knowing is silence. The individual operating at this level perceives that they are incapable of knowing anything important.
- The second way of knowing is received knowing. Received knowers believe that what is true or known must come from external sources. Things are black or white for these people and hence they are uncomfortable with ambiguity. They like predictability and clarity.
- For subjective knowers the source of truth is their gut feeling, personal experience and intuition. These people are likely to repudiate the experts and are not easily influenced by compelling arguments or data that is beyond their own personal experience.
- Procedural knowing is the result of a process of careful observation and analysis. These people strive for objectivity.
- The final category is of those who construct knowledge. Constructed knowledge is balanced and reflective. Those who operate at this level utilise their emotion and intuition but integrate this with reason.

It is interesting to note that Belenkey et al. (1986) found that nearly half the women they interviewed were predominantly subjectivist in orientation. This is of particular concern because one quality of subjective knowing is resistance to the expertise of

others. According to McAninch (1993), teachers devalue information that might be derived from books or journals and other knowledge, including that delivered by teacher educators.

> *Techniques and methods that have been challenged by research often survive long after they should have been abandoned and in the same way, new and promising findings described in journals and in-service programmes have a weak or delayed impact on progress.* (McAninch, 1993:47)

McAninch rejects the subjectivist view as intellectually repressive. She advocates that teachers need to use procedural and constructed knowledge in order to build theories of teaching and learning. A strong theoretical background, she argues, prepares teachers to continue to grow in their work as teachers but in order for the theory and the practice to come together "individuals must first be able to expand their own experience and adopt other ways of looking." She states her concern that many teacher candidates enter teacher preparation courses resistant to theory, abstraction and research and this puts their transition to "more powerful modes of knowing" at risk.

In order to make proactive and deliberate adaptations to instruction in response to student needs, teachers would ideally utilise procedural or constructed knowledge, taking time to be reflective, analysing student response and drawing upon professional knowledge and theory.

After examining the categories developed by Belenkey et al. (1986), Roskos and Walker (1994:284) analysed 244 case studies of pre-service teachers. They noted that there were nine important sources of practical knowledge that were influential in the thinking of these teachers. In establishing categories they noted that "students used received, subjective and procedural orientations, however they did not yet use a constructed frame where they integrated these sources of knowledge." Table 2.1 contains the categories of student teachers' sources of practical knowledge by orientation.

Orientation	Categories	Example
Received	Non-referenced rationale	Whole Language is a good idea
	External agents	I would have parents read to the child
Subjective	Assumptions about the learner	I would try to understand what the learner was feeling.
	Intuition	When something is right, you feel it is right.
	Experience	I taught a class once where this happened.
	Generic Action	I would have the child read more out of school.
Procedural	Facts about the learner	Her family background shows signs of dependence.
	Context-specific action	I would use the DR-TA more frequently.
	Coursework	I feel most of my ideas stem from my ED327 class.

Table 3.1: Sources of practical knowledge from Roskos and Walker (1994:284)

The authors found that after the student teachers had completed a course that focused on diagnostic teaching procedures in reading, there was a basic shift from knowledge sources that were predominantly subjective to sources that were more procedural.

A number of the theories of knowledge and knowing propose that individuals progress through various stages of knowledge or epistemological beliefs through to adulthood. In reviewing the literature on the nature and justification of human knowledge, Hofer and Pintrich (1997) looked closely at five models of epistemological or knowledge development, including the work of Belenkey et al. (1986). Hofer and Pintrich (1997:119) propose that there are four dimensions that should be considered the core of an individual's learning theory: Under the *nature of knowledge* there are two dimensions - certainty of knowledge and simplicity of knowledge. There is a "progressive understanding that moves from the view of knowledge as absolute to a relativistic view and then to a contextual, constructivist stance". At lower levels absolute truth exists with certainty. At higher levels, knowledge is tentative and evolving. Under the *nature of knowing* the two

dimensions are source of knowledge and justification for knowing. At lower levels knowledge originates outside the self and resides in external authority.

> *As individuals learn to evaluate evidence and substantiate and justify their beliefs, they move through a continuum of dualistic beliefs to the multiplistic acceptance of opinions to reasoned justification for beliefs.* (Hofer and Pintrich, 1997:120)

Within the models studied by Hofer and Pintrich (1997:121) there was a view that knowledge could be transformed from one in which knowledge is viewed as right or wrong. Individuals can progress to a position of relativism and then finally to a position in which they are "active constructors of meaning who are able to make judgements and decisions based on information gathered in context."

Eraut (1994:103) describes our understanding of a profession's knowledge base as under-conceptualised because many areas of professional knowledge and judgement have not been codified. He also notes that knowledge of central importance to providing services to clients is accorded low priority in training programs (Eraut 1994:102). Eraut (1994) refers to propositional, personal and process knowledge, stating that all kinds of knowledge are necessary for professional performance. Propositional knowledge involves the use of discipline-based theories and concepts, practical principles and specific propositions. It is the type of knowledge that is codified and publicly available. Personal knowledge is acquired through experience and provides the framework through which new experience is interpreted. Learning in this area may involve reflection but it may also remain at the level of impression because there is no specific learning intent or the flow of experience may be so rapid that little further attention can be devoted to reflection. Process knowledge is defined as knowing how to conduct the various processes that contribute to professional action. Eraut (1994:107) notes that this includes knowing how to access and make use of propositional knowledge. Process knowledge involves acquiring information, skilled behaviour and deliberative processes involving planning, problem solving, analysing, evaluating and decision-making. In order to develop process knowledge professionals need to be able to "draw on a wide repertoire of potentially relevant theories and ideas" (Eraut 1994:113).

In the current study different kinds of knowledge bases will be examined. These include received or absolute knowledge, subjective or multiplistic knowledge based on personal experience, and constructed or procedural knowledge - knowledge that is more reflective in its nature. It might be assumed that those who use constructed or procedural ways of knowing will also use process knowledge as they find most appropriate ways of responding to the task of teaching.

The categories are closely allied to terms used in cognitive psychology (Tulving 1972; Baddeley 1982; Solso 1991). Received ways of knowing can be viewed as knowledge that is derived from external sources. Subjective ways of knowing can be seen as that which is derived from what Tulving (1972) called episodic memory, where incidents from the past are remembered. Procedural ways of knowing are similar to what Solso (1991) calls conceptual or semantic knowledge. In this more objective or logical way of knowing theories are built. These theories may be based on the semantic knowledge. Baddeley (1982) describes this as being stored in terms of a network of interrelated concepts. It will be useful to explore the relationship between teachers' ways of knowing (subjective or episodic, received or external, procedural or objective), and the teaching strategies they employ.

3.4 A framework for investigating adaptive teaching practices

Researchers have continued to study adaptive teaching practices. Fields (1999) writes that this research is necessary in Australia as our classrooms are increasing in diversity, yet teachers are generally unprepared to meet the needs of individual students with low achieving students being the "losers" in our schools. Scott, Vitale and Masten (1998) carried out an extensive review of the literature on adaptive instruction. They divided their review into three sections. In the first section the authors investigated the concept of adaptive instruction as it is presented in the literature. They note that the distinction between typical/routine adaptations and substantial/specialised adaptations is useful and examined these two different types of adaptations around eight representative samples of adaptation. An example of an adaptation was modifying assignments. A typical or routine adaptation could involve providing models and substantial or specialised adaptation could involve breaking tasks into smaller steps, shortening assignments or lowering difficulty levels.

A second area of investigation was teachers' acceptability of instructional adaptations. Scott et al. (1998) scrutinised 21 studies and found that classroom teachers perceive the instructional adaptations typically recommended by special educators as effective. Overall research found that adaptations that benefit the whole class and require minimal preparation tend to be rated as reasonable and feasible, while adaptations requiring individual response to students and taking extra time were perceived by teachers to be least reasonable or feasible. Teachers reported making more typical modifications than substantial modifications. As in studies reported in Chapter 2, there appeared to be a generalised gap between teachers' perceived acceptability of instructional adaptations and their actual practices in implementing them.

The third level of investigation involved surveying the factors affecting level of implementation. Scott et al. (1998) found few differences between use of adaptations and grade level taught. Primary teachers were found to be somewhat more favourably disposed to using adaptations than secondary teachers. The researchers found that generally teachers did not feel knowledgeable and skilled in implementing instructional adaptations and as a result they recommended increased teacher training. Insufficient levels of school support for adaptive instruction continue to be identified as a barrier to adaptive instruction.

The issue of support for instructional adaptation was explored by Fuchs and Fuchs (1998). Fuchs and Fuchs have worked over a number of years on a number of research projects that aim to enhance general educators' instructional adaptation. Some of their research has involved the use of curriculum-based measurement (CBM) and peer assisted learning strategies (PALS). The CBM was introduced to teachers in order to create "assessment rich environments that would systematically alert teachers to student inadequate responsiveness to instruction (Fuchs and Fuchs 1998:24)." In a study undertaken in 1997 teachers incorporated CBM and two 35-minute PALS sessions into their Mathematics program. In PALS all students were paired. Pairs of students undertook structured interaction. Mediated rehearsal, step-by-step feedback, frequent interaction, explanation and reciprocity were all components of the program. Fuchs and Fuchs (1998) conducted an 8-month pilot of

this treatment in seven American classrooms. They then established three treatment groups. In 10 classrooms the CBM was conducted on a weekly basis with fortnightly class reports of student performance. In 10 classrooms the CBM was conducted with bi-weekly reports and instructional recommendations that included PALS. The remaining 20 classrooms were contrast classrooms where conventional planning and procedures were used. The treatments were undertaken over 25 school weeks.

Results indicated that teachers expressed a high degree of satisfaction with the CBM. Results also confirmed that it was necessary to include instructional recommendations with class reports. A major finding of the study was that additional forms of adaptation might be necessary to provide acceptable outcomes for students with learning disabilities. Teachers continued to ignore the portions of the CBM reports that highlighted individual students' lack of responsiveness to the treatment. As a result the researchers developed a taxonomy of adaptations deemed feasible for general educators and provided "adaptation kits" for several activities within the taxonomy. When teachers were specifically prompted and supported to engage in instructional adaptation, they did so. This tended to prompt changes in their thinking about differentiating instructional plans. With the high degree of support offered, teachers were able to address the problems of 30% of students who initially demonstrated significant learning discrepancies from classroom peers. Fuchs and Fuchs (1998) conclude that the decision making of general educators can be enhanced with better assessment information and with re-organised classroom structures, however not all students who have learning disabilities will benefit. As teachers in the current research project were asked to identify students who experience difficulty with reading, it is necessary to review recent research on the efficacy of treatments for students with learning disabilities.

Swanson and Hoskyn (1998) summarized a comprehensive number of experimental interventions that included students with learning disabilities using meta-analytic techniques to aggregate the research literature on intervention. These researchers acknowledged that students with learning disabilities are a heterogeneous group. The 20 intervention approaches they describe are in fact examples of adaptive teaching practices. They include components such as sequencing activities, strategy modeling and control difficulty or processing the demands of the task. Swanson and Hoskyn

(1998) concluded that learning disability is not due to poor instruction but reflects information-processing constraints, primarily in the area of language. These researchers argued that intervention which focuses on isolated skills or processes such as word skills or metacognition may not be appropriate for learning disabled students. Their findings imply that studies that explicitly included strategy instruction along with direct instruction had a positive influence on treatment outcomes.

Direct instruction was the focus of research undertaken by Houtveen et al. (1999) in which they studied the effects of adaptive instruction on the reading of 456 first grade children in 23 Dutch Schools. Twelve schools were experimental sites and 11 schools were used as control sites. Working on the assumption that instruction time and its efficient use are important determinants for learning at school by pupils, both instruction time and pupils' time on task were included as variables in the study. The extent to which direct instruction was applied was determined through direct observation of classes. Like Fuchs and Fuchs (1998), Houtveen et al. (1999) believe that a major component of adaptive instruction is diagnostic teaching. A set of instruments was therefore developed to measure the extent of diagnostic teaching. The experimental schools were all required to use a phonics construction method where reading was central, where letters were taught then used to form words, where letters rather than words were imprinted and the introduction of letters was slow. The project ran for three years and involved the entire teaching staff of the experimental schools. Teachers in the experimental group showed substantial increase in diagnostic teaching. They also demonstrated more evidence of other adaptive teaching behaviours such as optimising time on task and using direct instruction. Students in the experimental group showed improved scores on a 3-minute reading test and an auditory synthesis test. Houtveen et al. (1999) note that the significant difference in the performance of the students of students in the experimental and control group were maintained from first Grade to Grade 3.

As in the Fuchs' (1998) studies, schools received intensive support. Houtveen et al. (1999) found that withdrawal of the project status and external support and the systematic feedback supplied by teachers resulted in the disappearance of the experimental effect when the students entered Grade 4. It was suggested that the program was not sufficiently incorporated into the school organisation and the school

principal was not made responsible for ensuring the continuity of the program. Perhaps, as Scott et al. (1998) suggest, adaptations requiring individual response to students and taking extra time were perceived by these teachers to be unreasonable or non feasible without the external support.

The concept of time on task was mentioned by Houtveen et al. (1998). This is similar to the concept of student engagement and is related to student productivity. There is a growing body of research on the best way to teach heterogeneous classes of students (Hill and Rowe 1998; Galton et al. 1999; Fuchs et al. 2000; Yair 2000). Teachers must decide when to utilise whole class instruction, group work or individualised instruction and when to use direct instruction or discovery learning techniques.

Productivity was the focus of a study undertaken by Fuchs et al. (2000). One method of meeting the needs of students who experience difficulties with learning is to use peer tutoring or co-operative learning strategies. Fuchs at al. (2000) examined how variations in co-operative learning activities affected productivity of low achieving students. A series of significant effects was found for pairing of high achieving and low achieving students (dyadic grouping) over multi-ability small groups. Pairs were related significantly and substantially higher than groups on procedural and conceptual talk, helpfulness and co-operation. The level of participation of low achieving students was greater in pairs than in groups. By contrast, for other workgroup members - middle and high achieving students, group work is favoured as cognitive conflict and resolution are facilitated in small groups. Fuchs et al. (2000:206) conclude that "teachers must be prepared to vary the kinds of group work they employ and constitute group work structures in conjunction with clear objectives for what those activities are designed to accomplish."

British research of the effectiveness of different teaching methods, as reported by Galton et al. (1999), show that in a typical primary classroom in the 1970s students generally interacted individually with the teacher. Many observed interactions were brief with 40% of interactions taking less than 5 seconds. With, on average, 35 pupils in a class, a teacher could only manage about 6 minutes of individual interaction per child per day. Furthermore it was found that a student worked on his or her own 84% of the time without interacting with either the teacher or another pupil. Galton et al.

(1999) were interested in how patterns of interaction between students and teachers have changed since the 1970s. They found that in today's English primary schools, interaction essentially involves teachers talking and students listening. Open, speculative or challenging questions were found to be comparatively rare. The researchers attribute this to the demands of the programs of study that form the National Curriculum. More task related activity was observed in classrooms. Galton and his colleagues (1999:35) conclude that instead of focusing on the selection of whole class, group or individualised teaching strategies and whether to use direct instruction, inquiry or some other strategy, teachers should first identify the nature of the learning that needs to take place and then "decide the most effective pedagogic principle for effecting this learning process." One might assume that if teachers are using appropriate principles, they will be more likely to motivate students to learn new skills and apply existing skills.

Yair (2000) argues that teachers need to aim to motivate students to learn. Yair summarises the findings of motivational research, concluding that students' sense of accomplishment is vital for long term development. Results of his research show that high quality learning experiences are authentic allow choice and demand student skills. It is important to consider the long term effects of students being presented with material that does not match their ability level.

A three-year longitudinal study of educational effectiveness is reported by Hill and Rowe (1998). This Australian study involved a large sample of primary and secondary schools with entire grade cohorts of students. In the second and third years of the study indicators of disability and impairment were obtained for students. Indicators of critical events such as illness and family or personal trauma were also obtained. Student attentive behaviours were measured. Different measures of classroom instruction were recorded. These included variables such as the presence of the students in multi-age or composite classes, recent teacher participation in professional development and student perceptions of the quality of teaching and learning they experienced. Teachers' perceptions of their work environments were recorded along with parent participation in and satisfaction with their child's school. Subject profiles were developed in order to obtain comprehensive subject specific assessment data.

All data were analysed using methods that allowed exploration of interrelationships among the factors. Students' perceptions of teachers having high expectations of them and ensuring a good match between instructional level and the ability of the student were found to be significant predictors of literacy achievement. Hill and Rowe (1998:327) note that "Clearly, students make greatest progress when instruction is pitched at the right level for each individual."

The literature suggests that diagnostic teaching or effective assessment of student needs is an indicator of effective teaching. Once the students' ability has been assessed it is necessary to identify the nature of the task and respond by instruction that is appropriate to the needs of students. Teachers select whole group instruction, individual or group instruction. Students can be instructed in groups or they can work co-operatively or independently to solve problems. Direct instruction or constructivist techniques can be employed. A match needs to be made between the instructional level, the task demands and the ability of the students. Tasks set for students need to be challenging yet achievable in order to achieve suitable levels of student motivation. It is hypothesised that if these conditions are in place, students will be more likely to be engaged in tasks and therefore more productive.

In analysing the data, it was apparent that it could be possible to view time on task or student engagement as an indicator of adaptive teaching practice. The premise was that if the student was unable to complete work set for the class, then the student would be more likely to be off-task, but if activities were matched to student need and ability level, then the student would be more likely to be observed working on-task.

There may also be factors external to the teacher that will influence adaptive teaching practices. Another aspect of adaptive teaching that requires some scrutiny is administrative support for adaptive instruction. It has been suggested that it is beneficial to have whole school approaches to both literacy interventions and inclusion programs, where school administrative teams promote and support classroom initiatives (Giangreco 1998; Hill & Crevola 1999; Stanovich 1999; Burrello, Lashley and Beatty 2001). Contextual factors such as resources available to

the teacher and supportive principals and administration teams will therefore be considered in the study.

Experience in the field of education along with the review of the literature on the teaching of reading and adaptive instruction led the researcher to make a set of predictions about the kinds of behaviour that would be expected from teachers who were prepared to adapt their teaching practice in response to student diversity. These predictions related to means by which teachers viewed and taught reading in their classrooms, their beliefs about inclusive teaching practices, and their approaches to problem solving and decision-making in the classroom.

3.5 Predictions about adaptive educational practices and the teaching of reading

Reflection on the literature led the researcher to make the following predictions about teaching practice.

Teachers who have a socio-cognitive view of reading, acknowledging that reading is an interactive process in which the teacher plays a vital role, will be more likely to adapt instruction for students experiencing difficulty than those teachers who see reading as a skill which is acquired with little intervention from adults.

Teachers who hold interventionist belief systems about working with students experiencing difficulty, acknowledging that students can learn if appropriate instruction is provided, will be more likely to adapt instruction than teachers who hold non-interventionist beliefs, viewing specific problems as belonging to the child.

Teachers who base instruction on procedural ways of knowing, carefully observing and analysing situations, will be more likely to adapt instruction than teachers who base instruction on received knowledge from external, authoritative sources.

Teachers who base instruction on procedural ways of knowing will be more likely to adapt instruction than teachers who base instruction on subjective knowledge which is based on personal experience and intuition.

Teachers who practice diagnostic teaching methods, selecting tasks and instructional methodologies that match student need, will be more likely to engage students who experience difficulties with reading in literacy tasks.

A teacher who has a socio-cultural view of reading, holds interventionist belief systems and bases instruction on procedural ways of knowing will be highly likely to adapt instruction for students who experience difficulty with reading. This will be evidenced by higher levels of student engagement in literacy tasks.

Explication of the methodology used in the collection of the research data is presented in the following chapter.

CHAPTER 4
RESEARCH METHODOLOGY

The purpose of this study was to advance the understanding of teacher response to reading disability and to investigate adaptive teaching practices employed by teachers. The research closely examined teaching practice. It was necessary to select an approach that would allow the researcher to examine the meaning of teacher actions in context. Epistemolological issues were examined in order to select an appropriate methodology for the research.

4.1 The naturalistic approach to qualitative research

According to Cochran-Smith and Lytle (1993) two paradigms have dominated research on teaching over the last two decades. The first of these is described as process-product research in which teacher processes or behaviours are correlated with the product or student achievement. The authors note:

> *Underlying this research is a view of teaching as a primarily linear activity wherein teacher behaviours are considered causes and student learnings are considered effects. This approach emphasises the actions of teachers rather than their professional judgements and attempts to capture the activity of teaching by identifying sets of discrete behaviours reproducible from one classroom to the next.* (Cochrane-Smith and Lytle, 1993:6)

The second paradigm is described by Cochrane-Smith and Lytle as qualitative or interpretive study which draws from anthropology, sociology and linguistics. Research in this paradigm presumes that teaching is a highly complex, context specific, interactive activity in which differences across classrooms, schools and communities are critically important. It is these differences which are explored in the ethnographic paradigm. Qualitative research takes place in naturalistic settings and differences between settings are acknowledged. As Lincoln and Guba (1985:51) note: "Diversity and interactivity are characteristics of reality that are becoming more and more apparent."

In qualitative research, the major objective is to understand the meaning of an experience (Merriam 1988:17). The author notes: "The assumption is that there are multiple realities - the world is not objective but a function of personal interaction and perception. It is a highly subjective phenomenon in need of interpreting not measuring."

Salomon (1991:10) has explored the question of which approach, the qualitative/systemic or quantitative/analytic, might be the most useful to researchers. He writes that the analytic approach mainly assumes that discrete elements of complex educational phenomena can be isolated in order to study them closely. The systemic approach on the other hand mainly assumes that elements which might come under scrutiny are often "interdependent, inseparable and even define each other in a transactional manner so that a change in one changes everything else and this requires the study of patterns and not single variables". The conclusion reached by Salomon (1991) is that each approach examines the world differently and therefore yields different kinds of knowledge. Analytic and systemic or quantitative and qualitative approaches in research can and do inform and guide each other. Salomon writes that whilst quantitative/analytic research capitalises on precision and systemic/qualitative research capitalises on authenticity, neither approach is particularly useful as a basis for generalisability. Generalising results is always difficult. Education is constantly changing, as is the behaviour of people in different contexts.

The conclusion reached by this researcher is that the approach or methodology must be driven by the research question. If the question is one of making comparisons between variables which can be quantified then empirical or quantitative research methodologies would be best employed. If the question is one of discovering or elucidating and interpreting what is happening in a particular situation, then qualitative research methodologies would be more appropriate.

The aim of the current study was to describe adaptive teaching practices utilised by a small sample of Victorian Primary teachers. Explanations for actions were also sought. The research questions devised in order to meet the aims of the study are best

explored through qualitative research methodologies. As the research progressed, decisions needed to be made about the use of particular qualitative research techniques. Prior to undertaking the research ethnographic, hermeneutic and naturalistic approaches were reviewed.

Ethnography is defined by Borg and Gall (1983:492) as "an in-depth analytical description of an intact cultural scene". The main characteristic of ethnographic research is that the observer uses continuous observation, trying to record virtually everything that occurs in the setting being studied. Particular value systems are employed by ethnographers according to Borg and Gall (1983:492). These include:

- Phenomenology: in which the researcher develops the perspective of the group being studied;
- Holism: where emphasis is placed on depicting the whole situation rather than focusing on isolated elements;
- Nonjudgmental orientation: the emphasis is on recording the total situation in qualitative terms without superimposing one's value system;
- Contextualisation: all data are considered in the context of the environment in which they were gathered.

McMillan and Schumacher (1989:15) note that the ethnographer becomes immersed in the data. Collection of the data is made by the person and not the research instrument. Evertson and Green (1986:189) describe ethnography as a type of study in which the researcher attempts to make explicit that which is implicit. Various reasons for actions and behaviours are drawn out, explored and considered by the researcher.

Whilst some aspects of ethnography would be appropriately applied in the research, total immersion and the recording of everything that occurs in the setting was seen as impractical when considering the range of information that would be presented in a Primary classroom.

The *hermeneutic approach*, as described by Kavale and Forness (1994:53), is an attempt to study meaningful human phenomena in a careful detailed manner. It is

described as free from prior theoretical assumptions but based instead on practical understandings. Hermeneutic inquiry is therefore an interpretive account of phenomena. The main aim of any research is to interpret data and present it in such a way that the research makes a contribution to the body of knowledge in a particular field.

The hermeneutic approach was rejected as the researcher could not describe herself as free from prior theoretical assumptions. In reviewing the literature preparatory to undertaking the study, the researcher developed a rudimentary conceptual framework. This framework was further developed during the course of the research, when additional explanation was sought for observed behaviours. It was necessary that some structure be superimposed on the research, but at the same time, the researcher was aware of the danger of trying to fit data into preconceived structures and ignoring other context specific factors which might account for individual differences in teacher behaviour.

All researchers however bring their own experiences and knowledge to the field. Spence (1988) records a statement made by Michenbaum:

> *We are all in the business of interpretation, imputing motives, reading beyond surface meaning, looking for and creating patterns. In some basic way each of us, as a professional or lay person, is conducting hermeneutic enquiry...Our preconceptions influence what behaviours we choose to interpret and how we interpret them.* (Spence, 1988:73)

The *naturalist paradigm* is described by Lincoln and Guba (1985) as research which occurs in the natural setting. These authors argue that realities are wholes which cannot be fragmented or understood in isolation from their contexts. Naturalistic research involves both humans interacting with one another and subsequent human evaluation of the meaning of the interaction. Tacit knowledge, that which is intuitive or felt is utilised in addition to propositional knowledge. Qualitative methods are utilised as they are more adaptable to dealing with multiple realities. Purposive sampling is used in order to increase the scope or range of the data and theories are devised from this data which take into account local conditions, the beliefs and values of the participants in the research. Theories are derived as a result of inductive

data analysis and the development of grounded theory is suggested as a means of identifying and coping with multiple realities which become apparent in qualitative research. Idiographic interpretation means that the particulars of cases are discussed rather than developing lawlike generalisations, therefore broad applications are not generally drawn from this type of research.

Qualitative research design has been selected for this study as the research problem was primarily one of describing what was actually happening in Victorian classrooms with regards to instructional adaptation or adaptive educational practices. The primary question was: How were teachers adapting instruction in reading for those students who experienced difficulty with the reading task? Direct observation of teachers at work as they interacted with students in naturalistic settings was thought to be the best way of obtaining this information. Naturalistic techniques were selected as appropriate to the context of this particular research.

One of the criticisms of qualitative research made by Borg and Gall (1983) is that the observations made by the researcher are subjective and the observer's biases or preconceived ideas may seriously distort the findings. For this reason it was very important that the parameters for data collection were clear. To some extent these parameters emerged during the course of the observations. The researcher intended to record the content and structure of reading lessons in progress and, more specifically, interactions which took place between the teacher and those students identified by the teacher as experiencing difficulty with reading. As the research project progressed interval data were kept on children as it became impossible to record everything which was happening in a classroom at any point in time, particularly the responses of all children identified as experiencing difficulty with reading when the teacher was involved with other children in the class or not interacting with the class at all. Data on student response to task – indicating whether students were on-task or off-task , were recorded. Later this information was used to determine student engagement in class activities. Activities were rated as resulting in high student engagement when identified students were on-task during most of the observations. Activities rated as resulting in low engagement were recorded when targeted students were off-task more than on-task. Medium engagement was recorded when students were on-task

more than off-task. A framework was establised to categorise this aspect of student behaviour but researcher judgement could not be factored out entirely.

It is acknowledged that the researcher brought her own personal and professional knowledge, her experiences and values to the project. The researcher had worked in the field of Special Education for over fifteen years. She had worked as a consultant to classroom teachers. She had also worked individually with students and their families, developing specific programs for students with mild to severe reading disability. In order for the project to succeed the researcher needed to undertake critical self examination, attempt to systematically record material literally and keep an open mind in order to preserve the quality of the data. It was also important to ensure that any problems encountered were recorded. Guba and Lincoln (1989:45) note that in evaluating qualitative data both the facts collected and the values of the researcher are "inextricably linked". Rather than trying to factor out values or claiming to be value free, the values of the researcher are seen to be an essential part of the evaluation process which provide the basis for attributed meaning. Guba and Lincoln (1989:45) note: "Evaluators are subjective partners with stakeholders in the literal creation of data."

"To be objective," says Eisner (1993:49), "or do an objective study, is to be or do something that is not primarily about ourselves, but about the world itself." He notes on the one hand that objectivity can mean being fair or open to all sides of an argument but notes that knowledge is constructed relative to frameworks, representations, cultural codes and personal biographies.

Whilst the observer/researcher will have personal values and beliefs, it is acknowledged that participants will also hold values and beliefs that are particular to them and their teaching situation. Hirst (1993:154) notes "All activities involve the use of many cues, beliefs and judgements which we do not attend to or apply, which indeed we cannot attend to in performing the activity. They are necessarily held tacit on this occasion." The aim of this research was to help make the tacit explicit through rigorous observation and interviews during which particpants were encouraged to reflect on their behaviours and actions and seek explanations for them.

Another misgiving which some people have with qualitative research relates to replicability. Ball (1993:43) highlights the important question of the degree of "softness" of qualitative data. He states that there is a question which cynical researchers or non-researcher love to ask. That is: "If someone else did the fieldwork, would the ethnography have turned out differently?" Ball (1993) answers with a qualified affirmative, believing that differences in analysis would be smaller rather than larger, resting on matters of "emphasis and orientation rather than the story to be told". He believes that because of differences in analytical decision making and social conditioning, different researchers would work through fieldwork differently. Provided that the researcher clearly states the perspective from which she comes, and identifies how data were collected and analysed, these misgivings might be reduced.

The external validity of the study or the extent to which this study could be replicated has been enhanced through clear identification of the status and role of the researcher, clear identification and description of the participants in the research and rich description of the settings - both of the schools and classrooms in which the research took place.

The internal reliability of a study can be described as the level of agreement within a study of multiple observations, at different sites using techniques such as triangulation (Miles and Huberman, 1984:234). The threats to internal reliability of this study were reduced by verbatim accounts of observations, through the use of field notes and cassette taping of interviews and the preservation of all raw data. Multiple data collection procedures were also used. These involved observation, interview and collection of primary sources such as work programmes. Triangulation of this data was used as an ongoing strategy to enhance internal validity. Teacher work programmes and records of interview were used to buttress observations with material that reinforced observed behaviours.

Evidence of beliefs and teacher thought was sought through statements made by teachers during interview. Confirming evidence was sought through observations on teaching practice. In recording information about teacher beliefs, statements that

might be reflective of teacher beliefs were selected from interview data and were compiled during the data collation process. It is acknowledged that beliefs are difficult to conceptualise. Carrington (1999) writes that people are often unwilling to accurately verbalise their beliefs while Pajares (1992:314) states "beliefs cannot be directly measured but must be inferred from a collective understanding of what humans say, intend and do". Where there was no evidence of stated beliefs, teachers were asked to give reasons for their actions and teaching practice. Differences between types of data were sought as well as points of coherence.

As well as providing some degree of validity triangulation, the use of multiple sources of data allows what Merriam (1988:68) describes as "holistic understanding" of the situation. This enables the researcher to "construct plausible explanations of the phenomena being studied". Minichiello et al. (1995:177) describe the role of the in-depth interviewer as constantly engaging in checking perceptions and understandings against possible sources of error. It is therefore important that the researcher record bias and aim for accuracy in reporting data.

Hopkins (1985:48) writes of the growing body of research that suggests that "there is often incongruence between a teacher's publicly declared philosophy or beliefs about education and how he or she behaves in the classroom". He also writes of the incongruence between the goals and objectives that teachers state and the way in which lessons are taught. There can also be discrepancy between teachers' perceptions or accounts of lessons and the accounts of other participants in the classroom. He describes the gap that sometimes occurs between behaviour and intention. It is for this reason that both observations and interviews were undertaken in this study. Evidence of teachers' declared practices were sought through observations and teachers could be asked to explain or give detail about practices during interview.

4.2. The research project timeline

A pilot study was undertaken in September 1994. At this time no formal data were kept but the researcher undertook informal observation of a classroom during six reading lessons taught over a two week period. Two informal interviews were also undertaken at this time. The researcher basically wanted to explore what might be possible in terms of observation and what information might be gleaned from interview. The participant in the pilot study was a teacher who spent many hours preparing interesting and challenging lessons for her students whom she had divided into four groups. Reading lessons were undertaken during morning sessions and were of one and a half hours duration. Each one and a half hour reading lesson was divided into three thirty minute sessions. Work was prepared for each of the four groups of students. Therefore twelve activities were prepared for each reading lesson. It was acknowledged that this was a particularly busy classroom. Taking data in this room proved challenging and the experience was beneficial for the researcher who became acutely aware of the problems of trying to take field notes under these conditions, where many things were happening in a class at any one time. The students were divided into ability groups for the first half hour session, mixed ability groups for the second half hour and worked in ability groups again for the last half hour session. It was at this stage that it became obvious that it would be best to keep data on the responses of targeted students to the lessons - those students identified by the teacher as experiencing difficulty with reading. It would be impossible to record the responses of all students to lessons. No assessment of children was made during the pilot phase.

The first set observations of a teacher at work took place in the same school in November/December 1994. Five further case studies were then undertaken during the 1995 school year. A decision was made not to undertake the research during the first term of the school year as data were to be kept on adaptative teaching practices. Teachers could not be expected to make these adaptations without having a clear understanding of the needs, strengths and weaknesses of their pupils. It was felt that it was unfair to expect teachers to have developed this understanding during the first term. For this reason data collection took place over the second, third and fourth terms of the school year.

The timeline for data collection was therefore as follows:

Case 1	Amanda	Term 4 1994	02/11/94	-	02/12/94
Case 2	Brian	Term 2 1995	05/06/95	-	29/06/95
Case 3	Colin	Term 3 1995	24/07/95	-	18/08/95
Case 4	Dianne	Term 3 1995	28/08/95	-	10/10/95
Case 5	Emily	Term 4 1995	09/10/95	-	02/11/95
Case 6	Frances	Term 4 1995	13/11/95	-	07/12/95

4.3 Sampling techniques

Initially it was intended that network or snowball sampling techniques as described by McMillan and Schumacher (1989) would be used. In this type of sampling each successive participant or group is named by the preceding group or individual in the research in a system of participant referrals. One of the advantages of this type of sampling is that the teachers who participated in the research and who had a working knowledge of the research project would make the referral. Having recent involvement in the project, they were best placed to recommend colleagues who might provide new insights for the researcher. The participants were asked to recommend a colleague whom they felt taught reading and catered for diversity utilising teaching methods different from their own. In this way the researcher could receive a personal introduction to participants in the research and these participants, knowing that their colleagues had taken part, could seek reassurance or ask questions about involvement in the research of someone who had direct experience.

The network sampling technique worked well in the early stages of the research. The Principal of the school in which the pilot study took place suggested that one of her staff members was a successful teacher who had participated in other research projects. The data collected from this teacher were gathered and analysed at a basic level. They have been retained but do not form part of the research. This teacher recommended another teacher from the same school, Amanda, who provided data for first case study. Participants were chosen because they were identified as their peers as successful, but it was recognised that they taught in different ways to the teacher who made the referral. In this way the researcher hoped to view a variety of teaching

methods and means of dealing with diversity. Amanda had only taught at one school and so it was not surprising that she recommended a third teacher from the same school. The third teacher agreed to participate after the initial meeting but decided to withdraw on the first day of observation during the second term of 1995 for personal reasons. As Amanda was unsure of who else she might nominate, the teacher from the pilot study nominated two teachers from a school at which she had previously taught. Brian was approached first and it was interesting that both he and the teacher from the pilot study both nominated Colin as a teacher who had a different way of teaching reading and dealing with diversity. It took two weeks to set this meeting up so the first observation in term 2, 1995 was abandoned.

Discussions with supervisors led the researcher to diverge from the network sampling method at this point as it became obvious that the two school settings in which the four participating teachers worked were very similar. The two schools were both in the North-West region of Melbourne. The students came predominantly from homes where English was a second language. There were high levels of unemployment amongst parents of the students and high proportions of families receiving EMR - the education maintenance allowance, an allowance paid to parents who require financial assistance in order to keep their children at school. Teachers at both schools reported low involvement of parents in the education of their children. Brian had mentioned the possibility of referring a teacher who taught at a school in which he had been previously employed. This school was in the same region. At this point the researcher had established a better idea of what constituted adaptive teaching practice and it was felt that it would be important to actively seek a teacher who was highly adaptive.

Purposive sampling techniques were therefore utilised at this point. Guba and Lincoln (1989) describe this type of sampling as that which occurs when the sample is selected serially in order to provide the broadest scope of information. Participants were, to a degree, selected contingently. As particular types of teacher knowledge or adaptive behaviours were identified, respondents or participants who might provide a different construction were sought. In this case a teacher who was proactively adapting instruction was sought.

The researcher met socially with a colleague who had been involved as a research assistant for a collaborative project funded by the Department of Employment Education and Training. This project was called "Good Literacy Teaching in the Early Years" (1992). After discussing our research projects, it was suggested that the researcher visit a particular school in which there was a teacher who had been observed making numerous adaptations for students. A telephone call was made to this teacher and permission was sought from her Principal. At the preliminary interview the researcher was notified that the referred teacher was now employed as Vice Principal of the school and was often called upon to act for the Principal. She stated that she felt that she would not have the time to devote to the research but both she and the Principal nominated another teacher at their school who they felt had the characteristics the researcher was seeking. Dianne agreed to participate in the research project. Dianne in turn nominated Emily who taught in a school in which she had previously been employed. Dianne felt that Emily, although she had similar training and length of experience, would teach differently because the group of students she was working with would have different needs. Emily taught in the outer Eastern region of Melbourne.

Frances was nominated by a colleague of the researcher who worked in Special Education at a private Boys' School close to inner city Melbourne. The Special Education teacher suggested that this teacher had a very traditional approach to education and as such her teaching methods were different from those of previous participants. Frances agreed to participate in the study and became the final participant in the research project.

Seven teachers in all were involved in the study. The six teachers whose classroom data forms the basis of this research are referred to in order as Amanda, Brian, Colin, Dianne, Emily and Frances. It can be seen that there were four females and two males in the sample. Three teachers taught in North-Western suburban state primary schools, two taught in Catholic schools - one in the North-Western region and one in the Eastern region, and one teacher taught in an independent school for boys. All teachers taught in upper primary classes. Four Grade 5/6 composite classes, one Grade 5 and one Grade 6 class were included in the sample.

When a teacher was referred to the researcher by a colleague, that teacher was contacted by telephone. Teachers were asked if they were willing to participate in the study. Three of the four teachers introduced to the researcher in this way were willing to participate in the research. In these cases the teacher was asked to inform the principal of the telephone call and ask them to expect another call from the researcher at which time an appointment with the principal would be sought. At one school a "cold call" was made where no direct contact had been made with any member of staff about the research prior to the telephone conversation.

In all but one school the Principal's permission to undertake the study in their school was sought at the preliminary interview. The Special Education teacher at Frances' school had spoken to the Principal and she subsequently set up the first meeting with Frances and the researcher. The Principal was unavailable on this day but the researcher met with him during the first day of observation to discuss the research project and seek consent for the fieldwork to take place.

At the preliminary interview the overt aims and goals of the research were presented to the principal and the participant. An overview of the research project was given at this time. The participant was asked to make a commitment to allow the researcher to observe any reading or language lessons occurring in their class during a three week observation period in each class. In the second week observations would continue and the assessment of students identified by the teacher as experiencing difficulty with reading would also take place. Teachers were assured that parental consent would be a prerequisite for assessment of students. Feedback on the assessments would be given to the teacher at the end of the second week. The researcher would then take one week to make brief analysis of data and give teachers a week to assimilate information and work alone with their classes. After this break the researcher would return for a third week of observation. The participant was also asked to agree to schedule a minimum of one interview of between a half an hour and an hour per week.

It was stated that the researcher wanted to observe reading lessons in particular but would participate in other lessons at the teachers' discretion. The aims of the research as presented in the research proposal were discussed with both principals and participants. After the pilot study, a one page summary sheet of the proposal was prepared and was left with principals to discuss with their staff. A copy of the full proposal was offered but only one principal asked for a copy of this, the others preferring to retain a copy of the summarised version. Discussions with this principal and her deputy led the researcher to conclude that they had both read the document thoroughly. A consent form to carry out the research in the school was signed by principals of participating schools. One of the principals suggested that this form should also be signed by the President of the School Council. It was interesting to note that when both forms were offered to principals on subsequent visits to schools, they all chose to take full responsibility without involving their Council. As one Principal stated: "They'll spend hours discussing it and then give it the go ahead. We've got lots of other things to discuss at Council Meetings."

The formal meeting with the classroom teacher took place after the meeting with the Principal on all but one occasion. At this time the same information in the form of the summary of the proposal and discussion of the research aims was presented. Teachers who participated in the study were given opportunities to ask questions. As Guba and Lincoln (1989:137) point out: "If the purpose of the enquiry is to uncover realities as they are constructed by the persons involved, then to deceive the respondents about the purpose (or any other aspect) of the inquiry is to stimulate them to report on matters irrelevant to what is at hand."

The participants were informed that findings would be presented in a thesis. In discussing the benefits of taking part in the study the researcher suggested that participating in the project might promote a higher level of consciousness about how the teacher was dealing with student diversity, particularly when teaching reading. The researcher stated that she would provide the participants with detailed diagnostic/assessments of students they identified as having difficulty with reading which could prove useful in developing goals for these students. The researcher also offered to make herself available to participate in the class programme and work

collaboratively with the teacher in subjects other than reading. This offer was made for a number of reasons - so that the researcher would gain a better understanding of the needs of the students, to enable students to see the researcher as part of the class program not just an observer, and to assist with the development of rapport and sense of collegiality between the teacher and the researcher.

Participants were informed that every effort would be made to ensure confidentiality, in that their names would be changed so that they could not be easily identified; they would be given copies of all notes taken from observation and interview for member check and they were assured that they could withdraw from the study at any time.

4.4 Data collection procedures

4.4.1 Establishing rapport

The researcher made the decision to take the position of participant observer during the course of the fieldwork. The researcher was to become actively involved in the classroom situation in order to gain insights into the ways the teachers worked with their groups and the dynamics of the classrooms. Interpersonal relationships with teachers, and to some degree with students, were developed. During observations of reading sessions the researcher functioned primarily as observer and not participant but at other times she participated in lessons in order to gain rapport with the group and also to formulate a better understanding of the functions and relationships which existed in the classrooms. This also served the purpose of enabling the participants to view the researcher as a colleague, dealing with everyday teaching situations.

The combination of detached observation and participant observation meant that the researcher could be seen to be part of the daily programme but could also withdraw from the class to take fieldnotes when this was required. The researcher set up a laptop computer, usually before the school day, in a place where she could view all students and the teacher. A notebook was kept by the laptop in case the researcher needed to move around the room to take notes. Before the first observation the researcher either introduced herself or was introduced to the students in the class. It was explained that the researcher was a teacher from a local university and that she would be working with the class sometimes but at others she would be taking notes

on how reading was being taught in this class. Students were made aware that the researcher wanted to get to know them but when she was working at the laptop she should not be disturbed. Children who were inquisitive about the laptop or the project had their questions answered. Those students who showed interest in the computer were encouraged to stay in the classroom at recess time. In two classes groups of students did some typing using a work processing programme. Once they had their questions answered, students paid little attention to the researcher when she was notetaking. This generally occurred by the second or the third day of the research. The majority of children accepted the presence of the researcher without question. Their teachers explained that this was probably because they were used to having student teachers present in their classrooms. Several students asked questions, for example: "When will you be a real teacher?" indicating that they perceived that the researcher was a student or associate teacher, relating the presence of the researcher to their previous personal experience of observers in their classroom.

Having worked as a classroom teacher, the researcher was aware of how precious time release is to teachers. During the introductory interview it was proposed that time taken for regular interviews would be made up by the researcher. It was suggested that interviews should take place during times that the students attended a specialist class. The researcher proposed that she would take the class for an alternative session so that the teachers' time release was not eroded. The researcher suggested that she could take the class for a regular Drama session or any lesson which the teacher might nominate. Each of the six teachers in the study requested that the researcher take Drama lessons, noting that their students received very little exposure to this area of study.

Teaching Drama to the students served a very important purpose. The students appeared to enjoy the lessons immensely. The students played Drama games, and performed small role plays using props and face painting. The fact that the students enjoyed the sessions meant that an instant rapport was established between the researcher and many students. At each setting students asked each day when their next Drama lesson would be. The fact that the students had some exposure to the researcher in an activity which was readily accepted by the class could have

contributed to the fact that no student appeared to be concerned about being withdrawn by the researcher for assessment. The students were openly asked if they would mind reading for the researcher and completing some tests. No student refused and all 24 students appeared happy to attend assessment sessions. One student was upset when his parents denied their consent for assessment. An appointment had been made with a psychologist for a psycho-educational assessment the following week and the parents did not want him to be tested too frequently. This student indicated that he felt he missed out by not participating in the research project. Many other students asked when they would have a turn at coming to read to the researcher. Rather than feeling singled out for assessment by the researcher, it appeared that students felt that they were being rewarded. Students often asked if they could "have another turn". This could have been due to the fact that students enjoyed the individual attention that the assessment time afforded them.

The fact that the students gave good reports of the Drama lessons also helped in rapport building with the classroom teachers. The researcher was able to discuss how specific children responded to the sessions and teachers generally showed an interest in the reactions of their students to these lessons.

Open discussion of the aims and objectives of the research led to the development of rapport between the researcher and participants. The teachers in the study were reminded that their ideas and opinions were valued. It was acknowledged that there was no one correct way to teach reading and that all behaviours of teachers were considered purposeful. The researcher was seeking reasons for different teacher responses and behaviours. The fact that participants were informed that all data were to be given back to them for member check, assisted with the development of trust. Data were referred to sources for their affirmation and verification, correction or challenge. This meant that participants had some sense of control over the data which was collected. There was no secrecy. Generally teachers made few comments about the data collected. One teacher made a few explanatory notes about why she had undertaken a particular task or made a specific response.

Prolonged engagement and extended observation was characteristic of this research. Through this the researcher had the opportunity to learn a little of the culture of the schools which she visited and there was some opportunity to build trust with the participants and other teaching colleagues in participating schools. This occurred when dining with teachers in the staffroom, talking to support teachers, assessing other students upon the request of principals and staff, and participating in school events like a Graduation Ceremony, school excursions. It was this close enquiry which provided the depth in the information collected and rendered the researcher open to multiple influences operating in any school situation.

4.4.2 Observations

Regular and formal observations of reading lessons were carried out in the classrooms of the teachers who participated in the research project. The observations were formal in that they were prearranged with the participant. The classrooms however were part of the school environment and at times informal observations of the teachers and impromptu interviews took place in staffrooms, in school grounds or whilst on excursions.

Direct observation of teachers means that the possibility of the participant "masking" or claiming to behave in ways contrary to actual practice, or "performing" for the observer was reduced. The researcher had some discussion with colleagues about the methodology of the study and there was some concern that teachers, knowing that the aim of the research was to describe adaptive teaching practices, would adapt instruction for those students experiencing difficulty with reading more frequently than they would under normal teaching conditions, that is: without the presence of the researcher in the classroom. The researcher's response to this was that teachers can only make adaptations by utilising teaching strategies that are in their working repertoire. They cannot use skills or employ knowledge that they do not have. Certainly teachers may exaggerate normal practice but it was thought to be extremely unlikely that teachers would utilise skills that were never otherwise employed. Observations were undertaken over three weeks. A teacher would have difficulty sustaining changes to normal routine over such an extended period of time. The researcher also believed that significant changes in normal teaching procedure would

require explanation to students and would result in some observable response from them.

Green and Harker (1988:14) note that the roles of the teacher and the students in instructional settings are interrelated. Teachers set the conditions for learning, they select appropriate content, guide the lesson, maintain coherence for students by monitoring information, encouraging participation and adjusting lessons to ensure access to the content. Students are described as co-participants in the learning process who have their own particular frames of reference. They monitor and interpret the actions of the teacher, extract both social and academic content and determine levels of participation and contribution.

It was the action of the teacher that was the focus of the study. Participants' actions and statements were recorded during observations, particularly during whole class or small group instruction. The details of lessons were recorded. These details included the activities presented and directions given to students, the organisational methods employed by the teacher and wherever possible the response of the students, particularly those students identified by the participant as experiencing difficulty with reading. When the teacher was hearing individuals read or undertaking non-teaching activities, instantaneous time sampling techniques were used to record student behaviour. At one or two minute intervals (depending on the activity) the responses of individual target children were recorded. In this way some data were recorded on all identified students during each observation.

4.4.3 Interviews

Gerger (1988) writes that human action cannot be understood without reference to its underlying intentions. He states that regardless of the accuracy and sophistication of a researcher's measures, any observations are without meaning or interest until they are linked to the actor's intention.

It was through the interviews that teachers' intentions were sought or investigated. Reasons for the actions of participants were explored though extensive and intensive

discussion. Interview questions fell into the following categories, drawing information about:

- participants' training, professional development and teaching experience;
- participants' philosophies of teaching reading;
- their assessment of their own success in dealing with students who experience difficulty with reading and exposure to children with various disabilities;
- their knowledge of the skills and abilities of targeted students who experience difficulty with reading and assessment procedures and record keeping utilised;
- general questions relating to observed adaptations and modifications to instruction and individualisation;
- specific questions about teaching methods employed during observed lessons;
- questions about researcher influence;
- parental involvement in reading instruction;
- withdrawal programmes operating in the school.

(A sample from a single interview is presented in Appendix I.)

The interview type was one that Minichiello et al. (1995) would describe as focused or semi-structured. An interview guide or schedule was developed around the identified topics and issues. The content of the interviews focussed on the issue of the teaching of reading and the adaptation of instruction or teaching practice. Interview schedules were prepared to allow for comparison of data across sites but questions were not generally asked in any particular order - the researcher was more likely to ask questions as they arose in discussion with teachers. At the end of each interview the researcher marked off questions that had been answered in order to keep track and ensure that all aspects were covered before the final interview was completed. At times the researcher did not need to specifically ask questions because the participant had given ample information about the topic during discussion. Often a question posed would lead the teacher and researcher into discussion and the participant would lead the discussion to another topic. Interview questions were open ended, and discussion was flexible so that teachers would feel at ease and to allow for collection of unexpected information. The researcher sought the participant's perception of reality at all times through a conversational mode.

The role of the interviewer according to Minichiello et al. (1995:101) is to participate in conversation with the informant through "answering commenting and attending to the conversation sensitively". Decisions were made about when to listen quietly and acknowledge the informant and when to probe for elaboration or clarification.

All interviews were taped but the researcher also took written notes during the course of the interview. Minichiello et al. (1995) state that note taking tends to make the researcher listen more carefully to what the informant is saying but they also caution that rapport with the informant could obviously be at risk. The researcher found that at times note taking was extremely useful in that the informant or participant was provided with time for reflection. Often while the researcher was writing the participant waited, then began elaborating on the information they had provided. Participants would often expand on their ideas, proffer explanations or give more details on the topic they had just addressed. Eye contact was maintained with the participant as often as possible, particularly whilst the researcher was asking questions so as to preserve rapport during the course of the interview. The researcher became aware that she often nodded as participants spoke and paraphrased their responses. In listening to tapes of the interviews, it was apparent that this might have given the impression that she was in agreement with the teachers. This was not the aim of the behaviour. Empathy was primary to the interviews in that the researcher wanted to convey that she understood that participants had reasons for their actions but the researcher was not always in full agreement with the methodologies they employed.

4.4.4. Student assessment

Students identified by participating teachers as experiencing difficulty with reading were assessed by the researcher. The aim was to ascertain the degree of difficulty the students were experiencing. In an "ideal" classroom all children would read at age appropriate levels and the need for adaptations would be minimised. It could be possible that some participants made fewer adaptations because the students in their classes were not experiencing the same degree of difficulty.

Specific skills and abilities of the students were assessed through the use of the Neale Analysis of Reading - Revised Edition (1987) produced by the Australian Council for Educational Research (ACER), The Edwards Quick Word Screening Test (1981) published by Nelson and distributed through ACER; and, where appropriate, a Phonological Awareness Screening Test (1990).

The Neale Analysis (1987) produces reading age scores in the areas of reading rate, reading accuracy and reading comprehension. Analysis of errors made by students is possible and record is made of mispronunciations, substitutions, refusals, additions, omissions and reversals. The Neale Supplementary Diagnostic Spelling test was also administered along with the Diagnostic Test - Names and Sounds of the Alphabet. The Edwards Quick Word Screening Test allows for reading age to be determined through the students' performance on a task involving reading of a list of isolated words. Students are not timed. The use of both of these tests enables comparison of students' performance in reading passages where meaning may be gained from context and reading words in isolation, relying on word analysis for decoding. The Phonological Awareness Screening Test was utilised to ascertain students' ability to rhyme, isolate sentences into words, break words into syllables, blend sounds to make words, segment words into sounds, identify initial, medial and final sounds in phonetically simple words and also spell six phonetically simple words.

Parental permission was sought for assessment of students (see Appendix 2). Administration of these three assessments led to the development of a profile of students' strengths and abilities as indicated by their performance on the day of assessment. Teachers were presented with the information from the assessment and were also asked to comment whether they felt that the achievement of the children on these assessments matched their own assessment of students' ability.

4.5 Data processing and analysis

The data were interpreted in context. The approach utilised was similar to that described by Merriam (1988) who writes how during the analysis of their data qualitative researchers uncover the interaction of significant factors which are characteristic of the phenomenon. Fetterman (1989:88) describes ethnographic

analysis as "iterative", building on ideas throughout the study. In this research an iterative approach has definitely been taken. The literature review was developed and extended before, during and after data collection. The theoretical frameworks were primarily developed before data collection as were research questions. In the case of the theoretical frameworks and predictions, the substantive information remained unchanged but information was fine tuned as a result of extended reading undertaken during and immediately after the data collection. An example of this was the use of the Belenkey et al. Model (1986) "Ways of Knowing". This had been investigated prior to the commencement of the research but it was towards the end of the research process that connections were sought between ways of knowing and teachers' propensity for initiating adaptations.

The development of the conceptual framework led the researcher to focus data collection in the field and also led to the formulation of a tentative list of categories prior to the fieldwork. These were revised and the conceptual framework was further developed during the fieldwork as new questions emerged.

The problem with using these models or theories is that they imply that there is a clear dichotomy or distinction between different belief systems and ways of knowing. One of the criticisms of the use of categories expressed by Galton, Simon and Croll (1980:8) is that often use is made of "over-simplified categorisations to represent teaching methods". They criticise studies in which respondents are asked to choose from two distinct categories of response. The argument was that teachers may have a range of responses but are forced to choose between two. The researcher was aware of the danger of this in the current research. Utilising semistructured interviews together with observations of the teachers at work, care was taken to ensure that the behaviours of teachers were not over-simplified during the categorisation process. The researcher agrees with Bennett (1976) who notes that reducing behaviours through labelling them may lead to a loss of the richness of the material that has been gathered. To this end categorisation is followed by explanation, differences between teaching practices and teachers' statements are made apparent and detailed information about the contexts in which the six teachers worked is provided.

From the very beginning of the research process the researcher wanted to know more about the adaptations teachers made and why particular adaptations were used in specific situations. A range of teaching practices was recorded as adaptive. Any alteration or modification of material or text, additional explanation or differential instruction provided in order to simplify or clarify information for students was recorded as an adaptation. The researcher attempted to be alert to the particular strategies and methodologies employed by teachers, their teaching styles, beliefs and knowledge. Information collected about a range of characteristics was analysed and reported.

The point of doing field research, according to Miles and Huberman (1994:17), is "to describe and analyse a pattern of relationships". These authors suggest that this task requires a set of analytic categories. These categories can be pre-existing as in deductive research or can emerge during the course of data analysis during inductive research. Evertson and Green (1986) state that descriptive systems may have both preset categories and categories generated by the data. Miles and Huberman (1994) concur. They suggest that both means of developing categories are possible.

Categorisation is a task which must be undertaken with care. There is also the danger that teachers' behaviours are viewed as static or unchanging in different settings or under different teaching conditions. The researcher gathered data on one type of behaviour - adaptive teaching practices, in a particular situation - during reading instruction. The response of the teachers in this situation cannot be thought to be indicative of their response in all teaching situations. The researcher acknowledges that teaching is a dynamic activity. Teachers can be constantly learning or making new discoveries in their teaching. They are also humans who respond to the stresses they encounter in a variety of ways. These factors will impact on teachers' behaviour in the classroom.

Caution was taken in analysing data as it could not be assumed that there are patterns to all behaviour. Spence (1988:71) proposes that we should take a hermeneutic or interpretive approach during analysis and couple this with a belief in the random universe. He notes that if we are able do this then we are less likely to make weak

pattern matches. He states: "We have the benefit of a general scepticism coupled with the infinite richness of hermeneutic data base." It is therefore important for the researcher to always be seeking alternative explanations which might be found for behaviours and actions.

Sherman and Webb (1988:95) suggest that qualitative research must not stop at description. A major goal should be the development of theory. These authors write that ethnography can lessen the distance between theory and practice because it is concerned with substantive issues that people recognise as their own. Qualitative research deals with the problems faced by participants in the research and attaches importance to people's views, values and motives whilst taking into account their different situations.

The aim of the research is to develop a theory or explanation for differences or variation in teacher levels of adaptation. Theories are statements of how things are connected. The purpose of a theory is to explain why things happen as they do and they may be predictive or descriptive. LeCompte and Priessle (1993:118) write that whilst formal theories may consist of tight or nested statements or propositions through to conceptual frameworks or typologies, substantive theories consist of "interrelated propositions or concepts which create explanations for the existence of phenomena lodged in particular aspects of populations, settings or times". Theory, we are reminded by Carr (1993:161), deals with abstract ideals whilst practice deals with concrete realities. In this research the theory would need to maintain the individual characteristics of each teacher in the study whilst at the same time allowing for comparisons of teacher behaviours. The phenomenon of teacher adaptation can only be understood in the context in which it occurs. A teacher, holding specific personal and professional knowledge and information about teaching and learning, may behave in a totally different manner in another setting because of perceived differences in administrative support, parental expectations or student ability and/or behaviour. The findings from one context cannot therefore be generalised to another, but patterns of behaviour can be sought.

With this restricition in mind, the results are presented. First background information about the teachers and their schools is presented. This is followed by data relating to student ability and teacher knowledge. Teacher response to perceived student need is presented in the third section of the results.

CHAPTER 5
RESULTS – CONTEXTUAL FACTORS

5.0 Introduction

The results of the research are presented in three chapters: Contextual Factors, Student Ability and Need, and Teaching Practices. "Contextual Factors" documents information relating to teacher preparation, school context, teaching style and teacher belief. "Student Ability and Need" sets out information relating to teacher knowledge of student need and the results of standardised testing undertaken by the researcher. In the chapter entitled "Teaching Practices", the adaptive educational practices of teachers and the differences observed in teachers' approaches to the task of adaptive education are reported.

Teachers work in the context of a classroom that is part of a school, a school that is part of a local community and, in turn, and a local community that is part of a wider community or society. As a result, the teaching of reading is not a discrete event in a classroom. There are many factors that impinge upon teachers' decisions to use particular teaching methodologies or strategies when they encounter students who experience difficulties with reading. Such factors might include the availability of resources or school policies. Teachers' backgrounds, beliefs and experiences can be considered contextual. The beliefs and experience brought to teaching situations will have a direct effect on teachers' ability both to recognize and respond to individual need. Teaching style is developed as a result of beliefs about teaching and learning and the personal experiences of the professional in educational settings. Teaching style can be considered contextual; as lessons and responses to individual students will reflect the particular style the teacher has developed. Whilst teachers' ways of developing knowledge could be considered contextual, this information is presented in chapter 6 where teachers' knowledge of students is documented.

5.1 Teacher preparation.

How are teachers prepared for the task of teaching students with diverse educational needs?

The background of the teachers, their length of service and qualifications will all have some bearing on the information to which they have been exposed and will directly impact upon the teaching methods they employ. Information about the teachers' educational background of teachers is presented in Table 5.1. Table 5.2 presents each teacher's description of their methods of teaching along with their perceptions of the influence of pre-service training on their teaching practice. Each teacher's participation in in-service education or professional development on the topic of reading in the three years preceding the study is also considered.

5.1.1 Teacher Experience by Qualifications, Current Study and Length of Service

	Amanda	Brian	Colin	Dianne	Emily	Frances
1. Basic Qualification	Diploma	B.Ed.	B.Ed.	B.Ed.	Diploma	Diploma
2. Current Study	B.Ed.	Nil	Grad. Dip.	M.Ed.	B.Ed.	nil
3. Length of service	4 yrs	17 yrs	23(&3) yrs	8 yrs	7 yrs	19(&13) yrs
4. Level of experience	less	more	more	moderate	moderate	more

Table 5.1: Teacher information

Note to table 5.1 (Teacher identification. The six teachers in the study are identified by pseudonyms. Six names were chosen in alphabetical order. The names are presented in order of participation. Four female and two male teachers participated in the research.)

1. **Basic qualification**: Three teachers had a three year Diploma of Teaching and three teachers had completed four year degree courses. Frances had originally completed a two-year teacher-training course but she upgraded her qualifications by completing a third year of training whilst on family leave.

2. **Current study**: Four teachers were undertaking further education. Amanda and Emily were completing a fourth year of study to gain degrees. Emily was majoring in Language Studies. Colin was studying for a Graduate Diploma of Educational Administration and Dianne was completing her Master of Education. Dianne had majored in Maths and was studying her own teaching practice in Mathematics for her

research project. Brian stated he would have liked to study at postgraduate level but found the cost of some courses prohibitive.

3. **Length of service**: Teachers had served from 4 to 23 years. Two teachers had left teaching for a period but later returned to the profession. The number of years they had been away from teaching is recorded in brackets. Colin returned to teaching after three years in alternative employment. Frances taught for eight years, took 13 years family leave and then taught continuously for 11 years. Teachers were categorised as "less" and "more" experienced. The three "less experienced" teachers had between four and eight years teaching experience. The three "more experienced" teachers had between 17 and 23 years teaching experience.

4. **Level of Experience**. Only one teacher, Amanda was less experienced, having less than five years teaching experience. Two teachers were moderately experienced, having between 5 and 10 years of teaching experience. Three teachers were more experienced. Each of these teachers had more than fifteen years of teaching experience.

5.1.2 Method of teaching reading and professional development

	Amanda	Brian	Colin	Dianne	Emily	Frances
1. Method of teaching reading	Whole Language	Modeling & assistance	Whole Language	Eclectic	Phonics	Help when needed
2. Pre-service training	Significant	not sig.	not sig.	n/a	n/a	n/a
3. Recent P.D. in reading	no	no	no	yes	yes	no

Table 5.2: Teacher skill development and the teaching of reading:

1. **Method of teaching reading**: Teachers found it difficult to describe their method of teaching reading. Amanda was able to label her method but acknowledged that there were different interpretations of teaching methodologies. Three teachers generally described the different techniques and strategies they used, relating information specific to those students who experienced difficulty with reading. Amanda and Colin stated that they predominantly used Whole Language approaches, Emily mentioned explicit phonics instruction, and Brian and Frances referred to the need to provide assistance when it was required, whilst Dianne described her approach as eclectic.

Amanda described that her approach was "Whole Language", qualifying this by stating that there were different interpretations of what constituted a Whole Language approach. In response to comment that she showed students how to use phonic analysis as a strategy for decoding, she explained that some students needed this type of instruction. She acknowledged that some of her colleagues who utilise the Whole Language methodology may not provide students with instruction in phonics but she was not sure whether this was what the originators of the Whole Language approach to the teaching of reading had intended. Text selection was important to Amanda who commented that she disliked the term 'readers' in reference to reading material and preferred to describe texts as storybooks.

Brian's perception was that the methodologies he employed were not as important as the personal contact he had with his students. He stated that it was important for a teacher of reading to be interested and keen, commenting that some people made teaching boring. Brian stated that he had disagreed with a colleague who simply provided students with opportunities to read, believing that they would learn from one another. Brian reported that his response to reading difficulty was to model for students and to provide them with materials that they could read and understand. When asked to describe his method of teaching reading he stated that the main emphasis of his teaching was on modeling, initially providing a lot of help to students and then fading the degree of assistance offered.

Colin described his approach as Whole Language. He tried to put reading in context, isolating particular problems that children experienced. Colin stated he would teach phonic analysis to some students, but would not place emphasis on this aspect of reading if it were not needed. Rebuilding students' self esteem was seen by Colin to be important. Colin stated that he did not like to use "readers" or texts of graduated difficulty with students, preferring to encourage the children to read novels and discuss any material that they had read. He talked about legitimising all sorts of script as part of his program and not just fiction, because he felt fiction had been overemphasised by many educators.

Dianne found it hard to describe her particular method of instruction, saying that she wasn't "really anything" and describing her method as "a bit of a mix". She quite

liked the genre approach because she loved the way that the structure of the story was explicated for students. She thought her approach could also be described as similar to Whole Language because she liked to relate reading to other subjects but she also used other approaches, depending upon the particular needs of her students. She aimed to find out what her students could do, identifying gaps in learning and then teaching from this information i.e. individualising instruction. Her view was that all students need to be mentally and physically active in completing any task. When selecting an activity she stated that she looked for "something that was open for all children to be able to move on from their current level of operation".

For Emily the early teaching of phonics was extremely important alongside the development of oral language. She was unimpressed by what she called "traditional reading levels" where students were expected to read books at a particular level and remain on this level until the teacher decided that they were ready to advance to the next level. Yet four students in her class read simple novels that were differentiated from other books by yellow dots that were placed on their covers. Emily agreed she used this system but stated that this was in order to limit the search for these students and assist them to make appropriate choices. She denied that the students were being kept at particular reading levels.

Frances stated that she gave help to students whenever it was appropriate. Most of the children in her class could read quite well and understood most words they encountered. As the Special Education teacher taught skills of phonic analysis to those students who experienced difficulty, Frances did not need to spend time on this. If students in her class experienced difficulty in decoding text she would help them sound the word out or provide them with information so that they could "come to the answer themselves".

2. **Pre-service training**: Only Amanda reported that her pre-service training had a significant influence on her teaching. Brian and Colin claimed that their training had little influence on their current practice whilst Dianne, Emily and Frances made no reference to their pre-service training.

Amanda had only been teaching for four years and described herself as inexperienced. She had learned little during teaching practicum, describing the schools she attended as traditional and old, utilising outdated resources. She felt that the lecturers at university provided her with the latest information. Her criticism was that her course did not provide her with information about how to assess whether students were learning disabled.

Brian remembered very little of his pre-service course that dealt with the teaching of reading. He believed that training did little to prepare teachers for classroom problems. Colin had similar views, stating that it was only through working in real estate for three years that he discovered that the paradigm presented in schools was inappropriate. He claimed that in the "real world" people learn new skills by actually doing them in context rather than having sub skills or parts presented.

Dianne, Emily and Frances did not refer directly to their pre-service education. Dianne had encountered some information in recent professional development activities that reinforced what she had learnt during her initial training. Emily focussed on the fourth year of study she was currently completing and reported the value of relating information presented to her own experience and trialing some of the activities presented in lectures. Frances had witnessed many changes during her teaching career, noting there was more group work occurring in classrooms than there had been in the past. She referred to the new approaches to teaching writing that incorporated conferencing and drafting work. She also noted that schools now had more specialist teachers, joking that early in her teaching career she was impressed if someone came in to play the piano for singing.

3. **Recent professional development (P.D.) in reading**: Dianne and Emily reported that they had both undertaken professional development in this area in the two years prior to the research.

Colin did not refer to professional development activities but talked about authors who had influenced his reading. Frances was also very difficult to draw out on this topic. She made general reference to the fact that the school invited guest speakers to present information to staff on curriculum development days and commented that she

had attended an ELIC course (Early Language in the Curriculum) some years before. The course "just reinforced what she was already doing". As Amanda was completing her fourth year of study for her B.Ed. she did not attend professional development sessions conducted outside school hours. Brian's professional development at his current school had been on the topic of behaviour management or social skills development. A few years earlier he had attended a CLIC course (Continuing Literacy in the Curriculum) as his wife, also a trained teacher, had not recommended ELIC (Early Literacy in the Curriculum). Brian was not very impressed with the CLIC course because it provided reading activities rather than strategies for helping students learn to read.

Dianne referred to two professional development sessions she had attended: The "Reading Success For All" program, conducted over six weeks by the Catholic Education Office, and a session the previous year on the topic of literature based reading. Dianne spoke very positively about both activities. She found the information presented on miscue analysis and the keeping of running records very useful. She modified her literature based instructional program to suit her own needs, but had incorporated many of the ideas presented at the professional development session into her teaching. Emily had also attended a professional development session on literature based reading. She used some of these activities in her classroom.

5.2 School context.

How do school systems and administrators support staffs that are given the responsibility of teaching students with reading difficulties?

Contextual factors, or the general school environment in which teachers work, can influence educational practice. Information about the schools, the communities they served and policies that were in place is presented in Table 5.3. Resources for teaching also impact on the selection of teaching methodologies. Information about resources is presented in Table 5.4. Another factor is class size and the number of students presenting in a particular class with reading difficulties. This information is presented in Table 5.5. Information relating to the human resourcing of the reading program is presented in Table 5.6.

5.2.1 The schools in which participating teachers worked.

	Amanda	Brian	Colin	Dianne	Emily	Frances
1. Type of school	Govt.	Govt.	Govt.	Catholic	Catholic	Independent
2. Region	n.west	n.west	n.west	west	east	inner city
3. Ethnic diversity	high	high	high	high	medium	low
4. No. of students	187	257	257	211	750	1100
5. Influential policy	no	no	no	no	yes	no

Table 5.3: Information about the schools in which the teachers worked.

1. **Type of school:** Three of the teachers worked in government schools of the Victorian Department of School Education, two worked in Catholic schools in the Victorian Catholic Education system and one worked in an Independent School.

2. **Region:** The six teachers worked in five schools spread across four distinctive regions of Melbourne. Amanda, Brian and Colin worked in North Western suburbs, and Dianne worked in a Western suburb. These suburbs are distinguished by the high proportion of migrants in the population and are described as working class. The Charter of Amanda's school described the student population as diverse and relatively mobile. At the school in which Brian and Colin taught, over half the students (147 of 227) received the education maintenance allowance, an allowance paid to the families of students whose parents would find it difficult to bear the cost of their children attending school. Twelve students received State schools relief clothing funds.

Emily worked in the Eastern region of Melbourne in a working class suburb. There were higher levels of employment in the Eastern than the Western region at the time of the research. The immediate environment of this school was described in the School Profile as light industrial. This document also records that a number of students travelled by bus each day from neighboring housing estates.

Frances worked in the Inner City in a suburb that would be described as middle to upper class. Students travelled to the school from a wide catchment area and it would be expected that one or both of their parents would be employed in a professional occupation.

3. **Ethnic diversity**: The ethnic diversity of the students in the schools in which Amanda, Brian, Colin and Dianne taught was described as high. Ethnic diversity in Emily's school was average for Melbourne and the school in which Frances taught had low ethnic diversity.

The Principal of the school in which Brian and Colin worked noted that 72 percent of the students were from 22 different non-English speaking backgrounds, with the highest proportion from Arabic backgrounds.

At Dianne's school 152 of 211 students (or 72%) came from non- English speaking backgrounds. The diversity of the language backgrounds of these students was great. Figures provided to the researcher showed there were 31 Spanish-speaking students, 25 Arabic, 15 Vietnamese and 12 Portuguese-speaking students.

Dianne had taught previously in the school at which Emily worked. She noted that the population of her old school was different. At Emily's school there were more second-generation migrants. In her opinion this meant that the needs of the students, particularly in terms of teaching language related skills like reading, were also different.

Frances worked in a school where the majority of the students were of Anglo-Saxon descent. She noted all her students had few problems with comprehension of text where vocabulary was a factor, and that her students had quite extensive vocabularies.

4. **Number of students**: The schools in which the teachers were employed varied in size. Amanda, Brian, Colin and Dianne worked in relatively small primary schools of up to 250 students. Emily and Frances worked in larger schools. All of the 750 students at Emily's school were enrolled in primary classes. The 1100 students at Frances' school were enrolled in a multi-campus P-12 facility.

4. **Influential policy**: During interviews teachers were asked whether the school administration's policies or attitudes towards reading and the teaching of reading directly influenced their teaching. Brian, Dianne and Frances made little reference to

school policy. Only Emily felt that school policy on reading directly impacted upon her teaching of this subject. Amanda and Colin commented that their colleagues had different approaches to the teaching of reading.

Amanda commented that, whilst each of her colleagues might be working within the framework of the school policies, their own philosophies showed through. She noted that different teachers emphasised phonics and some spent a lot more time on reading comprehension than she would. It was school policy that all students participated in silent reading each day but Amanda allowed her students to talk to each other about their reading during this period. She viewed the school policy as flexible enough to accommodate each teacher's style and preferences.

Colin, like Amanda, felt that his approach to teaching reading was different to that of his colleagues but claimed that the administration of the school was supportive of his method of teaching:

> *I read the school policies before I came here and things started to gel a bit about what I was trying to do, my ability to do it within the school approach. The fact that it does not happen in every classroom of course is different thing too. It happens differently in some of the classrooms.* (TC D2 I1 P12)[1]

Whilst the other teachers indicated that they generally felt either comfortable with, or supported by, school policies, Emily implied that her school's policies were intrusive and sometimes difficult to accommodate:

> *The school is very curriculum orientated and I think sometimes things are presented and you try one thing and then you think you've got it and then you're told "Now we're trying this policy" and you think, well I just got the last one.* (TE D2 I1 P9)

Emily found positive aspects to this approach. When she left the school she would take with her a wealth of policy and curriculum knowledge. It was her belief however that, particularly when she was a beginning teacher, the demands of the administration
were high. She reported that she had used a phonic approach to teach reading when she taught a preparatory class but, in her third year of teaching, she was told this was

[1] The abbreviations represent information in transcript records:
Teacher = T, Day of interview = D, Interview = I, Page number = P, Observation = O

not acceptable. She made the required changes to her teaching but felt frustrated. She did as she was told but didn't believe in, or like, what she was doing.

Brian, Dianne and Frances gave little information about the policies of their schools, commenting that they had little impact on their teaching.

5.2.2 Resources available for the teaching of reading.

	Amanda	Brian	Colin	Dianne	Emily	Frances
1. Rating of resources	inadequate	inadequate	inadequate	inadequate	no resp.	adequate
2. Computers in room	1	1/2	2	1/2	0	4
3. Use of computers	no	no	yes	yes	no	no

Table 5.4: Factors intrinsic to the school that impact on the teaching of reading.

1. Rating of resources: During interviews teachers were invited to rate the adequacy of resources in their schools. The researcher collected information about the number of computers in classrooms and their use. Only Frances rated her school as adequately resourced for the teaching of reading. Emily did not comment on resources and Dianne made brief reference to the fact that the Principal was "doing her best" under what seemed difficult circumstances because of the need to work within a limited budget. Amanda, Brian and Colin had concerns about the lack of resources for teaching reading.

Amanda brought her own reading materials into the school to supplement the reading materials available to students. Both Amanda and Brian wanted to have access to more new and interesting reading material. Brian had to increase his reading groups from two to three because there were not enough multiple copies of books available to accommodate bigger groups. Colin illustrated the inadequacy of resources by saying that students had to put their name on the blackboard to borrow a dictionary or a thesaurus.

Dianne taped books for her students at home each evening whilst she was preparing the evening meal. She did not overtly state that there was a lack of resources but commented that the Principal at her school was very good as she had supplied money to purchase blank cassette tapes on which she recorded reading material so that her less able readers could be exposed to literature. She commented that the school was always "on the lookout" for high quality reading matter.

Frances saw her school as well resourced, providing anything she requested in the way of teaching resources.

2. **Computers in room:** All teachers except Emily had computers in their classroom. Brian and Dianne had access to one computer that was shared between two rooms. Amanda had a computer permanently set up in her room, Colin had two and Frances had four. Whilst Emily did not have a computer in her room there were six computers available for classroom use in the school library.

3. **Use of computers:** Computers may have been available but were not seen in use in all classrooms. Amanda, Brian, Emily and Frances did not make use of computers at any time during the three weeks that the researcher was present in their classrooms.

The two computers in Colin's room were in constant use. Students accessed information for their own research purposes and used computers to word-process. Colin rostered use of the computers and expected all students to use the word processor to complete an editing task during the course of a fortnight. Dianne shared her computer with the teacher in the next classroom but on four occasions during observations it was wheeled in during reading sessions and students used it to type up their response to text.

5.2.3 Grade levels, class size and number of students with reading difficulties

	Amanda	Brian	Colin	Dianne	Emily	Frances
1. Grade Level	5/6 comp	5/6 comp	5/6 comp	5/6 comp	Year 6	Year 5
2. Class size	33	26	27	23	30	25
3. No with reading difficulties	4	4	4	4	4	5

Table 5.5. Description of the Grades in which participating teachers taught.

1. **Grade level**: Amanda, Brian, Colin and Dianne taught in 5/6 composite classes. Emily taught in a Year 6 class and Frances taught a Year 5 class.

2. **Class size**: Class size ranged from 33 students (Amanda) to 23 students (Dianne). Amanda commented that all of the classes in her school were large. The decision had been made to have large classes so that more staff could take on specialist roles in

the small school. Dianne also explained that the previous year her Principal had to make some difficult decisions about staffing as there were approximately seventy students enrolled in Grades 5 and 6. The decision had to be made whether to have two large classes or divide the group into three smaller grades. The latter option was chosen, based on the special needs of the student population. There were 38 students in Dianne's school who had been resident in Australia for less than a year. These students were classed as "New Arrivals". Four of Dianne's students participated in the New Arrivals program. Some of the families of these students had refugee status and had experienced severe trauma. It was agreed that the special needs of the students justified smaller class sizes.

3. **Number of students with reading difficulties:** During the initial interview teachers were asked to nominate the students whom they would describe as "experiencing difficulty" with reading, the researcher explaining that she wished to identify students for whom teachers needed to make modifications of adaptations to teaching practice. Participants immediately discounted students who they believed were experiencing difficulty because they came from non-English speaking backgrounds, recognising that the problems of these students were related to their limited skills in English. A few students from non-English speaking backgrounds were nominated where teachers believed the students' reading skills were not commensurate with their general language ability.

Amanda, Brian, Colin, Dianne and Emily each identified four students in their classes who were experiencing difficulty with reading. The fact that they all identified the same number of students was purely coincidental since they were advised that there were no restrictions on the number they could nominate. Frances nominated five students. The percentage of identified students ranged from 12% of Amanda's class to 20% of Frances' class.

5.2.4 Assistance available to the classroom teacher.

	Amanda	Brian	Colin	Dianne	Emily	Frances
1. Parental involvement	low	low	low	low	low	low
2. Withdrawal program	yes	yes	yes	yes	yes	yes
3. Type of withdrawal program	corrective rg. & gen.	general	general	ESL	general	general
4. Taught by	Lib/ V. P.	V. P.	V.P.	ESL tchr	Tchr aide	Sp. Ed.
5. No. from class/ group size	6/8	5/11	6/11	2/1or2	4	6/10
6. No. of sessions per week	2	3	3	5	2	4
7. Length of sessions	45min	45min	45min	30-45min	30-45min	45 min

Table 5.6: Assistance offered to students who experienced difficulty with reading.

1. **Parental involvement**: All participants stated that there was a lack of parental involvement in reading but the degree of concern they showed about this varied.

Whilst the school charter invited parents to become involved in all levels of school operation, Amanda spontaneously observed that parents were unsupportive of the educational program. Amanda had found parents unco-operative with homework tasks.

> *You feel like you're banging your head against a brick wall.*
> (TA D6 I2 P11)

Brian reported that parental involvement in his school was not high. During Education Week few parents visited the school. Brian had three parents visit his classroom and only one of those was a parent of a student in his class. Brian assumed that the parents did not attend because schools could be intimidating places to visit and walking into a classroom was a bit threatening. He commented that he was unsure whether the parents had poor personal experiences of schooling. The staff had discussed ways of overcoming parental fears. Parental involvement in assisting students with reading was limited by the fact that some parents did not speak English fluently. Brian stated that he heard one student read at lunchtime because there was no one at home who could listen to him read. He was aware that some students had siblings listen to their reading.

The non-English speaking background of many students was an influential factor for Brian and Colin. Colin stated that whilst some parents valued education highly as part of their culture, others didn't:

> *Once they leave this place, it's not until they come back in the morning that they even think of books again. That's why we push them hard. There are no books at home. It's not a terribly bookish culture I guess.* (TC D2 I1 P21)

Colin also reported that students were disadvantaged because of their lack of exposure to English prior to attending school.

Dianne believed that few parents of her students could read fluently enough to assist her in producing cassette tapes of stories and books. Like Colin, Dianne spoke about the reluctance of parents to become involved in school programs and attributed this to their lack of confidence with English. Whilst she asked students to read for half an hour each evening and to read one page out loud to a parent, Dianne acknowledged that she did not know how many of her students actually carried out these directions. It was obvious to Dianne that parents could just sign the reading log without having heard the reading.

One of the students Emily described as experiencing difficulty with reading received little assistance from his parents, both of whom worked:

> *I think they are so busy... They are flat out and so much is going on that reading is just not a priority.* (TE D9 I2 P26)

Another of Emily's students needed to interpret for his parents on school visits as their skill in English was limited. Emily noted the stress caused by this student's father being unemployed. Parents of a third student were described as very supportive as they kept regular contact and supervised homework.

Frances, on the other hand, referred to students' exposure to good language models at home. Despite this, few of the students in her class received much assistance from their parents in reading. Parents were not encouraged to come to school to hear students read. Frances commented:

> *It's not like a Primary School where the parents are always there or they can just come and see you whenever they like. Here they have usually got to make an appointment to see you.* (TF D19 I3 P37)

In response to a request for confirmation that parent contact was not high Frances added:

No, but they're fairly supportive. If they need anything they get it because of the economic background. That's no problem. (TF D19 I3 P37)

2. **Type of withdrawal programs.**

Each school ran withdrawal programs for students who experienced difficulty with reading. The programs differed in emphasis, reflecting mainly the training of the person supervising the withdrawal class.

In Amanda's school two programs operated. The school librarian undertook a Corrective Reading Program. Groups of eight students worked through corrective reading exercises to systematically tackle phonic analysis in decoding. Pre-tests and post-tests were conducted at the beginning and end of each teaching unit. One of Amanda's students, J, was withdrawn from the program because he did not make the required progress. The Vice-Principal conducted the second program called Extra Language that three other students also attended. Amanda would have preferred her students to remain in her class and not attend withdrawal sessions since these operated sporadically because the Vice-Principal had other commitments. Communication had broken down between Amanda and the Vice-Principal and, as a result, she was not aware of the focus of his lessons.

The Vice-Principal in the school in which Brian and Colin taught ran a similar "Extra Reading" program. Three 45-minute classes were held each week for eleven students from the two Grade 5/6 Composite classes. Staffing changes meant that two different males had this responsibility in the school during the time of the research. Colin made no reference to the program and his students generally needed to remind him when it was time for them to attend the specialist sessions. Brian reported that the program was more effective when administered by a Vice-Principal who had an interest in reading. This educator had set up resources and assessment procedures for the program. Brian felt that students benefited and gained confidence in these classes, but he was frustrated by the limited interest of the second Vice-Principal who often cancelled classes. As a result of class cancellations, the special reading group sometimes rejoined Brian's class. This often affected the organisation of lessons, as classroom activities and tasks were prepared on the assumption that students were familiar with specified material.

A withdrawal program for "New Arrivals" operated in Dianne's school. Two trained ESL teachers ran this program. One worked daily with H, a student of Dianne's who did not meet the New Arrivals criteria but was nevertheless a student in need of individual assistance. This student went to withdrawal classes each day for 30 to 45 minutes. Sometimes another student accompanied her. Dianne spoke very positively about the withdrawal program. According to Dianne the student had made "unbelievable progress" in the last few weeks. It was obvious that the ESL teacher and Dianne were in regular contact as Dianne described the focus and content of recent lessons. Another staff member made regular home visits to another of Dianne's students identified as experiencing difficulty with reading. The staff member took books to the home twice a week and read with the child.

At Emily's school the withdrawal program was run by a teacher aide who was completing a Literacy Enhancement Officer's course auspiced by the Department of Employment, Education and Training. The teacher aide planned the lessons with Emily and withdrew the four identified students on two occasions each week for between 30 and 45 minutes. Emily was confident that the program was beneficial.

Frances was happy with the withdrawal program that operated at her school. This was the only program that was taught by a qualified Special Education Teacher. Six students from Frances' class were withdrawn to work with the Special Education Teacher on a regular basis. They worked with four other students from another Grade 5 class four times per week for 45-minute sessions. Frances felt that the concentrated work on basic skill development supported her efforts as a classroom teacher.

Whilst teachers received assistance from a variety of sources, students who experienced difficulties with reading were present in their classrooms for most of the day. It was the responsibility of the classroom teachers to provide appropriate instruction for these students. A review of the literature has indicated that teacher style or the way teachers approach the task of teaching and teacher beliefs also form part of the context of teachers' professional lives. It is proposed that teaching style

and teacher beliefs will directly affect the way teachers plan and deliver instruction for classes and individual students.

5.3 Teaching style in reading lessons

What teaching strategies do teachers employ as they interact with their students?

	Amanda	Brian	Colin	Dianne	Emily	Frances
Style	Discovery Learning	Socio-cognitive	Socio-cognitive	Socio-cognitive	Socio-cognitive	Transmissive / Traditional

Table 5.7 Teaching style demonstrated during reading lessons.

Teaching style, for the purposes of the research, is a description of the role the teachers in the study took when delivering reading lessons to their students. The Discovery Learning approach involves the presentation of materials and provision of opportunities for student learning. In this approach, the teacher facilitates learning but does not interfere. In the Traditional or Transmissive style, the teacher has a didactic approach, disseminating information to students. The Socio-cognitive or Constructivist approach involves teachers operating in an interactive manner, helping students make meaning from their environment. A brief description of participants' teaching style is presented in this chapter. Description of lessons and teachers' interactions with students is presented in detail in Chapter 7, Teaching Practices.

Amanda's teaching style is described as Discovery Learning. Amanda's lessons were very child-centered. Amanda gave initial instruction for her lessons and then gave her students opportunity to complete tasks at their own level. She was not observed assisting students unless they directly asked for help with tasks. At the end of some sessions Amanda asked her students to volunteer to talk about what they had learned from the task. Brian, Colin, Dianne and Emily all utilized teaching strategies that could be described as Socio-cognitive. They interacted frequently with their students, asking clarifying questions, monitoring student understanding and providing additional explanation to individuals or groups of students. There was evidence that these teachers sought to establish their students' present level of understanding and move them to higher levels of knowledge and skill. Frances' teaching style could be described as traditional or transmissive. She provided initial instruction that generally focused on what students were to achieve in the allocated time. Students were then

expected to work independently to complete tasks. Frances generally worked at her desk, looking up from time to time to scan the room. If students had questions they could raise their hands and ask a question. They were actively discouraged from discussing the reading activity with their peers.

5.4 Teacher belief

How do teachers' beliefs influence the way they teach reading to students who experience difficulties?

All past and present experiences are filtered through belief systems as teachers develop their own theories of learning and teaching. Teachers' statements about reading, comments made about students experiencing difficulty and statements that relate to teachers' perception of their own success in teaching reading are recorded in Table 5.8.

Amanda, a proponent of the Whole Language Approach to teaching reading, held a firm belief that reading should be enjoyable to students. In order to enhance enjoyment, Amanda allowed students to select their own reading materials and allowed students to talk about their books during reading sessions. She stated on more than one occasion that she felt teachers should not draw attention to students who experience difficulty as this would impact on the child's self concept. Unfortunately Amanda did not feel that she was having much success with students whom she described as having learning disabilities.

Amanda appeared to find it difficult to reconcile her belief that all students should enjoy reading when some of them were obviously experiencing difficulty with the task. Her belief that students should not be singled out resulted in her not attending to their particular needs on some occasions. When hearing students' oral reading for example, Amanda gave equal time to all students. She kept records to ensure that this would occur. As a result students who experienced difficulty received a few minutes of individual feedback each fortnight.

Table 5.8: Teacher beliefs about reading, students experiencing difficulty and their perception of their own success in teaching reading

Teacher Beliefs:	... about reading	... about students experiencing difficulty	... about perception of success in teaching.
Amanda	Students should have a free choice of materials and response. Enjoyment is important.	Teachers shouldn't draw attention to students' problems	This was her hardest year. She hasn't had much success with kids with learning disabilities.
Brian	Correct materials are very important. Comprehension activities need to relate to the book. Teachers need to be enthusiastic.	Task completion is a battle. Lack of general life experience is a problem. Emotional state of students is a factor as students give up.	Stated he felt unprepared but believed students were more interested in reading now than at the beginning of the year.
Colin	Students need to be challenged. Reading and writing are interrelated. Teachers must push the frontiers and challenge.	Students should not be labeled because of their socio-economic backgrounds. They lack self-confidence and need to believe they can read.	Can see success in his points system. Students are producing more work and other teachers are following his lead.
Dianne	Sharing ideas is very important so lots of orienting discussion takes place. Important to link reading to integrated focus.	These children need direction in the selection of material. Students need to be empowered. They can read, given the skills.	There are a lot of factors impacting on success. These include maturity and other interventions in place. Working together is important.
Emily	Doesn't believe in traditional reading levels but monitors reading materials. Students are the best teachers – they can learn a lot from each other.	Students should choose from materials in their ability range. Weaker students are not as motivated. Students should have equal opportunity and need routine.	Students are "coming along".
Frances	Oral reading and reading and precision are important. Her job is to provide reading experiences for her students.	Students may have missed out on the basics. Some students "don't have it."	The special education programme in the school is successful

Table 5.8 Teacher beliefs

Amanda stated that children experiencing difficulty could benefit in regular classes when programs are modified. She agreed to be part of the research project because she believed that she modified her instruction but when asked during an interview about adaptation she stated that she had not thought of her teaching in that way. There appears to be some cognitive dissonance, Amanda's training informing her she should behave one way, but her beliefs pulling her another. It was difficult to place Amanda on the pathognomic/interventionist continuum described by Jordan et al. (1997). She didn't make clear statements that indicated she felt that the students' problems were due to inherent disabilities but she could not be described as

interventionist in her approach. She did not interact more frequently with students who experienced difficulty in an effort to improve their skills. She had lower expectations of these students and therefore was less successful in cognitively engaging them in reading activities.

Brian believed that teachers needed to be enthusiastic about reading, acknowledging that teacher attitudes are important predictors of student response. He also believed that correct materials are important and as a result he was careful to match reading material to the level of the students in his three reading groups. Brian believed that factors such as the emotional state of the students and the fact that they had impoverished backgrounds impacted on their ability to cope academically. He attributed the difficulties of his students to factors over which he could have little control. In the classroom however Brian joked and cajoled his students in order to encourage them to participate in reading activities. Being aware that they lacked experience outside their close community, Brian was careful to explain vocabulary and concepts to his students and always tried to monitor their understanding of text. Whilst he stated that he felt unprepared for the task of responding to the needs of this particular group of students, he believed that he was making progress, as students were more willing to read than they had been at the beginning of the year. Brian's beliefs did not fall at the extremes of the pathognomic/interventionist continuum. He attempted to match reading tasks to students' ability level and provided instruction to groups of students. He expected all students to work towards improving their skills and so was more interventionist in his approach.

It was Colin's belief that students needed to be challenged and it was up to him to "push the frontiers" for members of his class. Unlike Amanda, Colin believed that he should encourage students to read text that they might not otherwise select. It was also Colin's belief that reading and writing are interrelated and so he engaged students in extended writing tasks that were individually negotiated on the completion of reading. Colin believed that students should not be labeled because of their backgrounds, acknowledging that sometimes students who come from impoverished backgrounds are expected to achieve less than their peers. Colin believed that students who experienced difficulty with reading needed to gain self-confidence and needed to believe that they could read. As a result Colin rewarded

students for meeting the goals he set through a points system. He believed that this was successful in his classroom as students were generally producing more work than at the beginning of the year. Colin was more interventionist in his approach than pathognomic. He actively sought to engage all students in academic discourse and aimed to help them achieve the highest possible levels of independence. Colin believed he was able to make a difference in the lives of his students but he did not interact more frequently with students who experienced difficulty with reading during language-based sessions.

Dianne believed that it was important for her students to share ideas and to this end she held what she termed orienting discussions with her students before she presented them with text. This helped her establish the prior knowledge of her students in newly introduced topics and allowed her an opportunity to introduce vocabulary and concepts they would encounter in text. Like Colin, Dianne believed it was important to link reading so that it was integrated with oral language, visual language and writing around a common theme or topic. Like Colin, Dianne also stated that students required direction in the selection of reading material. She believed that students needed to be empowered and believed that all students in her class could read, given the skills. In this way Dianne focused on factors over which she had some control. In stating that students needed to be given skills in order to read, Dianne was emphasizing the role of the teacher in the instructional process. Dianne believed that she had experienced some success with her students but acknowledged that there were a lot of factors that contributed to students' success. She mentioned student maturity, an element over which she had no control, but also mentioned other interventions that were in place for students like the assistance they received from the ESL teacher. Dianne attributed her success to a team effort from staff within the school. Dianne was clearly interventionist in her approach. She interacted frequently with students who experienced difficulties with reading during language lessons and focused her energy when student comprehension of material was low, appearing to be able to anticipate student responses to particular activities and lessons and scaffolding instruction appropriately when necessary.

Emily stated that students were the best teachers and believed that students learn a lot from each other. She encouraged student discussion and collaboration and set up learning situations for children in both ability and mixed ability groups. Emily was adamant that reading levels were not appropriate for her students, stating that she did not want them to read all materials from one level before proceeding to the next level of difficulty. It was Emily's practice however to monitor students' reading material and she suggested that identified students read from a predetermined range of text. Emily believed that students should select from material within their ability range, acknowledging that text needed to be matched to the individual ability of students. Emily believed that the group of children she described as weaker students were less motivated to read. She believed that this group of students should have equal opportunity to learn to read and stated that these students need routine. She had developed routines in her classroom that ensured that this group of students received additional explanation and time for discussion before commencing written response to text. Emily believed that her students were making progress. Like Brian, Emily's beliefs were more at the interventionist end of the continuum.

Frances believed that oral reading and precision were important when developing reading skills. She also believed that it was her job to provide reading experiences for her students. The students read class texts orally and also selected their own reading material. Generally students in Frances' class worked quietly to complete reading tasks. Discussions that were not teacher led were actively discouraged. Frances felt that those students who experienced difficulty with reading had missed out on learning basic skills. She stated that some students just did not have the ability of their peers, attributing success in the area of reading to factors outside her sphere of influence. Frances believed that the Special Education programme offered by the school was providing these students with the skills they required. Frances' beliefs were at the pathognomic end of the continuum as she attributed student difficulties to inherent problems within individuals. Frances believed that the Special Education teacher best dealt with reading problems.

5.5 Typology of an adaptive teacher

Drawing on the research and data collected about teachers to this point, it is possible to propose a typology of an adaptive teacher drawing upon information about teacher belief and teaching style. The typology is presented in Table 5.9. One would expect teachers with interventionist beliefs and a socio-cognitive learning style to be more adaptive in their approach than teachers who have pathognomic belief systems and demonstrate a predominantly transmissive teaching style. In this chapter, the beliefs and style of teaching were presented. The assumption that particular belief systems and teaching styles will result in higher incidence of adaptive teaching practice is tested and supported in Chapter 7 where adaptive teaching is examined in some detail.

Least Adaptive Teacher	*Most Adaptive Teacher*
- pathognomic belief system →	- interventionist belief system
- transmissive style	- socio-cognitive style

Table 5.9 Typology of the adaptive teacher

5.6 Summary

Teachers in the study had diverse experience and had access to different levels of resources. Length of service ranged from 4 to 23 years. Initial training ranged from the three-year Diploma to four-year Degree status. One teacher was completing a Master of Education and another was completing postgraduate study in educational administration. The most recent graduate was the only participant who stated that her training influenced her teaching. There were only two teachers who had undertaken professional development to further their understanding of reading in the two years prior to the research.

Teachers' approach to the teaching of reading was diverse. Two teachers described their approach as Whole Language and both of these teachers acknowledged the importance of teaching phonic analysis to some students. One teacher described her method of teaching reading as phonics based, one stressed socio-cultural aspects of reading and another talked about providing assistance when it was required. Another teacher described her approach as eclectic.

Smaller schools in this study had greater ethnic diversity. Teachers in these schools reported that they were poorly resourced for the teaching of reading. Only one teacher reported that the school's reading policies impacted on her teaching.

Assistance available to teachers generally took the form of withdrawal programs that operated in each school. Three teachers expressed satisfaction with the program in operation, whilst the other three teachers in the study were dissatisfied.

Four of the six teachers had a predominantly socio-cognitive style of teaching. They interacted frequently with students and made specific attempts to develop the skills of students who experienced difficulty with reading. One teacher had a transmissive style of teaching and the other used an approach described as discovery learning.

Teachers in the study made statements that indicated they held a variety of beliefs about the teaching of reading and about how students learn. There was also a diversity of beliefs about students who experience difficulty from statements such as "Some students just don't have it." to "All students can read given the skills". Only one teacher reported that she was not having much success in improving the skills of those students who experienced difficulty with reading. Teachers in the study were generally more interventionist in their approach to teaching students who experienced difficulty. If teacher beliefs were considered to occur across a continuum from interventionist to pathognomic, Dianne would be at one end of the continuum with clearly stated interventionist beliefs whilst Frances would be at the other end of the continuum as she held a pathognomic belief system.

Despite the fact that each school operated withdrawal programs, classroom teachers had primary responsibility for educating the students in their classes. Each teacher identified at least four students who experienced difficulty with reading. These students were present in the room for at least some, if not all of the reading and language session observations. In the next chapter teachers' practical knowledge of these students is explored and the characteristics of the students experiencing difficulties with reading are detailed.

CHAPTER 6
RESULTS - STUDENT ABILITY AND TEACHER KNOWLEDGE

6.0 Introduction

It has been suggested that teachers' practical knowledge of students may be a vital ingredient in teacher effectiveness (Mayer and Marland 1999). It is logical to assume that if teachers recognise the specific nature of reading difficulties experienced by students, they will be more likely to attempt to remediate perceived problems through the adaptation and modification of teaching practice. Therefore, teachers were asked to describe their knowledge about student ability and need during interviews with the researcher. The results of teacher assessment were checked via the use of formal assessment undertaken by the researcher.

Participants in the study identified between 12% and 20% of their students as individuals who experienced difficulties with reading. Standardised testing confirmed that the identified students generally had reading ages significantly below their chronological age. Some teachers clearly articulated the specific difficulties their students experienced and others described their students in broad terms. It is possible that teachers who acknowledge that students have difficulty with reading, but do not have specific knowledge of students' strengths and weaknesses in the skill, could be less prepared for the task of assisting students to develop reading skills. It is also possible that specific student characteristics, or the nature of the reading problems experienced by students, may impact upon the response made by teachers.

In this chapter information about teacher knowledge of student need is presented along with results of standardised testing undertaken by the researcher. Data were collected from teachers during interviews. These occurred on at least three occasions during a month of observation in each of the six classrooms in 1995. The researcher individually assessed students during the observation period.

6.1 Teacher knowledge of student need.

What were the characteristics of students who were identified as having perceived difficulty with reading?

Statements made by each teacher about the specific needs of identified students are presented. Teachers commented on each student in turn. No specific questions were asked of teachers and therefore no structure was provided for teacher response. Information was gathered during teacher/researcher dialogue about the identified students. All information reported was recorded and categorised. Some comments made by teachers indicated their recognition of areas of strength in reading or improvement made in the skill. Other comments related to specific weaknesses or areas that needed development. A third level of categorisation was the concerns expressed by teachers about their students.

6.1.1 Amanda's assessment of identified students:

Three males and one female were identified in a co-educational class of 33 students. Amanda took notes as students read to her and referred to these when upgrading the Language Profile checklists she kept for each student. Her notes were discarded once items on the checklist were highlighted. Amanda explained this procedure and stated that she did not have detailed information about her students. She commented at one stage however that she thought her notes on student G's abilities were inaccurate:

> *I mustn't have done these for a while. None of these are marked off but some could be. He could be in Band C and some in Band D.*
> (TA D11 I4 P18)

Amanda made the following comments:

Student	Strengths	Weaknesses	Concerns
L	- takes risk with reading - uses pictures for cues - predicts words - recognises base words - reads books with simple repetitive patterns	- not re-reading for meaning	- not reading at home - received little information from his previous school
G	- makes second attempts at decoding - predicts words - retells stories - re-reads for meaning	- not making connections between events in text	- doesn't enjoy reading and Amanda is not sure why - lack of enthusiasm - distractibility - having problems in other areas - unaware of his lack of phonic knowledge
J		- reading at level of a 6 yr. old	- received little information from his previous school - unwilling to single out - lack of time for individual work
K			- frequently absent from school

Table 6.1: Amanda's assessment of her students

Amanda referred directly to the statements used in the profiles when referring to students L and G. She noted that L had made progress in decoding text but he had difficulty with comprehension. G had a similar profile but his difficulties were compounded because he lacked motivation to read. By the time the interview was focussed on J, Amanda merely commented that he was reading at a very basic level, significantly below his peers. Amanda's frustration was obvious when she was asked to comment on K's reading ability. K too was reading at a level significantly below her peers and was not able to decode text independently.

Amanda appeared unsure of expectations for assessment of students and, during the feedback interview commented: "If I had tested him (L) at the beginning of the year I would have done some phonics work with him but I haven't tested him for sounds." Amanda's concerns during the feedback interview related to lack of communication from previous schools, lack of time available to work with these students and her own lack of knowledge of individual students.

6.1.2 Brian's assessment of identified students:

Brian regularly listened to students read orally. He jotted down notes as they read and these notes formed the basis of his record keeping. A new form of note taking was being trialled by Brian at the time of the research. He liked to concentrate on one aspect of his teaching every term. During the term immediately preceding the research he had reviewed his own teaching of spelling. Brian also kept a record of students' performance when monitoring their written response to text. Completed cloze and comprehension activities were collected by Brian and corrected. He kept note of students' scores on these activities.

Brian made the following comments:

Student	Strengths	Weaknesses	Concerns
R			- about basic ability to learn - home situation impoverished
A		- poor sight vocabulary - inability to compare words - poor comprehension - seems to "lose" information	- poor modelling by peers
C	- gaining more confidence		- she's not as weak as perceived - positive reinforcement needed
E			- copies other students' work - attention seeking behaviour

Table 6.2: Brian's assessment of his students

Brian gave detailed descriptions of the backgrounds of his students, making specific reference to their home situations. He perceived that the social and emotional wellbeing of the students impacted on their ability to learn. Much of the information provided was confidential. This was wiped from tapes and was not included in transcripts. Brian was not sure whether R had the ability to learn to read. It was only when providing information about student A, that Brian spoke specifically about reading skills, noting the difficulties she had with retention and comprehension of written information. Student C was reported to be gaining confidence and making progress in the skill whilst student E's behaviour and attitude were perceived to be interfering with his academic progress.

6.1.3 Colin's assessment of identified students:

Colin kept few records of student achievement, relying on his own observations of student performance. He questioned the usefulness of keeping detailed records when he was the only one who ever read them.

> *I suppose I realised a few years ago we were bureaucratising our record keeping. We'd have a little form for this and a little form for that. Forms for observation sheets and test results.... The only person it was ever seen by was me! So I guess when I keep checklists it would be of work that is done, homework records... There's some point scores.* (TC D7 I2 P40)

Colin marked contract work that was completed both in class and as homework. He felt he knew his students well by second semester. A possible reason for this reluctance to keep records was revealed in a final informal interview when Colin stated that he was concerned about freedom of information and the fact that whatever he wrote could be accessible to parents and others.

Colin made the following comments:

Student	Strengths	Weaknesses	Concerns
S	- improvement in spelling - a "battler" but always trying		
L	- streetwise – aware that she has been ill served by the education system - works well with peers	- unable to gain meaning from text which was purchased to match Grade 6 topics.	- problems with eyesight
U	- increased confidence noted in oral reading	- struggling with oral reading - able to recognise letters not sounds	
M	- able to segment syllables	- difficulty with rhyming	- father doesn't speak English

Table 6.3: Colin's assessment of his students

Colin made comments of a fairly general nature, referring to students' motivation and language background. S was described as a motivated student who struggled to improve her literacy skills. L was described as a student who had fallen behind her peers in the early years of school. She had major difficulties with comprehension of text. U was developing confidence and skills but was still struggling with oral reading tasks. Colin specifically commented on statements made by the researcher in reference to M's phonemic awareness. He disagreed that M had difficulty segmenting words, stating that he had observed M segmenting words when attempting to decode. Colin agreed, however, that the same student had difficulty

naming words that rhymed and acknowledged that this student had poor awareness of sound-letter relationships.

6.1.4 Dianne's assessment of identified students:

A number of different record keeping procedures were utilised by Dianne. She maintained running records of each student's response to oral reading, reporting that the procedure for the collection of information was outlined at an in-service course she attended. Work folios were established for each student. These contained a collection of samples of students' response to text. Included in work folios were pictures depicting where and when students read at home. Dianne highlighted the English Profile checklists when she observed students utilising specific skills. A "sound sheet" was completed for those students who could not name all letters and their sounds. Notes were kept as students made presentations to the class and during individual reading conferences.

Dianne made the following comments:

Student	Strengths	Weaknesses	Concerns
O	- makes an effort, is trying - self corrects - rereads for meaning	- relying on sounding out and missing double syllables - segments but cannot blend - has trouble recognising vowels	- not enjoying reading - is embarrassed when he makes errors - little modeling at home - is choosing books that are too difficult
D	- is testing to assess readability of material - has good ability to recount text	- has difficulty decoding unfamiliar words - does not take risks - segments but cannot blend	- lacking in confidence
T	- occasionally rereads for meaning - uses sounds as cues for decoding and spelling - is developing his sight vocabulary	- mispronunciations and substitutions result in lost meaning	- missed a lot of school due to illness in Prep and Grade 1 - is not speaking and does not ask questions - has been a school refuser in the past
H	- is using pictures as cues - uses initial sounds to decode - attempts to predict words	- has trouble recognising and reproducing the sounds 'i', 'y','w' and 'a' - has poor retention - substitution of words leads to loss of meaning - experiences difficulty with word endings, plurals etc.	

Table 6.4: Dianne's assessment of her students

Dianne disclosed specific information about the skills each student had acquired and used in reading in the initial stages of the feedback interview. O had poor word attack skills, relying heavily on phonic cues in decoding but he was having difficulty blending sounds. The fact that he could not consistently recognise vowels was a problem. D was beginning to choose appropriate reading material independently. She too had difficulty decoding unknown words and was lacking in confidence. T was developing reading skills as he used phonic analysis for decoding but was also developing a sight vocabulary. His decoding errors resulted in poor comprehension but he occasionally reread to gain meaning from the text. H had poor retention and was a beginning reader. She was still using pictures, initial sounds and prediction as cues for decoding.

When the researcher made comments or observations about strategies she observed the students utilise when decoding, the types of errors they made and their comprehension of text, she was often confirming early statements made by Dianne. At times Dianne would look through her own notes for evidence to support the researcher's findings and she provided additional information.

6.1.5 Emily's assessment of identified students:

Emily's main form of record keeping involved recording students' responses to questions she asked about material they read to her. The previous year she had formally assessed one of her current students in order to complete an assignment for her University course. She stated that she should have made more frequent reference to this information. Emily made the following comments:

Student	Strengths	Weaknesses	Concerns
D		- poor long and short term memory - needs work on blending sounds - confuses 'b' and 'd'	- can't put finger on nature of comprehension problem - poor motivation
M	- good basic skills - responds well to praise - able to read and write well	- reads very slowly - doesn't re-read for meaning - problems with comprehension - does not listen very well - is unable to follow instructions	- needs minimal distraction - poor motivation
V	- able to discuss major features, points and detail if reading is monitored - enjoys 1:1 instruction - responds well to praise		- generally unmotivated in subjects that require written response
S	- is able to locate different features of a story or plot - can describe the development of a story. - has enthusiastic, positive attitude towards tasks - takes initiative to read - presents as a confident reader - tackles different texts - reads for information - is persistent		- this student experiences difficulty with sentence structure during written tasks

Table 6.5 Emily's assessment of her students

Emily made reference to the motivation of three of the four identified students. When discussing V and S, Emily referred to notes she made during reading conferences. These notes related to students' understanding of story features, the plot and the characters. Other comments about these students were of a general nature eg: "has problems with comprehension".

D was described as a student with poor retention and word attack skills. Emily presented some detailed and specific information about D, the student she had formally assessed in order to complete an assignment for her university course. She noted that he needed to develop skills in blending and he confused 'b' and 'd' sounds.

M had basic reading skills that required consolidation. He had poor listening skills and did not follow instructions well. V worked better under close supervision. He was able to discuss his reading but did not like to make written responses. S had made recent progress and had developed increased confidence and enthusiasm for reading.

6.1.6 Frances' assessment of identified students:

Frances did not refer to notes when discussing the abilities of her students. When asked about her record keeping procedures and, in particular, whether she kept running records she commented that she should perhaps do this, but added that when she had taught students for a whole year she knew them pretty well. She relied on her experience and memory, only once referring to the results of formal assessment that had been undertaken with the class, noting a students' reading age at the time of testing. Frances made the following comments:

Student	Strengths	Weaknesses	Concerns
M		- lacks concentration	- lacks maturity
N	- coping well by sounding words out	- reading slowly - rushing comprehension tasks - errors due to haste	- borderline in terms of need for specialist assistance
J			- "Just a slow little thing."
R	- can read and comprehend fairly well	- poor spelling and written work	- just a slow student - also borderline in terms of need for intervention
Z		- lacks vocabulary - has poor comprehension skills - lacks basic skills and knowledge of letter sounds	

Table 6.6: Frances' assessment of her students

Frances made few comments and observations during the feedback interview. She made some comments about students' general abilities during other interviews when students' responses to lessons were discussed. M was described as an immature student who lacked concentration. In discussing N's response to a reading task, Frances noted that his sounding out resulted in a slow reading rate. Frances also reported that N rushed comprehension tasks and errors were made due to this haste. No reference was made to the fact that these two facts could be related. J was simply

described as "slow". R was reading at a level that was borderline in terms of the need for intervention. Z, on the other hand, lacked basic reading skills. He had a restrictive vocabulary and his comprehension of text was poor.

6.1.7 Summary of teachers' statements about student ability

Whilst Dianne made mention of the strengths and weaknesses of each of the students, other teachers provided detailed information about only some and provided limited information about others. It is possible that teachers who were only able to provide limited information about the specific strengths and weaknesses of their students did not have sufficient information on which to base adaptive teaching practices.

Dianne's detailed information reflected her regular recording of students' progress, completing miscue analyses and keeping running records of reading behaviours. Dianne learnt these methods during the "Reading Success for All" course, a six-session program offered by the Catholic Education Office. During our second interview Dianne commented that she was "a bit anti-testing". She stated that she had a real problem with testing and yet immediately went on to say that testing could provide her with some relevant information. She commented that getting information about testing from texts was difficult. In the final interview Dianne stated that she found the exchange of information between the researcher and herself useful in supporting her own findings, commenting:

> *You can have your gut feelings about what you know about a child from your observations and things like that. It is all recorded in your folder but to have the testing is good when it backs up what you were thinking. I suppose in a way it shows you don't need to formally test. It highlights too that it can identify particular problems.* (TD D21 I4 P48)

Colin was reticent about keeping detailed reports about his students, expressing concern about freedom of information legislation. Amanda commented that she did not have detailed knowledge of her students because she had not updated checklists for a while and Emily recognised that she should refer to the information she did possess more often. Assessment and reporting practices were an issue for the teachers in the study.

The identification of the severity of the problems experienced by students was required in order to ascertain the need for adaptive educational practices. Each student was therefore assessed using standardised testing instruments.

6.2 Results of standardised testing.

How are teachers' perceptions of need confirmed by standardised testing?

The researcher administered the Neale Analysis of Reading and the Edwards Quick Word Screening Test as a means of providing independent evidence of students' attainment in different aspects of reading. In some cases, where decoding ability was poor, students' phonemic awareness was assessed using a checklist provided by a speech pathologist. Results of formal testing of all identified students are presented in table 6.7.

6.2.1 Results of formal assessment of students:

1	2	3	4	5	6	7	8	9	10	11	12	13	14
Tch	St	Sex NES*	Gr	C.A.	Neale R.Rate	St.	Neale R.Acc	St.	C.A.- R.Acc	Neale R.Comp	St.	C.A. – R.Comp	EQW
A	L	M*	5	9.11	12.00	7	8.09	3	1.02	6.06	1	3.05	G3
	G	M	5	10.05	11.01	5	8.11	3	1.06	8.09	3	1.08	G5
	J	M	5	10.06	8.09	4	6.00	1	4.06	6.02	1	4.04	G1
	K	F	6	12.00	8.02	3	6.11	1	5.01	6.08	1	5.04	G2
B	R	M	5	10.04	6.00	1	6.02	1	4.02	7.05	2	2.11	G1
	A	F	6	11.10	6.04	1	8.03	3	3.07	8.01	2	3.09	G2
	C	F*	6	11.05	9.01	4	7.09	2	3.08	7.07	2	3.10	G2
	E	M*	6	12.02	6.11	1	8.02	2	4.00	6.11	1	5.03	G3
C	S	F*	5	10.05	6.08	1	6.10	1	3.07	7.07	2	2.10	G2
	L	F	6	11.09	6.00	1	6.06	1	5.03	7.07	2	4.02	G1
	U	M*	6	12.08	10.11	5	8.08	3	4.00	6.11	1	5.09	G4
	M	M*	6	11.03	7.11	3	7.06	2	3.09	7.09	2	3.06	G3
D	O	M*	5	11.07	6.00	1	6.04	1	5.03	6.11	1	4.08	G1
	D	F*	5	11.05	6.00	1	7.08	2	3.09	8.00	2	3.05	G2
	T	M	5	10.03	9.10	5	9.08	4	0.07	7.04	2	2.11	G5
	H	F*	6	12.11	6.00	1	6.00	1	6.11	5.07	1	7.04	G1
E	D	M	5	11.05	6.09	1	7.02	1	4.03	7.10	2	3.07	G1
	M	M	5	10.10	6.08	1	9.06	4	1.04	9.03	4	1.07	G5
	V	M	5	11.03	10.04	5	7.10	2	3.05	7.05	1	3.10	G3
	S	M*	5	11.04	7.05	2	8.07	3	2.09	8.08	3	2.07	G3
F	M	M	5	10.09	10.01	5	8.10	3	1.11	9.03	4	1.06	G3
	N	M	5	11.01	7.03	2	9.10	4	1.03	9.11	4	1.02	G5
	J	M	5	11.08	9.09	4	10.06	4	1.02	9.08	4	2.00	G4
	R	M	5	11.02	8.02	3	9.06	4	1.08	9.03	4	1.11	G5
	Z	M*	5	11.01	9.05	4	7.08	2	3.05	7.02	1	3.11	G2
	N= 25	N*=11		X 11.03	X 8.01		X 7.11		X 3.03	X 7.09		X 3.05	

Table 6.7: Results of formal assessment – all identified students

Highlighted lines denote students with reading accuracy and comprehension scores at stanine 1 or 2, scores more than one standard deviation below the mean.

Column 1 - **Tchr:** Letters in column 1 denote the six teachers who participated in the research – A= Amanda, B=Brian, C=Colin, D=Dianne, E=Emily and F=Frances.

Column 2 - **Stu**: Letters in the second column denote the 25 students identified by the six teachers as experiencing difficulty with reading. The initial of each student's first name is used.

Column 3- **Sex/NES:** Letters in the third column denote the sex of identified students. There were 18 males and 7 females identified as experiencing difficulty with reading. Frances was teaching in a single sex school in which only boys were enrolled. Of the co-educational schools 13 of 20 students were boys and 7 of the 20 were girls. The asterisk in this column denotes those students from non-English speaking (NESB) backgrounds. These were predominantly students who had been resident in Australia for more than six years and therefore would not formally qualify as ESL (English as a Second Language) students. Languages other than English were predominantly spoken in the homes of these students. Eleven of the 25 students were NESB students. In some cases students had been resident in Australia for less than six years. The teachers of these students stated the reading ability of the students was not commensurate with their language ability.

Column 4 - **Gr:** Numerals in the fourth column denote the Grade levels of the identified students.

Grade 5 students	n =17
Grade 6 students	n =8

Column 5 - **C.A.:** The chronological age of students ranged from 9.11 to 12.11 years. The average age was 11.3 years.

Column 6 - **Neale R.Rate:** The reading rate of the students was measured using the Neale Analysis of Reading (1987). Scores are expressed in terms of reading ages. Reading rates ranged from 6 to more than 12 years of age. The average reading age on the reading rate subtest was 8.1 years. There was great disparity in the reading rates of students. One student read at above average reading rate but with very poor comprehension of text.

Column 7 - **St.:** Figures in this column are stanine scores. Stanines represent broad units of value with each of the 9 stanines equal to approximately one half a standard deviation. This is the way standard deviations are often presented to teachers after test scoring and analysis. The mid-point of the fifth stanine represents the mean. The scores of the identified students ranged from stanine 1 to 7 for the **reading rate** subtest.

Stanine 1	approximately 2 standard deviations below the mean	10 students
Stanines 2 & 3	approximately 1-1.5 standard deviations below the mean	5 students
Stanines 4 & 5	in average ability range	9 students
Stanine 7	approximately 1 standard deviation above the mean	1 student

Column 8 - **Neale R. Acc.:** Reading accuracy of students was measured using the Neale Analysis of Reading (1987). Accuracy in decoding was expressed in terms of reading ages. Reading accuracy ranged from 6.0 to 10.6. The average reading age on the accuracy subtest was 7.11.

Column 9 - **St:** Stanines of reading accuracy scores indicate that the ability of the students to **decode** accurately was generally poor.

Stanine 1	approximately 2 standard deviations below the mean	8 students.
Stanines 2 & 3	approximately 1 – 1.5 standard deviations below the mean	12 students
Stanine 4	approximately ½ a deviation below the mean, in average range	5 students.

Column 10 - **C.A.-R.Acc.:** Figures in this column show the difference in reading age for accuracy and chronological age. All identified students had reading ages that were below their chronological ages. The difference ranged from 7 months to 6.11 years. The average difference between reading accuracy and chronological age was 3.3 years.

Column 11 - **Neale R.Comp.:** Reading comprehension of students was measured using the Neale Analysis of Reading (1987). Comprehension scores are expressed in terms of reading ages. The reading age for comprehension ranged from 5.7 years to 9.11 years. The average reading comprehension age was 7.10 years.

Column 12 - St.: Stanine scores for **reading comprehension.**

Stanine 1	approximately 2 standard deviations below the mean	9 students
Stanine 2 & 3	approximately 1.5 – 1 standard deviation below the mean	11 students
Stanine 4	approximately ½ a deviation below the mean, in average range	5 students

Column 13 - **C.A.- R.Comp:** Figures in this column show the difference in reading comprehension age as measured by the Neale Analysis of Reading (1987) and chronological age. All students were found to have reading comprehension ages below their chronological ages. The difference ranged from 1.2 years to 7.4 years. The average difference between reading comprehension and chronological age was 3.5 years.

Column 14 - **EWQ:** Figures in this column indicate the Grade level of student reading attainment as measured by the Edwards Quick Word Screening Test. Only one student achieved a pass at a grade level above that of the grade in which he was enrolled. Four students achieved passes at their current Grade level. The other 19 students' scores on this test indicated reading levels that were between 1 and 5 years below Grade level.

All teachers were eager to receive the results of the testing and agreed with observations and analyses of student performance. Only Dianne commented that she was wary of formal testing, saying that she felt results could be inappropriately used. She was however happy to discover that the results of formal testing confirmed her own observations.

6.2.2 Summary of standardised test results.

It can be concluded that teachers were able to identify students in their classes who were experiencing difficulty with reading. The difficulties varied from extreme problems across all areas tested, to specific difficulties in one area of reading. No student achieved scores that were average or above in all of the tests and subtests presented. Only one student, G in Amanda's class, achieved an above average score in the Edwards Quick Word Screening Test. His reading accuracy and reading comprehension, as measured by the Neale Analysis of Reading, were below average. It is possible he experienced more difficulty with passage reading than with reading

individual words. There was less text on the pages of the Edwards Quick Word Screening Test and the reading of this material was not timed. Other students exhibited varying degrees of difficulty with the tasks presented in the tests and subtests utilised in the research.

The severity of the difficulties experienced by students in different classes may be gauged by calculating the number of students scoring at or below stanine 2 on the Neale Analysis of Reading subtests for Reading Rate, Reading Accuracy and Reading Comprehension (see Table 6.8). The number of students in each grade who scored 3 or more years below their current grade level on the Edwards Quick Word Screening test is also displayed.

Teacher (number of students identified)	number of students with 3 subtests at or below stanine 2 on the Neale Analysis	number of students with 2 subtests at or below stanine 2 on the Neale Analysis	number of students with 1 subtest at or below stanine 2 on the Neale Analysis	number of students with 3 or more years delay on EQW
Amanda (4)		2	1	2
Brian (4)	2	2		4
Colin (4)	2	1	1	3
Dianne (4)	3		1	3
Emily (4)	1	1	2	1
Frances (5)		1	1	1

Table 6.8 Students with below average scores on the Neale Analysis of Reading and Edwards Quick Word Screening Test.

There were differences between students in each class in the nature and severity of reading problems experienced. When looking specifically at decoding and reading comprehension scores, a similar pattern emerged. Brian, Colin and Dianne each had three students in their class whose decoding and reading comprehension scores were at or below stanine 2. Emily and Amanda each had two students in this category, whilst Frances had only one student whose reading accuracy and comprehension scores were at this level, more than one standard deviation below the mean. Of these 14 students, 13 were decoding words three or more years below Grade levels and 1 student was decoding two years below Grade level as measured by the Edwards Quick Word Screening Test.

The fact that there were differences amongst students' reading ability has been demonstrated. Differences in the level of reading attainment among the students from each class have also been shown.

Test data confirms the accuracy of teachers' identification of the fact that students had reading problems, and the fact that these problems were generally severe. Classroom teachers were aware that these students had reading problems but, with the exception of Dianne, they were relatively imprecise in describing explicit skills demonstrated by each of their students. In the next section of the chapter the question of how the teachers in the study developed knowledge about students will be examined.

6.3 Teachers' ways of knowing

Teachers' knowledge of individual student need was varied. A review of the literature has indicated that people have different ways of developing their knowledge base and that there are different levels of professional knowledge. The ways teachers develop knowledge about teaching and about their students might influence the amount and type of information that is collected and considered when planning lessons and activities. Information presented by the teachers and statements they made in interviews was collated in order to categorise the way teachers in the study had developed their pedagogical knowledge. Ways of knowing were categorised as received, subjective or procedural as outlined in the theoretical framework presented in Chapter 3. Teachers who are "received knowers" base their knowledge on information presented by authorities or external sources. Those categorised as "subjective knowers" base their knowledge on personal experience and intuition. Those who are "procedural knowers" are more analytical in their approach – using a variety of sources, constructing and restructuring knowledge based upon analysis and reflection.

Generally the data were reviewed in order to ascertain predominant ways of thinking or knowing. Categorisation of teacher thinking was based on teacher statements made during interview. Brian and Emily appeared to utilise more than one way of thinking or knowing during interviews with the researcher. Both of these were recorded.

	Way of Knowing	Comments:
Amanda	Subjective	"... It also ties in with my own ideas. I wouldn't do something just because I was told to. I don't like drawing attention to kids who make mistakes." "I would never read through a file until I've had a chance to get to know a child myself, I don't want to reaffirm what someone else has said." "I just don't want to destroy their reading. You know –' read this and then answer the questions'. I hated that at school myself." "I don't care what it is as long as they're exposed to text and words rather than me saying 'I want you to read this.' I don't like people telling me what to read. I like to have my own choice but at the same time they need some guidance."
Brian	Received/ Procedural	"Basically the Curriculum Standards Framework [CSF] has brought people back into line. Basically the CSF is better in a lot of ways because it gives expectations and also lists outcomes. The reading frameworks are a bit more wishy-washy. I don't think they're as precise." "I look at the CSF and those things and they don't explain clearly what you are supposed to be doing anyway." "You need to think about it (questioning techniques). You really have to consciously think. It is easy to fall back into patterns. " "I think you do things you find succeed. I don't think you repeat things that don't work. I think teachers are very bad at not giving things long enough to work." "I've known some teachers who have the ability... There are only a few people who can do it I think. It's an innate ability I think. I don't think it is learned. I think some people have really got it. You can see it."

	Way of Knowing	Comments:
Colin	Procedural	"I have always tried new things. In my second year of teaching I was up running an open classroom." "Despite the fact that kids are given lots of chances to make decisions and manage their learning, you just see how dominant I am. It's not as though they're not getting any direction. I am directing them all the time. It gives me more flexibility and interaction with the kids who need help and those who don't at that particular time, they can just go on with what they're up to." "I kept saying all the time there Look. Let's forget about the topics. Let's teach skills. If you teach the skills using particular topics then the skill is important. That's what they'll take with them out of this class." "You really have to look at the cultural context in which you are teaching." "It's also observation of the kids. Yes, talking about economic rationalists, what is the best, most effective way? I just find it works better that way but other people I know are quite happy to stand out the front with a piece of chalk. It's their view of the world."
Dianne	Procedural	"...from there I thought that now I know that this is his level, I'll start teaching from here. I think I was just teaching too hard a text so he was just falling down all the time." "They're (the students) not too good, I don't think, at explaining why. I found that even in maths.... They're not good at actually telling you what they are thinking, at articulating." "I have for the first time used books in genres. I have never done that before.... They had it set up like this here and it is actually a good idea. It reinforces your writing. It is also really good because the kids are reading different types of texts." "It's knowing about the test. Sometimes when you just get things out of books you don't understand what the test tells you."

	Way of Knowing	Comments:
Emily	Subjective/ Procedural	"I think what you obtain is through teaching rounds. I think a lot of the theory side at college, to put it bluntly, was a waste of time." I think I've got bombarded with a lot of different teaching strategies and I think that's really hard to get out of." "It's hard. I suppose you feel like you are told to do it and you do it and you don't believe in it. It's very strange. I didn't like what I was doing."
Frances	Subjective	"...things came out last year that a lot of people don't agree with it (oral reading around the class). They feel that the slower reader or the person who is having difficulty is embarrassed but I don't find that. I have never found that with any of the children I have taught." "ELIC was good. EMIC was all right. It is years now since I have done them. A lot of ELIC I was doing anyway so it was just reinforcing what I was doing."

Table 6.9 Teachers' ways of knowing

Frances and Amanda indicated through statements made in interviews that they were predominantly subjective in their thinking about students and teaching. Colin and Dianne were procedural in their thinking. Brian's statements indicated that he was both a received knower and procedural in his approach. Emily's statements indicated that whilst she could be subjective, she also had the ability to be procedural in her thinking.

It was difficult to draw Frances out during interviews. She was insistent that her approach was successful with students and, in the face of disapproval from colleagues, persisted in asking students to read paragraphs of texts aloud during whole class reading. This behaviour was based on Frances' personal belief that students were not embarrassed by the task. Frances is not a received knower, in fact she rejected the idea that she had learnt much from two major professional development activities she had attended. Frances expressed clearly that she was not aware of the teaching practices of her colleagues. It appeared that she based most of her knowledge on her own previous experience. During interview, she referred to her experiences with previous classes she had taught.

Amanda's comments were categorised as predominantly subjective. She overtly stated that she would not do something just because she was told to. She was aware that she rejected information that did not fit into what she called her "ideas of teaching". Amanda stated that some of her views about teaching reading related to her personal experience of learning to read. The fact that she did not like being told what to read and the fact that she did not like answering comprehension questions impacted on the kinds of experiences she provided her students. At the same time, Amanda stated that many of her concepts about teaching were developed at university. The information she was presented with in her course, based on the Whole Language approach to teaching reading, fit with her idea that reading should be enjoyable. She described the teaching she had seen whilst on her teaching practicum and the teaching methods of one of her colleagues as old fashioned. She tried techniques that she may have been exposed to at university such as using a ball of string to assist students' participation in an oral recount of a story. This type of teaching practice was aimed at increasing the enjoyment of students in reading activities. She did not single students out for individual attention. It is possible that she would find this personally confronting and so it influenced the way she related with her students.

Emily clearly rejected the information presented at University as a waste of time, stating that she learnt a lot more on teaching practicum. Learning by doing and observing teaching practice was more important to Emily, indicating a more subjective approach to developing knowledge. In trying to make sense of the different teaching strategies to which she had been exposed, Emily demonstrated that she could be analytical or procedural in her approach to the task of teaching. At one stage in her career Emily was asked to utilise a particular teaching method that was at odds with her beliefs about the way children learn to read. She complied with the requests of her superiors, but teaching phonics in the prescribed way did not alter her belief that her original approach had been correct. Emily was able to appreciate that her school was trying new ways of teaching and that whole school approaches were more successful. She acknowledged that she would take a wealth of curriculum knowledge with her when she transferred to another educational setting.

Brian exhibited traits of both the received knower and the procedural knower. Looking for precision in policy documents and being able to articulate the strengths and weaknesses of the documentation indicate that Brian was analytical in his reading of the material. He was however looking for more answers and guidance from the Curriculum Standards Frameworks. Brian was conscious that he needed to try new methodologies and give them time to work. Each year he focused his attention on one aspect of his teaching and tried to improve his own knowledge and that of his students in a particular area. He commented that this year he was investigating his approach to teaching spelling. Brian took a problem-solving approach to this task. Throughout interviews Brian was seeking answers. He gave the impression that he would like more direction from curriculum managers. Brian also believed that some people just have an innate ability to teach. He described in detail the characteristics of a colleague who could motivate and encourage non-readers to improve their skills through the personal relationships she developed with her students. In some ways Brian saw knowledge as absolute.

Dianne demonstrated characteristics of a procedural thinker. She constantly developed and refined her knowledge of each student's particular skill level ability and attempted to match her teaching and expectations to her students' attainment levels. Dianne undertook regular assessment and review of student progress. She looked for deep knowledge and understanding of her students and was wary of using assessment devices that might merely provide her with quantitative data. Data were gathered in order for Dianne to check student progress but also so that she could self-monitor and check the success of her teaching. Dianne sought to know why students performed in certain ways. She also promoted analytical thinking in her students, encouraging them to ask "why" and to utilise think aloud protocols. Dianne expected her students to take risks with their learning. She demonstrated a willingness to try new methodologies like the genre approach and incorporate it into her existing teaching practice.

Colin was clearly able to express the journey he had undertaken to develop his particular approach to teaching literacy. He was cautious when providing information about his students, but articulate and animated when relating information about his teaching. Colin was very reflective about his practice, and engaged in procedural or

analytical thinking. He talked about trying new techniques and methodologies and reflected on how he had developed his particular ideals. Colin felt that he had to take a management role with students, directing their learning and spending more time with students who experienced difficulties. Developing skills was seen as a priority. Colin referred to preparing students for life outside the classroom. He was very aware of the cultural milieu of the school community and the philosophies of his teaching colleagues.

Teachers participating in the study engaged in different levels of reflection about their teaching. Frances engaged in little reflection during interviews, while Colin was very reflective about his practice and personal theories about teaching and learning. Dianne, Colin, Brian and Emily demonstrated that they were analytical or procedural in their approach to teaching. It is proposed that teachers who are more analytical will be more likely to adapt instruction for students who experience difficulty with reading.

6.4 Revised typology of an adaptive teacher

Drawing on the research and additional data collected about teachers, a typology of an adaptive teacher has been developed drawing upon information about teacher belief, teaching style and teacher way of knowing. This typology is presented in Table 6.10. One would expect a teacher with interventionist beliefs, a socio-cognitive learning style and a procedural or analytical way of knowing to be more adaptive in their approach than teachers who have a pathognomic belief system, transmissive teaching style and a received way of knowing. The assumption that particular belief system, teaching styles and way of knowing will result in higher incidence of adaptive teaching practice is tested and supported in Chapter 7 where adaptive teaching is examined in some detail.

Least Adaptive Teacher ⟶	*Most Adaptive Teacher*
- pathognomic belief system	- interventionist belief system
- transmissive style	- socio-cognitive style
- received way of knowing	- procedural/analytic way of knowing

Table 6.10 Revised typology of the adaptive teacher

The next chapter will describe, on the basis of the researcher's classroom observations, how the teachers went about assisting identified students to read and, specifically, the extent to which they modified their teaching to meet students' specific educational needs. This information will be used to rate teachers as more or less adaptive.

CHAPTER 7
RESULTS - ADAPTIVE TEACHING PRACTICES

7.0 Introduction

Each of the six participants in the study had up to five students in their class who were experiencing difficulty with reading. Teachers considered the reading of these students to be below grade level. All teachers nominated students who would require some adaptation to regular teaching practices so that they could cope successfully with reading tasks. As the teachers voluntarily nominated these students, it would be reasonable to expect them to draw upon knowledge gained from both training and experience to plan such adaptations and to implement these adaptations in ways appropriate to the needs of the individual students. In this chapter, the lessons provided to students will be outlined together with the adaptations or modifications made in response to individual students.

The literature review yielded a framework for investigating teacher beliefs in relation to adaptive teaching practices. Jordan et al. (1993) found that teachers who had interventionist belief systems were more likely to report that they were more confident in their ability to make adaptations for students with special educational needs. In a follow up study Jordan et al. (1997) found that teachers who held interventionist belief systems interacted more frequently with special needs students. In addition the quality of these interactions was higher, focusing on student comprehension of material. Data presented in Chapter 5 indicates that Brian, Colin, Dianne and Emily made statements that indicated they held interventionist belief systems. Amanda made some statements that indicated some of her beliefs were pathognomic and Frances held more pathognomic beliefs.

After reviewing the literature on the teaching of reading, the literature on teaching style was examined. The teaching behaviour of the six participants in the study was categorized into one of three styles - socio-cognitive teaching style, transmissive teaching styles and the use of discovery learning. A review of the literature on teaching style was made after the data were collected on this aspect of teacher

behaviour. Rather than fit the observed behaviours into existing categories, literature on teaching style was reviewed with a view to finding accurate descriptors for the behaviours observed. The literature review did not reveal any studies that investigated the relationship between teaching style and adaptive instruction. It was proposed that teachers who have a more interactive approach – that is, teachers who have a teaching style described as socio-cognitive, will be more likely to adapt instruction for students who experience difficulties with reading. Brian, Colin, Dianne and Emily's teaching styles were all categorized as socio-cognitive.

No study could be found that investigated teacher knowledge or, more specifically, teachers' ways of knowing and adaptive teaching practices. Categories described by McAninch (1993) who based her study on the work of Belenkey et al. (1986) were utilised. It was proposed that teachers who are procedural knowers will be more likely to adapt instruction than teachers who are received or subjective knowers. Colin and Dianne were procedural knowers. Brian utilised procedural and received ways of knowing and Emily utilised procedural and subjective ways of knowing in formulating their opinions and ideas about teaching.

The adaptive teaching practices observed in use by each of the six teachers are presented in this chapter. This information is used to rate teachers as more or less adaptive.

7.1 Adaptive educational practices.

What types of adaptive educational practices did teachers in the study employ?

Adaptation, for the purposes of this research, is defined as the differential treatment of students who experience difficulty with reading. Observations of teaching practice took place in six classrooms over a period of four weeks. The average length of an observation was ninety minutes and the number of observations in each classroom ranged from 6 to 10 language or reading lessons. Records were kept when any modification was made to teaching practice in order to accommodate the perceived needs of students who experienced difficulty with reading.

Initially only proactive adaptations or those adaptations planned for by the teacher were to be considered as this was the focus of the research but twice in Amanda's class students asked if they could work on a task with a partner and permission was granted. Amanda did not proactively establish these pairs or small groups in which students could access peer support and modeling, but she did give her permission and, as a result, some students in her class were able to access information from classmates in order to complete tasks. Hence this behaviour or practice was recorded as an adaptation. Eighteen different types of adaptation were observed and recorded in the six classrooms during the observation period.

The adaptations were divided into two categories, each with variants.

a) Adaptations involving teacher provision of assistance, intervention or feedback to students.

Adaptations included in this category were those in which the teacher directly interacted with students or interventions that involved an action by the teacher such as teacher selection of alternative or modified materials, or the teacher allowing the student to make a choice.

b) Adaptations involving provision of assistance and feedback by peers as well as teachers.

Adaptations included in this category were those in which there was opportunity for students to gain assistance or modelling from peers. At times this peer assisted instruction was specifically directed by the teacher. At times there was simply opportunity for peers to help and support one another. This may have been an expectation of teachers or it may have occurred spontaneously.

These appear in table 7.1.

			Teacher					
		Adaptation	**A.**	**B.**	**C.**	**D.**	**E.**	**F.**
Adaptations involving teacher assistance, intervention or feedback	**7.1.1**	**Treatment by the teacher of the whole class**						
	a	students read different text– own choice	7	3	3	2	5	2
	b	text presented on OHP for whole class				2		
	c	task individually negotiated with students			3	2	2	
	7.1.2	**Initial whole class instruction then treatment by the teacher for a fixed group of students.**						
	a	teacher provides additional explanation, monitoring and ongoing support to a fixed group					6	
	b	task modified for fixed group of students – reduction of choice					1	
	c	text modified for fixed group of students - enlarged print size					1	
	7.1.3	**Initial whole class instruction then treatment by the teacher for flexible group of students or individuals**						
	a	additional explanation, monitoring and ongoing support to flexible groups or individuals	1		8	5		
	b	teacher monitors understanding of question by asking a student to repeat instructions				1	1	
	c	modification of task for a group of students				2		
	d	alternative task presented to individual or small group of students				1		1
	e	task presented to group in smaller segments				1		
	f	student given choice of not participating in task						1
	g	students read different text – teacher directed		6	4			
	h	audio-tape of text used				2		
	i	feedback more frequent (teacher hears oral reading more frequently or calls for conferences).			yes	yes	yes	
Peer Support	**7.1.4**	**Students work in groups to access assistance from both teachers and peers.**						
	a	students work in mixed ability groups (teacher selected/randomly selected or students' choice). The same task is presented to all students in a single lesson or as a rotation task	1	1		6	3	
	b	students work in ability groups to compete different tasks or use different texts		6		1		
	c	peer support– teacher directed				3		
		Number of adaptations observed	9	16	19	28	20	4
		Number of different adaptations	3	4	5	13	8	3
		TOTAL NUMBER OF CLASSROOM OBSERVATIONS RECORDED	10	9	8	9	8	6

Table 7.1: Number and nature of adaptations made by teachers and observed in each classroom.

7.1.1 Treatment of the whole class that allowed full participation of students who experienced difficulties with reading

Adaptations in this category occurred when teachers provided instruction or reading tasks to the whole class. The instruction or tasks were presented in such a way that those students who experienced difficulty with reading could fully participate. The following adaptations were recorded in this category.

- Students chose to read different texts. The students selected reading material from an array of texts that ranged in difficulty. Students who experienced difficulties with reading were catered for because some of the material provided matched their reading ability. All teachers employed this teaching strategy at some time. It was particularly characteristic of Amanda's teaching.

- Text was presented on an overhead projector transparency so that the whole class could participate in choral reading of the text. Dianne employed this adaptation.

- The whole class worked together but tasks were individually negotiated with the students. Students read the texts they had selected and then individually negotiated a response to that text with their teachers. Responses included written summaries, preparation of posters and board games. Student response could be tailored to an individual's particular talents and abilities. Colin, Emily and Dianne regularly utilised this teaching practice.

7.1.2 Differential treatment by the teacher offered to a fixed group of students identified as experiencing difficulty with reading.

Teachers provided the same initial instruction to the whole class but provided additional instruction or modified the text for selected students. The following adaptations were recorded in this category:

- Additional explanation, monitoring of student progress or ongoing support was provided to a fixed group of students who were seated together. Example: The

teacher provided instruction to the whole class and then immediately directed attention to the same group of students, giving them additional information, checking that they understood the task and regularly monitoring their progress. This form of adaptation was characteristic of Emily's teaching.

- Text was modified for a group of students through reduction of choice. In this situation the students selected their own material for reading, but they were directed to choose from a smaller range of books that the teacher determined were at an appropriate level of difficulty. Emily employed this adaptation.

- The print size of text was modified for a group of students. The teacher ensured students who experienced difficulties with reading were not given small print and gave enlarged copies to selected students. Emily employed this adaptation.

7.1.3 Treatment offered by the teacher to a flexible group of students or individuals identified as experiencing difficulty with reading.

In this adaptation teachers presented the same task to the whole class but gave differential treatment to students experiencing difficulty. The teacher roving around the room, responding to students with raised hands was not considered adaptive, as students who experienced difficulty with tasks did not always request assistance from their teachers. Intentional checking or monitoring of students' work was considered an adaptive practice.

- Additional explanation, monitoring and ongoing support was provided to flexible groups of students or individuals. The teachers provided instruction to the whole class and then provided additional explanation or ongoing support to different groups of students or individuals. The amount and type of support provided was dependent upon the task that was set and the teachers' anticipation of problems that could be encountered with that particular task by small groups or individual students. An example of the practice occurred when teachers recognised that particular students would have difficulty with written response to text or comprehension of expository

text. They provided immediate additional instruction or assisted them to begin the task. Colin frequently offered proactive support to individual students, often calling on students to come to his desk. Dianne's use of this intervention was task dependent. When the task involved written response, she asked specific students to sit together and provided them with varying degrees of assistance. When the task involved discussion, Dianne monitored the comprehension of individual students. Amanda was observed offering this type of assistance to one of her students on one occasion.

- Particular students were asked to repeat instructions so that the teacher could monitor that they understood the task or instruction and knew how to proceed. Both Dianne and Emily were observed using this strategy to monitor student comprehension.

- Modification of the task for a group of students. The teacher gave the same initial lesson or explanation to all students in the class and then modified the task in some way for a group of students. Example: Most students in the class were directed to record general ideas generated by the class text but a small group of students were called together. They were given a specific topic on which to write, the teacher effectively narrowed the choice of subject matter, focusing discussion and subsequent written response. Dianne and Emily both utilised this adaptation.

- An alternative task was presented to an individual or small group of students. Teachers set the class a task and then asked one student to complete a different activity. Example: The whole class completed the same type of reading comprehension cards from a commercially produced set but one student was asked to complete a simpler reading comprehension exercise from a different program. Dianne and Frances both used this form of adaptation on one occasion.

- The task was presented to a group of students in smaller segments. An example of this occurred when the rest of the class was given a prepared sheet of questions but

the teacher selected a group of students and orally presented them with one question at a time, monitoring their responses. Dianne utilised this adaptation.

- The student was given the choice of not participating in the task. Example: While all other students were expected to read orally to the class, one student was given the option of choosing not to read. Frances utlised this adaptation.

- The teacher directed the students to read different text. This refers to teachers selecting books at an appropriate level for students who undertook extended reading of this material. Brian and Colin selected text for their students.

- Audio-tape of text was used. The teacher directed the student to listen to a taped book whilst at the same time following the hard copy. Dianne employed this adaptation.

- More frequent feedback was given to students who experienced difficulty with reading. The teacher heard the oral reading of students who experienced difficulties with reading more frequently than that of other students in the class. The teacher also called upon these students more frequently to conference about their reading. Colin, Dianne and Emily spent more time hearing the oral reading of students who experienced difficulties.

7.1.4. Adaptations involving grouping students for peer support:

In this adaptation students were encouraged to work together to solve problems. In this way they could access peer support as well as teacher support. There were three variants.

- Students worked in mixed ability groups to complete the same tasks as their peers. Teachers either randomly allocated students or placed them in groupings where high achievers, average students and those who experienced difficulties with reading worked together on the same tasks. Example: Groups of students in Emily's class were asked to work together to "bundle" vocabulary on a particular topic into

categories. Students consulted and compiled lists of words and then compared their lists with those of other groups. The only evidence of group work in Amanda's class during the observed lessons occurred at the request of students. Brian and Emily organised students into groups to work on tasks and the groups rotated through activities. Mixed ability grouping was characteristic of Dianne's teaching. She also frequently asked students to work in pairs or small groups to discuss text and prepare written responses.

- Students were assigned to ability groups to complete reading tasks. Example: Multiple copies of texts were distributed, a group of four to six students read the same text and then made a response which included writing a summary of the story, developing a character profile or a story map. The task and text were set at the ability level of the particular group of students. Students usually conferred with each other in order to read the text and complete the subsequent task. This adaptation was characteristic of Brian's teaching. Brian had three reading groups operating in his class. He generally worked with one group to read a text and had the other two groups completing follow-up activities. Emily grouped children by ability on one occasion.

- The teacher initiated and directed peer support. In this situation the teacher directed students to provide support to a peer, pairing students up for particular activities. Dianne was observed utilising this adaptation. She gave students direct instruction about the type of assistance they were to provide to peers eg: *"Read this book to M. Run your finger along each word as you read. Ask him to read it back to you."*

7.2 Frequency and range of adaptation observed in participants' classrooms:

Dianne was clearly the most adaptive teacher in the study, having made twenty-eight adaptations over the nine observations of her lessons. This teacher made thirteen different types of adaptations. By contrast Frances made only four adaptations in the six lessons observed and Amanda made nine adaptations over ten observations.

It must be stated that it was not just the number of adaptations that were observed in Dianne's classroom that led to her being described as the most adaptive teacher. The quality of the teaching that took place must be considered. As stated, some teaching practices described as adaptations are simply routines that allow students to work at their own pace or access assistance from peers. These adaptations include students working in groups to complete the same task and students reading text of their own choice. More highly adaptive practices include task modification and teacher directed peer support.

The quality of Dianne's adaptations was such that students' needs were met without undue attention being drawn to individual differences. All students could participate in all activities presented. Dianne's classroom was a constant hive of activity. Students were highly engaged in all work presented. Students spontaneously assisted their peers. They also responded positively to requests from Dianne to interpret for a peer, read to a fellow student or help a friend use the class computer. Tolerance for others was consistently evident amongst the students. Not once did the researcher hear a student criticise a peer; on the contrary, students were heard praising the work of their classmates. This behaviour was a reflection of Dianne's teaching style. She greeted each student personally each morning and held a short conversation. She responded to each child's journal entries by regularly writing to them and was consistently positive when speaking with individual students.

Emily's teaching practice could also be described as adaptive considering the number of adaptations observed and recorded. The basis of her adaptations was however very different. Adaptations were proactively made for four students who experienced difficulty with reading, but some of these adaptations could be considered part of a routine. In developing routines for providing additional assistance to the four nominated students, Emily ensured their needs were met. Very few adaptations to teaching practice were made for other students in Emily's class. After instructions or explanations were given to the whole class, Emily immediately focused her attention on the four nominated students. In contrast Dianne would monitor the response of her students and provide support to different student groups or to individuals. Her decisions were dependent upon

the demands of the particular task that had been presented and her knowledge of the individual needs, strengths and abilities of the students in her care. At times Dianne left students who experienced difficulty to work with other students, provided she considered that the former were on task and productive.

Adaptations recorded in Emily's class occurred during five silent reading sessions and two literature-based reading activities where students selected their own reading material. At these times students were given the opportunity to read at their ability level. Offering a range of text is not as adaptive as the provision of direct support or the specific and proactive modification of a task in response to observed student need. The quality of the teaching practice needs to be considered along with the number of the adaptations observed.

Investigation of the range and number of adaptations that were observed in use has led to the conclusion that Dianne and Emily could be considered the most adaptive teachers in this study. Brian and Colin's teaching would best be described as moderately adaptive. Amanda and Frances were the least adaptive teachers in the study.

Dianne and Colin held interventionist beliefs, demonstrated socio-cognitive teaching style and were procedural knowers. Brian and Emily held interventionist beliefs; demonstrated socio-cognitive teaching style and their statements indicated that their ways of knowing were somewhat procedural. These four teachers demonstrated more adaptive practices than Amanda and Frances. Whilst they had similar beliefs, teaching styles and means of gathering knowledge about their profession, there were differences in the way these four teachers responded to the task of dealing with diversity in the classroom. There were real differences between the ways in which these four teachers and the two less adaptive teachers delivered their reading lessons. Specific information about the types of adaptation that were observed is presented in the next sections of the chapter and a more detailed analysis of the differences is presented in Chapter 8 – The Discussion.

7.3 Differences in adaptive educational practices - responding to specific need.

How do teachers in the sample differ in the way they respond to perceived needs?

The data from two extreme cases will be examined in response to this question. The teaching practices of Amanda, one of the least adaptive teachers in the study and Dianne, a more adaptive teacher, will be presented in some depth. Dianne's case was selected, as she was clearly the most adaptive teacher in the study. A number of factors were considered in selecting Amanda for comparison and not Frances, the other least adaptive teacher. On the surface Amanda's approach to her students was similar to that of Dianne. She too held her students in high regard. She was warm towards her students and fostered tolerance and respect for individual difference. She regarded her own teaching practice as up-to-date. Frances had a completely different teaching style. Her students sat in rows and were discouraged from speaking to each other during formal lessons. Her approach to teaching would be described as traditional. The differences in the teaching styles of Dianne and Frances are obvious. There are subtler differences between the teaching practices of Dianne and Amanda. The teaching practices of these educators and their response to the members of their classes who experienced the most difficulty with reading will be explored in some detail.

7.3.1 Amanda: A less adaptive teacher

Amanda had two students in her class whose reading problems could be described as severe. Both J and K experienced extreme difficulty with decoding and comprehension. The scores of both of these students were at stanine 1, more than two standard deviations below the mean, in the accuracy and comprehension subtests of the Neale Analysis of Reading. Both J and K scored at four years below their current grade level on the Edward's Quick Word Screening Test. J was in Grade 5 but he achieved a pass at Grade 1 level. K was in Grade 6 but she only achieved a pass at Grade 2 level. As K was frequently absent from class during the observation period, Amanda's response to J's reading disability will be presented.

Amanda offered little information about J during the feedback interview. When asked: "Tell me about J" Amanda's only response was that he was reading at the level of a six year old. This was an accurate assessment of his skill level, but no details were given of his specific strengths and weaknesses. Amanda went on to say that J had only been enrolled in the school for a year and she had received very little information from his previous school. She also commented that she was unwilling to single J out and she did not really have time to provide him with individual work.

Amanda had access to some specific information about J's reading ability. The librarian who conducted the corrective reading classes gave the researcher a copy of a written report she had made about J's progress in these classes. Whilst corrective reading was seen to be a successful activity for J, he was unable to meet the criteria to progress from level A to level B with other students in the program and hence he did not advance to the next phase of the course. It was reported that he had been re-learning and practicing good reading strategies in the withdrawal classes. The librarian also reported that J had benefited from the regular and repeated routine of the program. He had difficulty however in word reading from the chalkboard, word completion, word dictation and sentence reading without errors. Amanda was given a copy of this report but did not refer to any information contained in this document until specifically questioned about it during a later interview.

In the fourth interview Amanda was asked about J's withdrawal from the corrective reading program. She reiterated that he was reading at the level of a Grade 1 student:

> *He is at the level of a six year old. We didn't start corrective reading there. It's (pitched at) Grade 3 and upwards. In spelling he's getting the initial sounds. At the beginning of the year he wasn't even doing that.* (TA D11 I4 P20)

Despite the difficulty he experienced with reading and the fact that he obviously found the reading passages presented in the Neale Analysis of Reading difficult to decode, J was exceptionally co-operative when the researcher assessed his reading. He gave the

impression that he enjoyed the attention that the assessment process afforded him. At the end of the assessment session he asked if he could come every week.

Aged 10 years and 6 months, J's reading accuracy was delayed by 4 years and 6 months and his reading comprehension was delayed by 4 years and 4 months. His reading errors predominantly comprised substitutions. J made wild predictions when decoding text and continued to read despite the fact that his attempts at decoding made very little sense. An example is his decoding of the sentence: "Peter looked at the strange stamps." This was read: "Peter looked at the stoke stom." No effort was made to determine the meaning of this sentence. It was almost as if J did not expect text to contain a message. The number of errors made in decoding this particular passage exceeded sixteen, precluding the comprehension subtest at this level. It would have been impossible for J to correctly answer comprehension questions based on his interpretation of this passage.

Poor decoding skills were evidenced but J had developed some phonological awareness. He could recognise the names and sounds of the alphabet in isolation. He could name rhyming words, segment and blend sounds to make phonetically simple words and he could identify beginning, medial and final sounds in three letter words. It appears that a number of the prerequisite skills for reading had been developed. J needed to be able to recognise letters and blends with greater automaticity. He needed to build on his existing sight vocabulary in order to read with greater fluency.

It is obvious that J would have difficulty coping with reading tasks presented in a Grade 5/6 composite class without some modifications and adaptations being made to teaching practices. In order to develop greater independence in reading he required specific strategy instruction, opportunity to rehearse reading strategies and regular feedback on his performance. As J was not being withdrawn on a regular basis for reading instruction, the classroom provided his only opportunity to develop skills in this area. An analysis of Amanda's lessons is presented in Table 7.2. Adaptations made in response to J's identified needs are detailed. Student engagement in the task presented is also recorded in the table. The engagement rating is based on the response of all students

who were identified as experiencing difficulty to the lessons or tasks presented by the teacher. Student response was determined using a continuum of high to low engagement in the activity. When identified students were predominantly off task during observations, the lesson was rated as low engagement. Predominantly high on-task behaviour led to a rating of high engagement. Medium engagement was recorded when interval observations revealed a mixture of on task and off task behaviour.

7.3.2 Amanda's reading and language lessons:

	Task or Lesson	Presentation Method	Student Engagement
1	silent reading followed by class discussion	whole class	medium
2	students paired with member of prep/one class – students hear reading	students paired with juniors	high
3	silent reading – discussion - book review activity (headings provided)	whole class activity	medium – low
4	silent reading	whole class	medium
5	retell or recount of story titled "The Yellow Ribbon"	whole class	high
6	sentence completion activity	whole class	low
7	silent reading students read their own version of "The Yellow Ribbon" story to the class.	whole class	low
8	silent reading teacher reads story to class – discussion	whole class	medium
9	silent reading word game	whole class	medium - high
10	silent reading code breaking exercise	whole class	high

Table 7.2: Reading tasks, method of presentation and student engagement - Amanda's class.

A combination of oral reading, discussion, listening to stories, comprehension activities, a lesson on topic sentence construction and an activity for developing phonic knowledge was presented. Amanda described her method of teaching reading as Whole Language. She made efforts to keep reading meaningful to students and stated in interview that her main aim was for students to enjoy reading. Amanda also made obvious attempts to highlight the relevance of language and the knowledge students brought to their reading by allowing students to select their own reading material and regularly involving students in discussion about text.

Amanda's students engaged in silent reading during seven of the ten lessons observed. During silent reading sessions Amanda generally called upon students to come and read to her at her desk. Records were kept of students' performance at this time. Amanda referred to these records when selecting students to ensure that students spent equal amounts of time reading with her. When students experienced difficulty with decoding, Amanda generally wrote the word on a notepad in large letters. She usually wrote syllable by syllable and encouraged students to enunciate the sounds. At times she identified words within words for students. Amanda was also observed pointing out the different sounds made by vowels.

The content of the ten lessons is described in detail:

Lesson 1: Students read silently for approximately fifteen minutes. The students were then invited to sit together on the floor at the front of the room to participate in a discussion about reading. Students volunteered to tell their peers about books they had read. Amanda elicited a variety of responses when she asked students how they selected books. At the end of the discussion the spelling for the week was put on butchers' paper and displayed to the class. Students chose their own spelling words by writing them on pieces of paper and placing them in a marked box. Students were instructed to learn their words. The researcher rated the engagement of students as "medium". This was because two of the four identified students (including J) flicked through books during silent

reading and did not engage in any sustained reading of text. None of the identified students participated in the discussion. No adaptation was made for J in this lesson.

Lesson 2: Students from Amanda's class read with younger students. Two of the identified students read very simple stories to the children from the Prep/One class. The rhyme and rhythm of the stories appeared to appeal to the older readers. At the conclusion of the session Amanda led a class discussion in which she elicited information about how the youngsters responded. She encouraged her students to reflect upon the performance of their partner and asked them to think of ways to keep the younger children on task. All students were actively engaged in this task. J read a simple storybook to his partner and then listened to the youngster read to him. J actively participated in the lesson as he could read the books the student in the Preparatory class brought to his classroom.

Lesson 3: After silent reading the students were asked to complete a book review activity. Amanda this called a "Book Sell". Students were asked to prepare an information sheet on a book they had read right through in order to introduce the book to other readers. A sheet of butchers' paper with headings was placed on the board. An example of how to write a bubble plan in order to outline characters, setting, incidents, sad events, happy events and the ending was presented. Amanda stressed that these plans did not have to be written if students remembered their story well enough. The engagement of students was recorded as medium to low. Whilst some students completed the review, there were several students in a group that included the identified students who did little more than a make heading or a border on their page.

J had some difficulty locating the book he wanted to review and discovered that another student had taken it to his desk. This student also experienced difficulty with reading and Amanda suggested that they sit together to review the book. There was limited opportunity for J to receive peer support in this situation. The two boys had difficulty sharing the book as they read at different speeds and had different needs. After spending a short time trying to read excerpts from the book, J abandoned the task and both he and

his partner began writing their signatures on the lined paper of their books. When Amanda started to circulate around the room, J made a circle in the centre of his page and copied the title. He then stopped work and began talking to another student seated at his table. They discussed scary movies. Before the students left for recess the students were asked to bring their work and sit on the floor. Amanda did not draw attention to students who had not completed the book review but stated that there would be an opportunity for students to finish their work later. No adaptation was made specifically for J who appeared to lack the skills necessary to write a review independently.

Lesson 4: Silent reading was the focus of the session. Two of the identified students were engaged for most of the time but the other two, including J, were not. At the completion of this activity students were given their spelling test results. J's results were the lowest in the class. No adaptation was made to encourage or increase J's participation in silent reading.

Lesson 5: Students sat on the floor at the front of the room while Amanda read "The Yellow Ribbon" which she had transcribed onto a length of yellow ribbon. At the completion of the story the students were asked to retell or recount the story. Each student provided a sentence and then passed a ball of yellow wool to a fellow student. Amanda was able to ensure that each student took a turn. The activity held the interest of some students who attempted to make patterns with the yarn. The activity was repeated a few times. A whole class activity, all students were actively engaged. J was able to participate fully in this activity.

Lesson 6: A sentence completion exercise was presented in which sentence beginnings were displayed on butchers' paper and sentence endings were written on photocopied sheets that were handed to students. Amanda called upon some students to read segments and connect phrases. A number of students had difficulty with the task. Over 20 minutes were taken to ensure that those with poor language skills understood the concepts and were able to read sentence parts. More capable students appeared restless during this time and students were sitting on the floor. During the last five minutes of the

session students were asked to transcribe the sentence beginnings into their books and complete the exercise for homework. A number of students actually completed the homework task at this time. Amanda went straight to J and transcribed the sentence beginnings for him. Engagement of the identified students in this task is ranked as low as many students were quite restless, chatting to each other and exchanging notes when their peers were called upon to read. J was not called upon to read phrases. He appeared restless. Assistance was provided in transcribing the text however, and the amount of time spent on individual explanation of the task was sufficient for him to be able to attempt the work at home.

Lesson 7: After spending 10 minutes selecting books from the reading room and 20 minutes of silent reading, the students sat at the front of the room with their own version of "The Yellow Ribbon" story. Four students volunteered to read their versions to the class. Amanda took notes. The identified students in particular appeared restless. Engagement was rated as "low". J's participation in the silent reading was limited. None of the identified students volunteered to read their version of the story to the class.

Lesson 8: After selecting books from the reading room, students engaged in 20 minutes of silent reading. Identified students took some time to select material but all except J were "on task" during most observations. During the last half-hour the teacher read the class a Paul Jennings story that was selected after students voted for their choice. Engagement was rated as medium. Again, J's participation in silent reading was limited. He appeared restless when Amanda read to the class.

Lesson 9: On this day the silent reading activity lasted 40 minutes. Silent reading was followed by a word game. Student engagement is ranked as medium. L, one of the identified students, made no attempt to read until Amanda called him to her desk to read. Again J's participation in this activity was limited. He had selected a book with illustrations of bicycles and spent some time discussing these with a fellow student. He did not take this book with him when, at the researcher's request, he too was called upon to read. As J did not have a suitable book, Amanda selected the book he had been

sharing. It was a simple picture book with a few sentences printed on each page. J was given a lot of assistance decoding the information about bikes. He quickly engaged Amanda in discussion about his bike, describing the tricks he could do and accidents he had experienced and so did little reading in the few minutes assigned to him. No adaptation was made for J during silent reading but he was assisted with the selection of appropriate text when reading to his teacher.

Lesson 10: During silent reading on this day J was provided with a selection of simple texts about bicycles. He flicked through these and replaced them on the shelf, claiming to have read them all. He then sat on the floor with another student and they read together. This was student initiated and the first observation of peer tutoring. Amanda reported that she had never seen this take place before, but she was very happy. The peer provided J with lots of encouragement and assisted him in decoding words, using strategies Amanda had been observed providing students. After a few minutes the other student took over the reading. J joined in when he could and some choral reading took place and the two students read the text aloud together.

After silent reading a class discussion of reading material took place. Amanda asked students about their books and then asked them to describe what they did when they read. She steered the discussion to the decoding of unfamiliar words. She informed the students that reading was about enjoyment but it was also like breaking a code. A code breaking exercise in which letters of the alphabet were replaced by symbols was then handed to students to complete. Engagement in this activity was high.

The student initiated peer tutoring benefited J. He was able to participate in the silent reading activity with assistance. This was not an adaptation but Amanda gave her tacit approval by allowing the activity to continue. J was also able to participate in the code breaking exercise. He reported that he had completed similar exercises at his last school and was happy to replace the symbols with the letters to break the code as this was a task he could manage independently.

7.3.3 Adaptive teaching practices observed in Amanda's classroom

The only proactive adaptation that was made to Amanda's teaching practice in response to J's particular needs was in the provision of additional explanation and teacher assistance in transcribing text. The context of this adaptation was the sentence completion task. Asked in an interview why she had done this, she responded:

> *He won't be able to do it unless I help him. He won't get any help from home. The parents ask what they can do but they never do anything. I feel I'm not supported by the parents.* (TA D1O I3 P12)

Another recorded adaptation was merely reactive, involving the presentation of tasks to the whole class and allowing students to work in pairs. Students were also given permission to discuss their books with peers during "silent" reading time.

A routine adaptation involved text selection. Students read text of their own choice during silent reading time. This meant that students had the opportunity to select material that matched their particular level of development in reading. Sustained silent reading was undertaken on seven of the nine observations. J rarely took part in this activity. He flicked through books, returned to the bookshelf frequently and stared across the room. He read to Amanda on one occasion. Amanda presented J with a small selection of simple texts about bikes before the next silent reading session so some attempt was made to provide him with text of a suitable level. The only time that J was observed participating in the silent reading activity was when he chose to sit with a competent reader and together they capably tackled a story. J was on task for the whole ten minutes this activity took place. He attempted to decode words and was given appropriate corrective feedback and encouragement from his friend.

The needs of this student were not fully met in the classroom. J provided the best description of the situation at completion of his assessment session when he made the unsolicited statement:

(Amanda's) not my type to get teached by her. She gives me hard work. (The other Grade 5 teacher) gives me reasonable work. (Amanda) lets us read in the classroom but when we read I don't read. I want to look at stuff like bike books and cars. I'm interested in motors and stuff.

J was given opportunities to read but lacked the skills necessary for independent reading. Amanda recognised this and made some attempts to meet J's needs. He was able to participate in the paired reading with the younger students as the text was suitable. He could also participate in the recount activity as no reading was required. The code breaking exercises provided a challenge for J. He could replace the symbols with letters but could not decode the completed message unaided. Other students decoded sentence beginnings and endings for the sentence completion activity but it is unlikely that J would have been able to retain all phrases in order to complete the homework assignment without further assistance. Unfortunately he could not manage activities presented in five of the ten observed lessons without additional support and this was not forthcoming.

In order to examine the types of support that can be made available to students, Dianne's lessons and adaptive practices will be presented.

7.3.4 Dianne: An adaptive teacher

Dianne also had two students in her class whose reading problems could be described as severe. Both O and H experienced extreme difficulty with decoding and comprehension. The scores of both these students were at stanine 1 for the accuracy, decoding and comprehension subtests of the Neale Analysis of Reading, more than two standard deviations below the mean. O was in Grade 5 but achieved a pass at Grade 1 level on the Edward's Quick Word Screening Test. H was in Grade 6 and achieved a pass at Grade 1 level only on the same test. As O was absent during some of the classroom observations, Dianne's particular response to the perceived needs of H will be examined.

Dianne reported that Arabic was spoken in H's home. English was not H's first language but it was Dianne's view that there was a reading problem that was related to basic skill acquisition and not simply related to lack of exposure to the English language. In the

initial interview Dianne decided against including two further students when identifying students with reading disabilities, commenting that their delay in reading was related to the fact that they had limited exposure to English. Whilst this was a factor for H, Dianne believed that H had a reading disability.

During interview Dianne stated that H read picture storybooks and was able to use the illustrations as cues. Initial sound recognition was another cue that Dianne had observed H utilise when decoding unfamiliar text. Dianne stated that H was attempting to predict more words using contextual cues. Dianne noted an increased sight vocabulary. She referred to her records and stated that H was now able to recognise a core group of words like "it", "the", "and", "I", and "going"' H was also able to recount the details of a story immediately after reading.

Difficulties experienced by H included responding to direct questions about the text she had read. Dianne noted that H preferred to retell or recount stories in her own way rather than answer direct comprehension questions. Substitutions made by H sometimes resulted in inability to gain meaning from text. Dianne kept a record sheet of the letters and sounds H was able to recognise. She reported that H had trouble recognising and reproducing the sounds 'i', 'y' 'w' and 'a', noting that H had trouble with vowel sounds in particular. Initial sounds were used in word prediction but H had difficulty with word endings. H also experienced difficulty with retention of information. Dianne gave the example of the sound 'ch' that had recently been introduced by the ESL teacher. Dianne commented that H was able to recognise the sound for a few days but was unable to produce the sound when presented with the letters on subsequent occasions.

Some of Dianne's observations were supported in the reading assessment completed by the researcher. The Diagnostic supplement of the Neale Analysis of Reading was administered. Vowel recognition and reproduction was poor, confirming Dianne's observations. The sound 'a' was read 'u', 'e' was read 'a', 'i' was read 'u'. The sounds 'o' and 'u' were successfully decoded on this occasion. Other sound confusions were b/d, d/b, c/g. Sounds confused in spelling were e/i, e/a, i/o, c/g, b/p. On the day of the

assessment H was able to discriminate 'a', 'e' and 'i' sounds in words but could not discriminate 'o' or 'u'. An audiological assessment was indicated. This information was suggested during the feedback interview and Dianne stated that she would pursue the matter.

In passage reading there was a general tendency for H to rely on initial sounds as a cue for decoding. She confused vowel sounds and tended to make substitutions that interfered with the meaning of the text in the first passage but H attempted to make sense of her reading when answering the comprehension questions. An example is the reading of the sentence: "She put her kitten by the door". H read: "She put her cat by the dr-o." When asked where the black cat left her kitten, H responded: "in the drawer". Comprehension questions were only asked on completion of the first passage. The researcher completed the reading of the second passage for H when it became obvious that her errors would prevent her achieving a score.

Phonemic awareness was delayed. H could determine sentence length, identify short and long words, blend three letters into words and identify initial and final sounds in phonetically simple words. After much practice she demonstrated that she was developing the ability to segment words into sounds and syllables, and identify middle sounds in three letter words. Despite much practice, H could not provide rhyming words. The word "if" was written "efa", us - "Isee", pit - "pet" and rob was written "rid". At the Grade 1 level of the Edwards Quick Word screening test the words one, look, little, school and we were correctly identified. The word "not" was read "deet", can was read "come", baby was read as "bear", will was read as "all" and his was read as "has". There was some expectation that text should be meaningful, but this expectation was not always met.

H stated that she liked reading and was interested in learning to read. In interview she commented that her mother was learning to read English:

She practices. They give them dictionaries from the school. After she finishes she reads Arabic. She likes us to do homework. She says we have to read more because we need more English.

H also reported that she read most evenings after school. Dianne had given her books to read at home but she also had a library card and could borrow books from the local library. H said that her older sisters had taken her to the library to borrow books and her mother had listened to her read four books the previous evening.

H attended individual or small group specialist classes with the ESL teacher most days for 30-minute sessions. She stated that "Miss E" was teaching her to read:

I learn a bit from reading some stories. Miss E does spelling for me like 'er' and 'sh'. I have to find a word with 'ch'. We write it and then in five minutes I have to spell it.

H participated in classroom reading sessions when she was not attending her specialist class. Like J, her needs were very specific and she had to operate within a class in which students presented with a wide range of skills and abilities. The lessons presented to the class by Dianne during the observation period and her specific responses to H's perceived needs are presented for examination in Table 7.3.

Dianne presented a variety of activities for her students. These included oral language activities designed to extend vocabulary and encourage monitoring of comprehension, silent reading, choral reading, listening and discussion activities. Literacy-based instruction was encouraged throughout the school. Students were encouraged to read and examine text from different genres. Students were given the headings - fantasy, humour, poetry, fiction, science fiction, instructional, informative and argumentative and were asked to use these to categorise when recording the text they read. They were expected to read text from a variety of genre. Students selected their own reading material from the library or the reading shelf in the classroom. At one stage Dianne directed a student to read a non-fiction text as the last three books he had chosen were all from the fantasy genre.

7.3.5 Dianne's language and reading lessons:

	Task or Lesson	Presentation Method	Student Engagement
1	word challenge prediction activity (fantasy- "The Frog That Would be King")	whole class whole class - paired activity	high
2	retell or recount activity - "Rainforest" article	whole class read, then small group discussion -present paired written response to class	high
3	literature based reading and comprehension activities	individual tasks negotiated with the teacher	high
4	word challenge, prediction activity (Humor)	whole class -paired discussion	high
5	newspaper - letter to the editor - "Optus Tower"	whole class - adapted response	high
6	argumentative text - criteria - reread text	whole class activity - paired presentation	high
7	serial "The Lion, The Witch and the Wardrobe" - dramatization of text literature based reading activities	whole class individual tasks negotiated with teacher	high
8	reading comprehension - animal classification task	whole class - adapted response	high
9	teacher reads to class - "The Owl and the Pussycat" - dramatization	whole class	high

Table 7.3: Reading tasks, method of presentation and student engagement - Dianne's class.

Students regularly engaged in an activity called "literature-based reading" where they read text from a variety of genres and completed individually negotiated text response. Dianne heard students read during literature based reading activities. She noted that she heard some students read twice a week but she might hear other more capable students read only once a fortnight. Dianne was observed asking some students to sound out syllables, cueing another student to the initial sound, providing initial blends to students and asking another student to look at illustrations for cues.

Dianne presented some lessons to the whole class and then provided additional or ongoing instruction to particular students. This instruction was provided to different students and appeared to be dependent on the demands of the task.

The content of the nine lessons is presented in detail:

Lesson 1: Students undertook a "challenge" activity each day during roll call. The word challenge this lesson involved the presentation of a group of letters in a grid. Students were asked to make as many words as possible from the letters provided in the grid. After the roll was marked Dianne gave some students (including H) strategies for completing the word building activity. A list was made of the words the children devised and then the overhead projector was wheeled into the classroom for an activity Dianne recorded in her workbook as "Directed reading-thinking activity for prediction". Single pages of the fantasy story "The Frog That Would Be King" by Kate Walker were presented on the overhead for choral reading. Students were asked to discuss their predictions of words that would appear on the following page. Paired discussion was followed by class discussion, then predictions were tested as the next page was placed on the overhead projector. All students, including the identified students, were highly engaged in discussion and reading.

Dianne gave H additional support so that she could complete the word building activity. During prediction work Dianne joined H and her friend, listening to their discussion and asking open-ended questions to elicit elaborated response. H participated in the choral reading of the pages presented on overhead. This was a particularly useful activity for H and other students as they would not have been able to decode the text unaided. Peer support and ongoing teacher support was provided to H in particular but other students also benefited from the ability to work with their fellow students and received ongoing support from Dianne throughout the lesson.

Lesson 2: Retell or recount activity. An article titled "Preserve Our Rainforest" was handed out. Students were asked to look up the word "preserve" in their dictionaries. One student was having difficulty finding the word in his Croatian/English dictionary and Dianne asked another Croatian speaking student to explain, checking that both students understood the meaning of the word. The article was read to the students and then they were asked to write down keywords as each paragraph was read for a second time. Dianne immediately walked to H's table and asked her how she was going, checking that she had located the word in the dictionary. Several members of the class

discussed the meaning of the word and the title before the students were asked to write their own predictions of other words they might encounter in the text.

Dianne monitored whether H had understood the instruction by walking over to her table to check that she was on task. H had begun her written response and so Dianne moved to monitor the progress of other students. Dianne read the article to the class then reread it as students wrote down the keywords. Students were asked to use their keywords to write down everything they could recall or a recount of the article, using felt pens and butchers' paper. They were given the option of working in pairs. H worked with D to reconstruct the text. Once the passage was written each pair presented their recount to the class. Dianne suggested that one student should point to the words while the partner read them to the class. H pointed and D read the simple but accurate sentences they had constructed together. Peers made positive and encouraging statements when giving feedback to each pair of students. All students were actively engaged.

H was able to participate in all aspects of the activity including following the presentations of other students as they read the recounts they had prepared on large sheets of butchers' paper. Other forms of support were provided to students in need. One of the "new arrival" students was given the option of illustrating his response to the article. Dianne assisted by labelling the items he drew and discussing his drawing with him. The main forms of support offered to H on this occasion were peer support and ongoing teacher support.

Lesson 3: Students completed literature-based reading activities. Books from specified genre were read and then students completed their response to text activities. The responses were individually negotiated. Initial instruction involved students being reminded to use the "five finger test" when selecting books. Students were asked to raise their hands if they needed a conference. Seven students indicated they were ready. Dianne had noted in her diary that she wanted to conference with a further three students so a circle conference was organised for these students and the rest of the class was asked to read quietly. Some students used headphones as they listened to taped books.

Conference notes were kept. At the end of this activity the class serial - "The Lion, the Witch and the Wardrobe" was read to the class. All students were highly engaged in the literature based reading activities and they all appeared to be listening to the class serial.

During the literature-based reading activity H listened to her friend D read a simple storybook with illustrations. D pointed to letters as she blended and sounded out the words. H gave her full attention, nodding and following the text. After conferencing with a group of students, Dianne called H to her table and asked her to read. H brought a collection of picture storybooks. Dianne praised her for reading so much. Dianne selected a book and H read aloud. She had some difficulty decoding the word "singing". The repetition of the "ing" sound was pointed out. Dianne suggested that H's activity should be to locate and underline all words on a page from a magazine that contained the sound "ing". She agreed and returned to her desk to complete this activity. At the end of the lesson H was called with three other students to select books from the reading shelf at the back of the room. A selection of books was put aside for return to the school library. In this lesson a friend provided peer support to H. This peer support was not organised by Dianne, but occurred naturally as an interaction between two friends. Dianne offered ongoing support to H, providing her and others who experienced difficulties with increased opportunities for oral reading, supplementing the support provided in the withdrawal program. Text selection was also supervised and monitored.

Lesson 4: Students were given another word building activity as a morning challenge. They worked diligently for 20 minutes. After exhausting all the simple 3-letter words they became more adventurous and began to write more complex words. Another directed reading prediction activity was then presented to the class. A humorous text titled "Who's Scared of Leslie?" was presented page by page on the overhead projector. This time students were asked to think about why they predicted certain words, what it was in the story or what they knew of the genre that helped them make their predictions. All students read through the story together. There was a lengthy discussion about the meaning of the word "stereotype". Again, all students were highly engaged in the discussion and the choral reading.

Lesson 5: At the beginning of the fifth observed lesson students were handed the journals in which they recorded events of interest. Dianne provided written response to each student's entries. All students were asked to read their latest entry to the person sitting next to them. Dianne immediately went to H and D to hear their response to this task. Dianne elicited further response from H about the theme of her writing, providing her with the opportunity to give extended information orally and to further extend her vocabulary.

H left the class at this point to attend her withdrawal class. A photocopy of a newspaper article was then given to each remaining child. It was folded and stapled so only the title was visible. Students were asked to copy the title "Threatened By Proposed Tower" into their language books and then write predictions of other words that might appear in the article. Ideas were discussed in small groups then the students opened the article and read it. They were asked to circle all the words they could decode. An alternative offered was to underline words that they could not decode or understand. Once students had attempted to decode the article, Dianne read it to the class. As it was being read to them, students were asked to tick each sentence they understood. Dianne led a discussion about words, phrases and the particular forms of persuasion presented in letters to the editor. All students, including the identified students were highly engaged in the activity.

H returned when students were discussing the letter to the editor about the proposed Optus Tower. She joined a group of four students. Dianne was circulating but made a point of moving to H's group to talk to her about the article and the lesson. On-going teacher support was offered to H on this occasion. She could also access natural support from peers. Underlining text or ticking words gave some students an opportunity to demonstrate that they were monitoring the meaning of the text.

Lesson 6: Dianne started the lesson by telling the students the true story of Lindy Chamberlain as she remembered it, contextualising by explaining that she was in Year 10 at school at the time of the highly publicised events. Students asked Dianne

questions. She then presented students with a photocopied article that had been enlarged. It contained information about the first trial. Dianne explained that it was a persuasive or argumentative piece, representing one point of view of the events. Students were asked to read through the text independently, underlining words they did not understand. The class then read the article together, handling the choral reading well. H was handed a copy of the text that had been enlarged and took part in choral reading with the rest of the class before leaving for her withdrawal lesson.

The rest of the class read the article through a second time as Dianne placed a poster outlining the features of argumentative text on the board. Students were asked to locate the statement of position and arguments in support before they went to recess. Whilst some students found this difficult and requested assistance from each other, all were actively engaged in locating the information.

The print size of text was modified to accommodate less experienced readers. Choral reading meant that peer support was offered to H and other students in need of assistance in a way that did not draw attention to their difficulties.

Lesson 7: The lesson began with a chapter from the class serial. Dianne asked students to mime how Aslan the lion walked. The next half an hour was spent on literature based reading activities. Before they began Dianne reviewed the conference process with students. Apparently some students had been submitting their conference card before they had completed reading their book. Dianne reminded students that once a book was read, she would ask students to read some of it to her, she would then ask them questions about the text and together they would discuss appropriate response activities. She reminded students to bring their book, their activity card and their reading log to the conference. Students began reading and response activities. Dianne held conferences with volunteers but she also called upon other students to give her progress reports.

After students had begun their literature based reading activities in lesson seven, H and three other students were called to Dianne's desk. Two of the students were asked to read

storybooks to H and another student. They agreed and were asked: *"Can you point to the words as you read"* The four students worked together for approximately ten minutes before returning to their own activities. H returned to finish locating and underling words that contained the "ing" sound. On this occasion teacher directed peer support was provided to H before she resumed work on her individually negotiated activity. All students, including those identified as experiencing difficulty with reading, were highly engaged throughout the lesson.

Lesson 8: A reading comprehension activity was presented to the class. Students were given an illustrated article about animals and their effect on the environment. A capable reader was asked to read the first paragraph and students were asked to read the remainder of the article silently. As a model had been provided, H had an opportunity to experience some success in decoding. Students were given a few minutes to discuss the article with a partner. Students were placed in ability groups of 4-5 students. Each group was asked to answer questions, all students writing sentences about the effects a particular animal had on the environment.

Dianne called four students, including H, to sit together. The students had not been grouped together previously. Other students selected their animal but Dianne narrowed the choice for this group, asking them to write about cats. Dianne asked them specific questions and they were directed to work together to write sentences about the animal. After this activity was completed the students regrouped, joining peers who had written about other animals to discuss the harm these animals might do to the environment. Once the discussion was complete students were asked to carry out an activity that involved labelling illustrations of animals and matching the animal to the description of the harm they cause. Only one child (not one of the identified students) was distractible and did not complete the match activity. He was asked to remain behind to complete the task. All students completed the task before attending their library session.

In the adaptation H was asked to work in an ability group that did not contain her friend D. The task was modified for this group of students. Other students answered questions

presented on a pre-prepared sheet. Teacher directed and voluntary peer support was available to H, but she was required to work with students outside her friendship group.

Lesson 9: The word challenge activity was to brainstorm all known words with the sound "ace" in them. It is possible that this activity was in response to an observation by the researcher that one of the students was over-generalising the "add e" rule. Once the roll was marked students wrote the large collection of words on the blackboard. H worked with D and was able to contribute words to the list that was prepared by the whole class at the end of this short introductory session. No proactive adaptation was made for H. She was able to work with a peer and made her own list. Errors such as "case" and "glacier" were recorded on a separate list and their constructions discussed.

Dianne read a big book version of "The Owl and the Pussycat" to the students. She pointed to words as she read and discussed vocabulary. Students were then asked to get into groups, organise roles and mime the actions as a student read the verse. H was able to draw on the experiences of her peers in the second part of the lesson when vocabulary from "The Owl And The Pussycat" was discussed and the mime was performed. There were lots of giggles as the children enacted the poem. All students were highly engaged.

7.3.6 Adaptive teaching practices observed in Dianne's classroom:

Dianne was observed making a number of proactive adaptations in response to the needs of H. Adaptation to teaching practice in response to H's limited capacity for independent reading was noted in every lesson observed. Often adaptations were not only made for H and the identified students, they were also made for a range of students in the class.

Dianne, like Amanda, engaged her students in discussion about reading and the reading process. Rather than hold discussions after a reading session however, Dianne would begin the session with some discussion about reading techniques and monitoring strategies. In this way the aims and goals of the lesson were focussed for the students.

Lessons were presented to the whole class and then students were often asked to form flexible groupings. At times students chose their own partner or group whilst at other times Dianne grouped or paired students. Peer support was very much in evidence in Dianne's classroom. Students were observed asking peers for assistance and spontaneously offering assistance to friends. Students were asked to work co-operatively to share ideas but at times Dianne also asked specific students to assist a peer with a particular piece of work. The selection of students appeared to be dependent on the task, the time, the tutor's progress with his or her own work, and the compatibility of students.

The researcher noted that students were supportive of each other:

> *R: You give a lot of support to children and there is a lot of natural peer support.*
>
> *D: Yes, I think so. I think it is particular for this group of children because they have nearly all experienced what it is like to come to a country and not speak any or little of the language. They know what it is like for the person who is sitting beside them who has been here for a shorter amount of time than them. They support each other so much. It is not just in language, it is in Maths or on the playground or whatever.* (TD D21 I4 P48)

Once initial instruction had been given Dianne gave some students ongoing instruction and assistance with the task. Receipt of this assistance was dependent upon both the perceived demands of the task and the response of the students to the task presented. The same task was often presented to students with ongoing instruction offered to some students or task segmented and presented in smaller sections. Dianne stated her belief that some students required more thinking time and so it was appropriate to give them fewer questions in the initial stages of a lesson. Dianne acknowledged that task selection was a very important factor:

> *D: I think that there is a lot in the selection of task. That is a more difficult skill than a lot of people see it as. I think that... not just to choose something just fun or... Even some texts, you can get more comprehension out of some texts than others. I don't think we're taught very well how to select the right texts.*

R: I don't think we're taught at all.

D: No. We're taught to look for things like interest and pictures that match the text and all these sort of things but not... We're taught about Bloom's taxonomy and all those sorts of things but not how to analyse a text for being good for inferential questioning and all those sorts of things, or texts which are good for prediction. That's hard. I think that there is a lot more in it than teachers' think. You just don't pick up any old book and start.
(TD D21 I4 P47)

Differential feedback was provided to students. The researcher observed that Dianne gave different kinds of cueing to students when they had difficulty decoding and she responded:

H doesn't use pictures usually. She needs to be reminded that she can get something meaningful from here as well so I've been recently looking at that with her. It just depends on what I've noticed. Like with someone else I noted that they were not using words within words and things like that, not syllabifying and those sorts of things, and so that would be a skill I would be working on with them over the next few conferences. Sometimes all it takes is another reminder and that starts them off. (TD D7 I2 P15)

Dianne heard the oral reading of students who experienced difficulty more frequently than that of other students in her class. She was observed giving identified students more time when she was hearing reading and asking these students to read to her more frequently. Dianne stated that more capable students read to her once a fortnight and less capable students received feedback on their reading twice a week. Observations confirmed this statement.

Students were first asked to volunteer for conferencing but then Dianne referred to her list and selected students whom she thought might require assistance. When conferencing students Dianne heard them read an excerpt from the book they were studying. More detailed records were kept of some students' performance. The researcher noted that Dianne kept notes and she stated:

Yes, and I won't necessarily do it every time. It's not really necessary for every child I don't think. Someone like L, who's a very good reader, I'd feel like if I was making notes on her every time she read to me I'd be writing the same thing. (TD D12 I3 P32)

Dianne recognised that the students who experienced difficulty with reading often required more tracking and monitoring. She understood the divergent needs of her students and responded to these through the provision of on-going support, the encouragement of peer support and co-operative learning, adaptation and modification of tasks and texts, and the provision of differentiated feedback.

Dianne's students appeared to be engaged during all nine lessons and activities she presented to her class. The students in Amanda's class were highly engaged in three of the ten observations, engaged at a medium level on five of the ten observations and were described as having low engagement during two classroom observations. The engagement of students in the lessons of the other teachers will be presented in a series of tables, Table 7.4 through to Table 7.9. It is possible that there is a relationship between adaptive teaching practice and student engagement.

7.4 Student engagement

Brian's language and reading lessons:

	Task or Lesson	Presentation Method	Student Engagement
1	handwriting spelling silent reading	whole class	medium
2	Group X - book plan Group Y - read around Group Q - cloze activity	ability groups	high
3	Group X - wanted poster Group Y - listening post Group Q - read around	ability groups	medium
4	Group X - read around Group Y - wanted poster Group Q - cloze activity	ability groups	medium
5	silent reading Group X - reading comprehension Group Y - read around Group Q - wanted poster	whole class ability groups	medium - low
6	Group X - story map Group Y - reading comprehension Group Q - read around silent reading	ability groups whole	high medium - low
7	Group X - newspaper Group Y - synonyms Group Q - read around	ability groups	high
8	video - class discussion	whole class	high
9	Group 1 read around with teacher Group 2 recount activity with researcher Group 3 reading comprehension (ind.) All groups rotated to complete all activities.	mixed ability groups	Medium

Table 7.4: Reading tasks, method of presentation and student engagement - Brian's class

Of the nine lesson observations, four were rated as resulting in high engagement of students and five resulted in medium engagement. Student engagement was entirely dependent upon Brian's presence with Q group. This group contained the identified students and they were highly engaged in read around activities when supervised by Brian. When he was hearing other groups read, these students were required to work independently on tasks that were designed as follow up activities. The identified students had some difficulty working without supervision. They were able to look for peer support from within the group, but often their peers were also experiencing difficulty with some aspects of the task. At times the temptation to remain off task when there was limited supervision was too great. At times students completing follow up activities would interrupt Brian's reading group to ask for clarification or help but this behaviour was infrequent despite the fact that Brian was willing to answer questions. The students appeared reluctant to interrupt the reading of other students.

When students were working on follow up activities Brian was hearing the reading of students in other groups and discussing themes from the text. Class discussion of the video, a whole class activity, resulted in high engagement of all students who either listened to their classmates or offered opinions. The mixed ability group rotational work led to medium engagement of students. Those groups working under the supervision of an adult worked well but some off task behaviour was noted when groups completed the reading comprehension, an unsupervised activity.

A summary of Colin's lessons, the method of presentation of the lesson to the class and student engagement during the lesson is presented in Table 7.5.

Colin's language and reading lessons:

	Task or Lesson	Presentation Method	Student Engagement
1	class serial - "Naughty Stories" text response - individual response to book selected in negotiation with teacher. contract work - text response, word study or journal writing	whole class individual whole class	medium
2	class serial silent reading inquiry work - create a poster on a topic of interest	whole class	medium
3	class serial contract work - text response or word study inquiry	whole class mixed ability groups	medium
4	Text response (teacher hears reading) Library session - select books	whole class	medium
5	silent reading (teacher hears reading) contract work - text response, word study, journal or mathematics activities	whole class	medium
6	teacher reads poem - discussion word study (teacher hears spelling)	whole class	medium- high
7	inquiry - posters	whole class	medium -low
8	writers' workshop - students are to write their own book in a 2 week timeframe	whole class	High

Table 7.5: Reading tasks, method of presentation and student engagement - Colin's class

Of the eight lesson observations only one resulted in high engagement of the identified students. This was an introductory activity and students appeared eager to begin planning their new stories. There was much discussion and interaction between students as ideas were recorded. The other seven lessons resulted in medium engagement of identified students. This was predominantly because students were working on self-paced contract work. Colin called individual students to his desk to assess their progress and occasionally roamed around the classroom. Some students worked independently but off- task behaviour was observed in the identified student group. This off task behaviour included personal discussion, wandering around the classroom, pencil sharpening and erasing and sitting idle.

A summary of Emily's lessons, method of presentation of each lesson and student engagement in the lesson is presented in Table 7.6. Emily's language sessions were often divided into two parts. Of the 13 activities observed, 4 were rated as high engagement activities for the identified students. Emily's students worked well and independently during one of the literature based activities sessions. They were also very engaged in high structured and varied activities in there was direction for discussion, note taking and response writing. The prediction and recount activity during the second observation, the paired discussion and recount activity in observation seven and the popular activity in which students were required to map the bike education riding course all resulted in high engagement.

Emily's language and reading lessons:

	Task or Lesson	Presentation Method	Student Engagement
1	class serial - "Johnny Whistler and the Whizz Bang Tandem" followed by Literature Based Reading activities – individual response to text negotiated with the teacher	whole class individual tasks	medium high
2	class discuss features of narrative text written prediction task "The Old Grey House" → read text →recount activity	whole class whole class but recount in groups	medium high
3	Group 1 use dictionary to decode and find meanings of words in a complex sentence and rewrite it Group2 design a road sign Group 3 design a bike education poster Group 4 bundling activity using local newspaper article on road safety	mixed and ability groups	medium
4	word building game – students guess words by asking questions about features eg: silent letters, syllables, double letters	random grouping by numbering off	medium
5	silent reading Group1 design a road sign Group2 design a poster Group 3 bundling activity Group 4 decoding activity	whole class mixed and ability groups	medium medium
6	Literature Based Reading Activities	whole class with individually negotiated response	medium
7	silent reading class read factual text "The First Bicycles" Students pair off . One student reads text and the other does an oral recount of the story. A cloze exercise follows.	whole class whole class with paired discussion.	medium high
8	silent reading complete map of bike education course	whole class whole class	medium high

Table 7.6: Reading tasks, method of presentation and student engagement – Emily's class

Some students appeared to find it difficult to concentrate during listening activities such as hearing Emily read the class serial, class discussions and silent reading where students were required to self monitor. Similarly the group rotation activity resulted in a small amount of off task behaviour when Emily was not working directly with identified students. The second literature based reading activity was not as well received by the class as the initial lesson. The remaining nine of the thirteen activities were therefore rated as medium engagement activities for the identified students.

Frances' language and reading lessons:

	Task or Lesson	Presentation Method	Student Engagement
1	read around – students take turns to read a paragraph of the class text "Superfudge"	whole class	medium-high
2	read around "Superfudge" (20 mins) comprehension questions written on the board (30mins)	whole class whole class	medium-high medium
3	Comprehension questions from class set of "Checkpoints"	whole class	medium-high
4	silent reading	whole class activity – individual texts	low
5	limericks – features discussed and examples read. Students write endings to limericks SRA Reading Laboratory comprehension activity cards	whole class whole class	medium -low high
6	silent reading	whole class activity – individual texts	medium-low

Table 7.7: Reading tasks, method of presentation and student engagement – Frances' class

Of the eight activities observed, only one was rated as a high engagement activity. This was a comprehension activity. All students worked independently to complete SRA reading comprehension activity cards at their own pace, self-correcting their completed work and asking Frances for a new card. There appeared to be some competition between the boys relating to who could complete the most cards. Other reading comprehension activities resulted in medium engagement of students. Identified students were less likely to be on task during silent reading. Students were not permitted to talk to each other during lesson time. Off task behaviour in this classroom involved either drawing or non-activity.

7.5 Summary

All teachers in the study responded to their students in different ways. They worked with students in upper primary classes who presented with literacy skills and abilities that ranged from well below average to above average. They were expected to accommodate these individual differences and to ensure that each child benefited from the learning experiences they presented. They undertook this role with different levels of training and experience, teaching in different school systems with students drawn from distinctive populations.

Dianne and Emily demonstrated more adaptive teaching practices, Colin and Brian demonstrated moderately adaptive teaching practices and Amanda and Frances demonstrated less adaptive teaching practices. Adaptation could be seen to occur across a continuum. Generally, more adaptive teachers provided lessons in which all students could actively participate. The identified students were highly engaged in Dianne's lessons. Less adaptive teachers were more likely to have students engage in off task behaviour. In the discussion chapter, teachers' adaptations will be examined with reference to their teaching methodologies and styles, their beliefs and the ways they developed knowledge about their students.

CHAPTER 8
DISCUSSION

8.0 Introduction

In this chapter the findings of the research are reviewed and interpreted using the theoretical framework developed in Chapter 3 where it was proposed that a teacher who has a socio-cultural view of reading, holds interventionist belief systems and bases instruction on procedural ways of knowing, will be highly likely to adapt instruction for students who experience difficulty with reading.

After examining the results of the study in the light of previous research on adaptive instruction, the contexts in which the teachers taught are re-examined with a view to discovering how teachers developed their general approaches to teaching reading, their professional knowledge and their articulated beliefs about students who experienced difficulties with formal learning. Contexts are viewed under general headings: Teacher Preparation and Teaching Style, School Support for Inclusive Teaching Practices and Teacher Beliefs. The ways in which teachers developed their knowledge of students is examined in the second section of the chapter titled: Teacher Knowledge and Student Ability. Adaptive teaching practices are closely examined in the third section of the chapter with a view to discovering the knowledge and beliefs teachers draw upon when responding to individual difference in the classroom.

Data were analysed in relationship to the adaptive teaching practices of the teachers who participated in the study.

8.1 Adaptive teaching practices

Previous research failed to identify widespread evidence of adaptive teaching practices (Fuchs and Fuchs 1998; Schumm and Vaughn 1995). Ysseldyke et al. (1990), after surveying 197 teachers, concluded that general educators either do not see a way to alter their classroom environment or are unable to implement changes. Schumm and Vaughn (1991), after surveying 93 teachers, found that teachers rated adaptations as desirable but not necessarily feasible. McIntosh et al. (1993), after interviewing and observing 60 teachers of Grades 3-12,

concluded that students with learning disabilities were treated by general educators in much the same way as other students, working on the same activities with the same materials. Schumm et al. (1994), after surveying 60 teachers and interviewing and observing twelve of those surveyed, found no evidence of extensive individualised planning for students with learning disabilities. Students were expected to master the same content as other students. Lack of time was given as the main reason for not making adaptations.

The available research data would lead the researcher to expect that there might be teachers in her sample who would be less adaptive in their approach to students who experienced difficulty with reading. Notwithstanding this expectation, it was disquieting to witness children in Victorian schools struggling with reading materials and tasks that were beyond their ability level. The fact that these children were left to struggle unaided, despite the fact that their teachers recognised that they were unable to cope with some tasks, was disturbing for the researcher.

The fact that there were both moderately adaptive and more adaptive teachers in the study was less consistent with prior research into the area of adaptive instruction. Previous research has been predominantly based on survey data where teachers were asked to rank adaptations. The adaptive teaching practices actually employed by teachers who were surveyed were not always apparent. It is possible that the current research utilises a broader definition of adaptive instruction, taking into consideration any adaptation or modification that was made to accommodate students who experienced difficulty with reading. Eighteen different types of adaptation were observed and recorded in the six classrooms. Fifteen of these adaptations involved the teacher supplying different materials or providing additional assistance, intervention or feedback to students who experienced difficulty with reading. The other three observed adaptations involved peer support for targeted students.

The results of this study are therefore only partially consistent with results of other research in the area of adaptive instruction. It was not possible to definitively categorise teachers as either adaptive or non-adaptive. Rather,

teachers were placed on a continuum (Figure 8.1) and were described as being less adaptive, moderately adaptive or more adaptive. Categorisation of teachers is based on information presented in section 7.1 of the thesis. Two teachers in this study were minimally adaptive in their response to reading difficulty. Two teachers were moderately adaptive and the teaching practices of two teachers were described as more adaptive than others in their approach to students who experienced difficulty with reading.

Ranking of Teachers in the Study – Least to Most Adaptive

Frances	Amanda	Brian	Colin	Emily	Dianne

Least Adaptive ⟶ ***Most Adaptive***

Figure 8.1 Ranking of teachers on a continuum of least to most adaptive

Links in the data between adaptive teaching practices and teaching style, teacher belief and ways of knowing will be explored.

8.2 CONTEXTS

8.2.1 Teacher preparation, method of teaching reading and teaching style

In this small sample there was no obvious relationship between length of teaching experience and adaptive teaching practice. Amanda and Frances were the two least adaptive teachers. Amanda had the least experience, having taught for only four years and Frances was one of the most experienced teachers in the sample, having taught for 19 years.

Teachers' pre-service training, their participation in in-service professional development and external influences placed on their teaching by factors such as the monitoring of school policies by administrators may have contributed to the ways in which these teachers taught reading and their preparedness for the task of differentiating or modifying instruction in response to identified student need. These factors did not appear to relate directly to adaptive teaching practices in this small sample of teachers, however some observations are worthy of comment. Dianne, the most adaptive teacher in the study had participated in recent in-service training in the area of literacy development and was observed

incorporating concepts that had been presented. She spoke about the materials she encountered in the in-service activity on literature based reading instruction and encouraged students to read from a diverse range of genres. She instructed students in the use of different genre for writing – giving a lesson on instructional writing and providing examples of narrative and persuasive text to students, encouraging them to see differences in their purpose and presentation. Dianne also utilized information from the Success for All in-service program, regularly keeping running records of student reading and performance. Participation in the programs directly impacted upon her teaching. Frances had also attended an in-service program related to literacy. This had been attended some time prior to her participation in the research project but she commented that it just confirmed what she already knew about teaching literacy. It is possible that the programs presented were different in quality and relevance but it is also possible that the two teachers brought different beliefs and attitudes to the in-service activities.

Further information about the training of each of the teachers, their method of teaching reading and teaching style will be presented with reference to the level of adaptation observed in their classrooms (see Figure 8.2). The categorisation of teachers is based on the results presented in section 5.3 of the thesis.

Frances	Amanda	Brian	Colin	Emily	Dianne
Transmissive	Experiential or Discovery Learning	Constructivist or Socio-cognitive	Constructivist or Socio-cognitive	Constructivist or Socio-cognitive	Constructivist or Socio-cognitive

Least Adaptive ⟶ ***Most Adaptive***

Figure 8.2 Teaching style and the adaptive teaching continuum

Frances, the least adaptive teacher in the study completed her third year of teacher training whilst on family leave. She therefore had diploma status. She described her method of teaching reading as one of providing help to students when it was needed. Frances did not refer to her training during interview and

she had not attended professional development on the topic of literacy in the two years preceding the research.

Frances developed her own program and operated independently of her colleagues. She stated clearly that she did not know what was happening in other classrooms in her school: "We don't go in them so how do we know" (TF D19 I3 p36). Frances had a high degree of experience but had undertaken no recent professional development beyond that provided by her school to the entire staff. Where she had undertaken courses like ELIC (Early Literacy in the Curriculum), Frances reported that the information presented merely reinforced what she already knew. Fullan (1991:316) suggests that isolated workshops are ineffective. Frances worked in isolation from her peers and was disinterested in what was happening in her colleagues' classrooms. Fullan (1991:119) notes that the norm of not sharing impacts upon the effectiveness of training programs. Frances clearly articulated that she did not confer with colleagues.

Frances' teaching methods could be described as traditional or transmissive, with students sitting in rows working silently on reading tasks and response to text.

Frances could not be described as holding a socio-cognitive view of reading. The emphasis of her teaching appeared to be placed upon providing her students with reading activities, which they were to complete independently. There was little personal interaction between Frances and her students and they were not encouraged to interact with each other during reading and language sessions.

Amanda was completing studies towards her Bachelor of Education. As a teacher in training Amanda could be considered as having been exposed to up-to-date knowledge relating to the teaching of reading. Amanda stated clearly that she believed her pre-service training had a direct influence on her teaching. She stated that the lecturers at the university provided her with current information. As a result she felt that she was providing her students with a reading program that was reflective of current theory and research.

Amanda described her approach to reading as "Whole Language". This approach did not lead to the utilization of adaptive teaching practices in this particular classroom. Hempenstall (1996) warned that we should be concerned about inexperienced teachers utilizing Whole Language approaches as, in his view, they would not have the experience to provide students with a more balanced program that involved both reading instruction and immersion in enriched literacy experiences. Amanda was teaching an upper primary class. Her lessons were appropriate for students who were able to read independently. Immersion activities are appropriate for students who have the ability to decode and comprehend text. There were students in Amanda's room who required instruction in basic word attack skills and supervised reading of appropriate text but there was little evidence of this type of instruction in her classroom.

Whilst Amanda stated that she modified and adapted instruction for identified students, there was little evidence of differentiated instruction noted during observations. In fact, Amanda was careful to treat all students in the same manner, stating that she did not believe she should draw attention to students who experienced difficulties.

Amanda reported that she was comfortable with her chosen methodology. Her principal had identified her as a successful teacher. She had not attended any professional development on the topic of reading in the two years prior to our interviews, stating that her study took up a significant amount of her time out of school.

There was little evidence that Amanda ascribed to socio-cognitive views of reading. She placed considerable emphasis on motivating her students to read. Whilst socio-cognitive theory advocates the motivation of the reader, it is the influence of the teacher that is of critical importance. There was little evidence that Amanda employed clearly formulated instructional strategies that were based on predetermined goals and the feedback of her students. At this point in her career she had not developed clear propositional knowledge on which to base her personal theories. Amanda had personal theories about making reading enjoyable but she did not engage in deliberative planning that reflected an

understanding of how students learn to read. Like Frances, she provided opportunities for reading. There was little evidence of her developing specific reading skills and so her teaching style was categorized as experiential teaching or discovery learning.

Brian had completed his Bachelor of Education and had been teaching for 17 years. He believed that his training did little to prepare him for the reality of the classroom and reported that he found the CLIC (Continuing Literacy in the Curriculum) course lacking, as it did not meet his needs. Brian wanted strategies that would help students learn to read. He found that the course simply provided him with more reading activities but did not have the remedial focus he was seeking. Brian stated that students do not learn to read by merely being given opportunities to read, nor did he believe that students could learn to read from one another. Brian advocated direct instruction and engaged in frequent interaction with his students. He placed importance upon getting to know his students on a personal level. It was clear that Brian had a socio-cognitive view of reading when he stated that the main emphasis of his teaching of reading was placed on modeling for students. Brian also provided more help to students in the initial stages of instruction and then faded the level of assistance.

Colin was the most experienced teacher in the study. He had been teaching for 23 years and had worked for three years outside the profession before returning to teaching. He noted that he learnt a lot when he left teaching and worked in what he termed "the real world". Colin commented that it was here that he realised that the paradigm in schools was not right, that it did not relate to reality. He stated that he learnt his new trade in real estate by practicing it in context rather than learning from part to whole. When he returned to teaching Colin was determined to utilize this knowledge.

Colin described his approach to the teaching of reading as Whole Language, stating that this was very different from the approach he was presented in his initial training. He described initial training as:

> *Basically phonics and maybe a bit of sight vocabulary if you were lucky. The whole push was to flash cards and here is the sound and let's do 50 words but ignore all the exceptions.* (TC D2 I1 p10).

Colin stated that he felt the lecturers at university were often talking to themselves, not interacting with their students. In the same interview the researcher commented that Colin's teaching appeared to be student centred but it was also very teacher centred. Colin became very animated at this point in our discussion and stated that despite the fact the children were given lots of chances to make decisions and manage their own learning, others could see just how dominant he was. He commented that it was not as if the students were not getting any direction, he was directing students all the time. Colin believed that the way he organized his class, having students work at their own pace through contracted assignments, allowed him more flexibility and interaction with the students who required his assistance.

Colin clearly had a socio-cognitive view of reading. Eraut (1994) would say that he was drawing heavily on personal knowledge in the development of his program. Colin had thoroughly processed his personal knowledge. Through reflection and discussion with peers, Colin's experience had become part of his propositional knowledge (Eraut, 1994). He was the only teacher to link his knowledge about teaching reading to a theorist. Michael Young, a writer who emphasized the impact of culture and who believes that we define knowledge restrictively, was influential on Colin's practice.

Emily was completing a Bachelor of Education, majoring in Language Studies. She described her approach to the teaching of reading as Phonics based. Whilst she did not refer to her studies during interview, she stated that the school's approach to teaching reading did not match her own. She was frustrated by what she saw as the interference of senior staff in her teaching when she was told that she could no longer use a phonics approach when teaching reading to her preparatory class. Emily complied and adjusted her teaching style, but was unhappy about using an alternative methodology, stating that she was did not believe in what she was doing. Williams (1994) would argue that teachers do a better job when they are given the freedom to make their own choices about

what and how they teach. Alternatively Hill and Crevola (1999) promote whole school approaches to the teaching of literacy. This appeared to be the aim of the administration of Emily's school. Hill and Crevola supervised a project that involved intensive professional development of staff in order to promote change and minimize the variation that exists within schools. The professional development that Emily had been exposed to had not altered her beliefs about the way she should teach her students. Holliday (1994:239) would say that empowerment had been taken away from Emily. He writes that empowerment exists when "teachers feel a sense of ownership, autonomy, control and self direction over their decisions and actions". Emily revealed her ability to look broadly at issues when she noted that there were positive aspects to the tactic that her school had taken. She reported that her school was very curriculum orientated and it was constantly updating policies. She felt that when she left the school she would take with her a wealth of policy and curriculum knowledge.

Emily had recently attended a professional development session on literature based reading and she used some of the activities presented at the workshop in her classroom. It was apparent that she was prepared to integrate the information presented at this workshop into her teaching. She gave explicit feedback to her students and individually negotiated response to the reading of text. She was categorized as holding a socio-cognitive approach to the teaching of reading.

Dianne, the most adaptive teacher, had been teaching for eight years. She had completed her degree and was completing studies that would lead to a Masters Degree in Education. She stated that she was interested in professional development and had attended two activities relating to the development of literacy skills in the two years prior to her interviews. Some ideas from the Reading Success For All and literature based reading professional development activities were incorporated directly into Dianne's teaching but she noted that some aspects of the information presented were developed to suit her own needs. Dianne was particularly interested in record keeping and data analysis procedures that were presented. This suited the analytical approach she applied to the task of teaching.

Dianne's approach to the teaching of reading was eclectic. She actively worked towards developing some of the goals of the Genre/Literature Based, Phonics and the Whole Language methods of teaching reading. Dianne accurately described her method as a "bit of a mix". Rather than subscribe to a single method of teaching reading, she worked to identify the specific skills that individuals and groups of students required in order to be successful readers. She was able to clearly articulate that this was the way she tackled the task of meeting the needs of her students.

In providing strategies to the whole class Dianne predominantly based her sessions on literature based teaching methodology or Whole Language philosophies but when dealing with individuals who experienced difficulties with reading Dianne provided additional individual instruction in phonics or word attack skills. There was evidence that all teachers in the study provided some phonics instruction when hearing individual students read, alerting students to use strategies such as word segmentation and blending, or providing students with the vowel sounds to assist with the decoding of some words. Dianne was the only teacher who provided regular phonics instruction as part of her daily routine. Reutzel (1999) would describe Dianne as having a balanced approach to the teaching of reading.

Moats (2001) notes that older reading disabled students require specific instruction in order to develop the skills they missed in early grades. Dianne provided daily practice in phonic analysis through word challenges. In this way students were given the opportunity to practice mapping speech sounds to letter symbols in order to develop automaticity in recognizing the alphabetic principle. Students were also given the opportunity to rehearse orthographic processing - recognizing letter sequences accurately and quickly. Lessons that followed these word challenges were planned in response to identified student need. Dianne would present a lesson to the whole class and then utilize a variety of strategies to include and instruct students who experienced difficulty. These strategies included follow-up instruction either individually or in flexible groupings, establishing opportunities for peer tutoring, breaking the task down into small segments and scaffolding students through tasks. Dianne was constantly

interacting with her students and was clearly observed applying socio-cognitive reading theory to her teaching practice.

The four teachers who were highest on the adaptive teaching continuum were described as holding constructivist or socio-cognitive views of reading. Frances clearly had a different approach to the teaching of reading. Interaction with individual students was not a focus of her teaching. Amanda's approach to the teaching of reading was difficult to categorise as she was motivated to engage students but was very focused on apportioning her time evenly amongst her students and so devoted small amounts of time to students who experienced difficulties with reading.

8.2.2 School support for inclusive teaching practices

The support provided to teachers from their school administration varied greatly. There was no relationship between level of support provided to students who experienced difficulty with reading through provision of additional adult support and the level of adaptive instruction observed in classrooms. It could not be said that the type of assistance teachers received had a bearing on the level of adaptation observed in general classroom. All teachers in the sample had access to some kind of withdrawal program for students who experienced difficulty with reading. The most adaptive and the least adaptive teachers, Dianne and Frances were the only teachers who appeared to have specifically trained and qualified teaching staff operating the withdrawal program. The programs offered to students in these two classrooms will therefore be examined in detail.

In Dianne's school an ESL trained teacher provided additional assistance to students who had English as a Second Language and whose literacy skills were poor. In Frances' school a trained Special Educator worked regularly with groups of students to develop specific literacy skills. The difference was that Dianne regularly communicated with her specialist teacher. She had a clear idea of the aims and objectives of recent specialist lessons and attempted to reinforce these in the classroom context. At one point the ESL teacher was reinforcing the 'sh' and 'ch' sounds with the student H. Dianne was aware of this and pointed out the sounds during oral reading. Frances was unable to provide the researcher

with information about the focus of the lessons that had been recently undertaken by the specialist working with her students. Like Dianne, Frances stated that she thought the specialist was having a positive impact on student learning and the program was meeting her students' needs.

It was Dianne's belief that she had primary responsibility for the education of the students in her class. On the other hand Frances stated that she did not know what went on in other classrooms, including the specialist class. She believed that the specialist was responsible for the remediation of the students' difficulties. When asked to describe how she taught reading Frances commented that there were things she did not do, like emphasise decoding, as the Special Education teacher completed this work. Frances had a general idea of the lessons that were being undertaken, stating that the specialist had a different focus:

> *...she spends a lot of time going through the basics with their phonics, sounds and that sort of thing. They make their own spelling. They don't do the spelling that I do.* (TF D4 I1 P16)

Unfortunately Frances did not have the information necessary to reinforce specific skills developed in withdrawal because she was unaware of the specific focus of recent lessons.

Dianne was the only teacher in the study who commented directly about the support she received from her Principal. Dianne stated that her Principal had acknowledged the special needs of the students in the school and had negotiated with staff and administrators to reduce class sizes. Dianne believed that her Principal was supportive of adaptive teaching practices and also believed that she made every effort to provide teaching resources for her staff. Stanovich and Jordan (1998:221) found in their research in Canadian schools that one of the strongest predictors of effective teaching behaviour was subjective school norm as operationalised by the school Principal's attitudes and beliefs. If Dianne was correct in her assumptions about the support of her Principal, then part of Dianne's success as a teacher may be attributed to the fact that she worked in a supportive school environment.

8.2.3 Teacher belief

There was a relationship between teacher belief in the continuum described by Jordan et al. (1997) and adaptive teaching practices (see Figure 8.3). The four most adaptive teachers – Dianne, Emily, Colin and Brian held Interventionist beliefs. Frances, the least adaptive teacher, held Pathognomic beliefs. Amanda's beliefs were not Interventionist. Her beliefs did not clearly fit the criteria as described by Jordan and her colleagues and so were categorized as non-interventionist. The categorization of teachers is based on information presented in section 5.4.

Frances	Amanda	Brian	Colin	Emily	Dianne
Pathognomic	Non-Interventionist	Interventionist	Interventionist	Interventionist	Interventionist

Least Adaptive ⟶ ***Most Adaptive***

Figure 8.3 Teacher beliefs and the adaptive teaching continuum

Two cases at opposite ends of the continuum, those of Frances and Dianne, are described in detail. Information about Amanda is also presented to demonstrate how her beliefs were categorized.

Frances unequivocally demonstrated pathognomic beliefs. Stanovich and Jordan (1998:222) describe those who hold a pathognomic belief system as making few or no interventions, having little interaction with resource teachers, teaching in a way that indicates a lack of demonstrated link between assessment and curriculum and making minimal parent contact. Frances' teaching fit all four criteria. She made few adaptations when providing the class with directions and instructions. Frances seldom interacted with her students once she had explained a task or set them an activity. She worked at her desk and expected her students to work quietly and independently to finish set tasks. Students were discouraged from interacting with each other.

Jordan and Stanovich (2001:46) observed, "Interventionist teachers spent more time in academic interaction and at higher levels of cognitive engagement of students at all levels of understanding, while pathognomic teachers spend

comparatively little time and in a more transmissive style." Frances had little contact with the Special Education teacher, trusting that the program offered to the students was sufficient to bridge identified gaps in learning. Formal testing was undertaken by Frances as part of school policy. Frances could identify students who were not reading at an age appropriate level but made few accommodations for these students. Parents of these students were not encouraged to make contact with the school beyond the regular scheduled parent- teacher interviews.

When asked to describe the skills, abilities and perceived problems of identified students, Frances made the comment that one student was "just a slow little thing" thereby attributing lack of success to characteristics of the student. Frances made few comments about strategies that were being employed or methods that were used to assist this particular student to achieve. Frances talked about the success of the special education program operating in her school and stated that she approved of the withdrawal program.

Dianne demonstrated an interventionist approach to teaching. Jordan and Stanovich (2001:35) describe teachers who hold interventionist belief systems as acknowledging that disabilities are amenable to instructional intervention, believing that they are responsible for intervening in order to maximize the opportunity for each student to learn and seeing themselves as instrumental in the design and implementation of interventions for all students. Dianne stated her belief that her students would learn to read, given the skills. It was apparent that Dianne held a view that all students have the ability to learn. She saw it as her responsibility to orient students to the task, to make links between ideas and to give students direction. More importantly, she was observed carrying out these stated responsibilities when interacting with her students.

Dianne had high expectations of her students and, as the findings of Jordan et al. (1993) might predict in such circumstances, she was confident that she could identify need and provide instruction that would ensure her students were making gains in reading and literacy. She focused her energy, ensuring that her

students understood the various tasks they were set. She was observed monitoring comprehension of students and asking clarifying questions.

Dianne was the only teacher who spoke about teamwork in relation to working with other staff to improve student skill development. She made frequent contact with the specialist who was withdrawing her students to discover the focus of lessons and monitor student progress in the withdrawal setting. Whilst she was not the only staff member working with students in the class, Dianne viewed herself as a case manager or the primary care-giver to all students and, as such, acknowledged that it was her responsibility to oversee the educational program for her students.

It can be demonstrated that teacher beliefs in these two cases has influenced task definition as described by Pajares (1992). As Frances did not believe that it was her role to adapt or modify instruction for identified students, she was happy to treat them in the same way as other students in the main, expecting that their particular needs would be met in withdrawal classes by the specialist teacher. As four of the five students nominated by Frances appeared to be making progress, there was little to make her challenge her belief systems. Dianne's stated belief that all students could learn was matched by an attempt to demonstrate this through making accommodations and adaptations for students as part of regular classroom interactions. In both cases the teachers' stated beliefs were evident in their teaching practice.

There was some evidence that Amanda's beliefs were not consistent with her classroom practice, supporting the findings of Schumm et al. (1994) that gaps can exist between beliefs, practices and skills.

Amanda was a teacher who appeared to be experiencing some cognitive dissonance. Participation in the research caused Amanda to question some of her own teaching practices and her reasons for her responses to students. When asked in the final interview what was reasonable to expect from teachers in terms of adapting for individual differences she responded:

> *I'm a great one for individual needs. I suppose I've never thought about it in terms of instruction. You can tell the ones who didn't understand. You need to be able to give instructions to different groups. You need to be able to cater for them...Give them separate work. At the beginning of the year I had five or six groups working.* (TA D16 I5 P25)

Amanda's beliefs were challenged through her participation in the research. She stated that she had not thought of adaptive instruction in the way it was indicated by the research questions. It is possible that participation in the research encouraged her to be more reflective about her practice than she had previously been. Prawat (1992:357) suggests that an alternative view would need to be presented to Amanda and connections made between new understandings and her beliefs in order for beliefs to be altered.

In an earlier interview Amanda spoke about the fact that she had given up on some earlier practices that might have been adaptive because of behavioural difficulties exhibited by some of the students in her class:

> *I like to get them to conference together after they've written but this has been difficult because of the behavioural difficulties. A lot of them just can't be bothered. They don't want to help each other. Some of them do and then they get distracted. I've battled with that all year. At times I have given up and then I think I'll give it another go and yes, sometimes it works and sometimes it doesn't.* (TA D6 I2 P8)

Amanda wanted students to have more opportunities to talk about their reading but classroom management issues interfered with her preferred way of teaching. She had a very strong belief that students should be able to select their own reading materials. She believed that students should not have to make response to all text, stating that some of her colleagues placed more emphasis on reading comprehension than she did. Amanda clearly stated that her main objective for the year was to get her students to enjoy reading. This may have been the reason she did not place pressure on her students. It was pointed out that J had not read at all during one scheduled silent reading session. Amanda responded:

I don't like to draw attention too much to children, especially kids like J because I know he has difficulty with reading and I don't want to make it a negative time, if you know what I mean. There are other times. I have my individual time with him and hear him read which unfortunately isn't often. We've got so many in the grade. But other times is when we do our reading.

To me just getting him to do that (flick through books) *is important.* ... That's *fine with me.*
(TA D11 I4 P22)

Amanda had a strong personal belief that she should not draw attention to students who experienced difficulties. This was hard to assimilate with her view that she was "a great one for individual needs." One of the least experienced teachers in the study, it appeared that Amanda was trying to relate her beliefs to her practice. She tended to focus the problem on lack of resources supplied by the school, behavioural problems of the students and lack of support from parents. Amanda could be identified as pathognomic in her approach as she attributed reasons for difficulties experienced by her students to factors outside her sphere of influence and control.

It would be difficult to be interventionist in approach and never draw attention to student differences. Amanda acknowledged in the final interview that she should cater for students who experienced difficulty and give them separate work. It appears that Amanda may have been questioning some of her beliefs and the schema she had developed about teaching and learners. Her beliefs about instruction and student performance appeared to be in conflict. This may have been due to the particular schemas Amanda had developed about teaching and learning. Schemas are frameworks for interpreting, storing and retrieving information and experiences (Schirmer and Casbon 1997:691). Each teacher in the study would have developed particular schemas about aspects of teaching and learning. As new information or new experiences are presented, teachers use previously acquired knowledge to make sense of it. Amanda may have been attempting to make sense of new information and experience in the classroom, assimilating it with valued information gained from her university course. The challenge for her would be to find ways to accommodate the needs of students

and still hold other cherished beliefs such as the belief that students should enjoy reading.

Both Frances and Amanda made few concessions for students who could not read in their classes – Frances did so because she believed the students' needs were catered for in the specialist lessons and Amanda responded this way because she believed that she should not draw attention to students who experienced difficulties with reading by treating them differently from their peers. These students were in the early stages of learning to read but were in upper primary classrooms. The expectation that students in upper primary classes would have the ability to read independently was not met. Schirmer and Casbon (1997:691) state that it is often difficult for teachers to change their models and strategies for teaching reading and writing even when these strategies are not efficacious. Frances and Amanda, for their own reasons, both believed in teaching classes as an entity. When information does not fit at all into the individual's schema, the information can either be ignored or the individual can undergo schema restructuring. Schirmer and Casbon (1997) argue that teachers must be willing to modify their own notions of how to help children become literate. Alternatively teachers can hold on to previous beliefs and notions, ignoring new information and allowing schema to remain static. Restructuring of knowledge would need to be based upon information gathered about teaching and learning. Teachers who demonstrated that they utilized socio-cognitive teaching styles were interacting with their students and had opportunity to discover students' strengths and identify need. Teachers who demonstrated that they held Interventionist beliefs made statements that indicated they believed students were able to learn, given appropriate instruction.

As predicted, there was a relationship between adaptive teaching practice and teacher beliefs. The two most adaptive and the two moderately adaptive teachers held interventionist belief systems. The two least adaptive teachers did not hold interventionist belief systems. One of these teachers had pathognomic beliefs about students and their ability to learn.

If teachers described as Interventionist in their approach see themselves as instrumental in the design and implementation of educational interventions, they would be likely to utilize procedural or objective ways of developing knowledge about their students. Establishing student need is an important prerequisite to developing responses that are adaptive and matched to the particular needs of students.

8.3 Teacher knowledge and student ability

Accurate identification and assessment of student need was identified in the literature as a prerequisite to adaptive educational practices (Chall and Curtis 1992, Carney and Cioffi 1992). Teachers in this study had varying degrees of knowledge about the students in their care. The ways in which the teachers in the study acquired knowledge of their students and the types of knowledge they thought pertinent and relevant were important predictors of adaptive educational practices. A relationship between procedural and reflective ways of knowing and adaptive teaching practice was apparent for teachers who participated in this study (see figure 8.4). Categorisation of teachers is based on information presented in section 6.3.

Frances	Amanda	Brian	Colin	Emily	Dianne
Subjective	Subjective	Received / Procedural	Procedural	Subjective / Procedural	Procedural

Least Adaptive → ***Most Adaptive***

Figure 8.4 Way of knowing and the adaptive teaching continuum

The two least adaptive teachers were more subjective whilst more adaptive teachers all demonstrated that they were more reflective about their teaching practice and were procedural and analytical in their thinking and planning.

Whilst not all teachers could be said to be procedural in their approach to acquiring information about student performance, they were all able to accurately identify students who were experiencing genuine difficulties with reading. No teacher identified a student who was operating within age appropriate levels across all subtests of the Neale Analysis of Reading (1987).

Information was gleaned by teachers in the study about student performance in a variety of ways. Frances was the only teacher who had access to data on standardized testing of students. The other teachers all accurately identified students based on informal assessment data. Specific information provided to the researcher about students included students' motivation to read, the support they received from home, the decoding strategies they employed when reading aloud to their teacher, their knowledge of phonics as evidenced by their ability to name sounds and letters, the extent of the sight vocabularies students had developed, levels of confidence, and comprehension of text. The amount of information provided by teachers varied considerably.

Frances and Amanda, the two teachers who exhibited the least adaptive teaching practices, provided no information about the strengths of the least capable students in their classes when they were asked to tell the researcher what they knew about the reading of individual identified students. Amanda provided some details about the strengths and abilities of two students whose reading accuracy was approximately one year below chronological age, but provided no information about the two students whose reading accuracy, as measured by the Neale Analysis of Reading (1987), was more then four years below their chronological age. Frances provided some general information about the strengths and abilities of two of the five identified students, but provided no information about three of her students, including the student whose reading accuracy was more than three years below age expectation. These two teachers, less adaptive in their practice, provided less information about students who had severe reading problems than other students in their class. Brian, a moderately adaptive teacher who utilised routine modifications by grouping students, described few strengths or abilities of any of his identified students. These students were labeled but little information was provided about students beyond the fact that they were experiencing difficulty.

It is possible that Frances, Amanda and Brian considered some of their students so far below average attainment that they were unable to describe their strengths and abilities. Spear-Swerling and Sternberg (1998:400) note that abilities of students who are learning disabled can be identified through examination of the

student's ability in relation to typical reading acquisition. Some students in the study were reading at the level of students in Years 1 and 2. Spear-Swerling and Sternberg (1998:400) point out that much hinges for beginning readers upon "being able to figure out how the alphabet works". It is possible that Frances, Amanda and Brian were measuring the performance of these students on the standards of more advanced readers.

Amanda made reference to prediction strategies and monitoring for reading when referring to the abilities of students whose reading accuracy was operating approximately one year below age expectation. She was referring to strategies commonly regarded as important by those teachers who agree with Whole Language teaching philosophies. Students classified as beginning readers in older classes, those who would be described by Spear-Swerling and Sternberg (1994:92) as non-alphabetic or compensatory readers, require direct and explicit instruction in phonological awareness and the alphabetic principle. Colin made comment that one of his students was able to segment syllables, Emily noted that one of her students needed work blending sounds and confused 'b' and 'd' (a trait exhibited in beginning readers according to Spear-Swerling and Sternberg 1998:400) but Dianne made seven references to phonemic awareness as areas of strength or weakness when describing her students. Although teaching a Year 5 class, Dianne assessed letter knowledge and observed and recorded decoding strategies utilized by her students at the word level. She also offered information about her students' ability to self correct, to re-read for meaning, their ability to recount information presented in text, the development of sight vocabularies and prediction skills.

The way teachers gathered information and developed knowledge of their students is indicative of their way of knowing. Dianne, the most adaptive teacher reported more detailed factual information about each of her students than other teachers in the study. She regularly collected data on the performance of her students and was able to articulate this during interview. The ways in which this understanding impacted on Dianne's teaching was demonstrated in classroom observations. Dianne was constantly restructuring her knowledge of students. Hofer and Pintrich (1997:119) would say that she exhibited a contextual,

constructivist stance. She assimilated information from professional development activities into her teaching repertoire but was also prepared to assess the impact of teaching practices on student performance. This is demonstrated by the fact that Dianne made running records and kept specific information on decoding at the word level after attending the Success for All professional development activity. Dianne, like Emily, incorporated information about teaching genre to students in her negotiated reading tasks on completion of a professional development activity on this topic. She kept records of the types of materials students read and encouraged them to read from a wide range of genres, providing them with explicit skills in attacking different types of materials. Dianne clearly fits the criteria that Belenkey et al. (1986) set for a procedural knower. She used careful observation and analysis and was seen to strive for objectivity. This was demonstrated in her careful use of formal assessment. Dianne was unsure that she should use such tests if she did not have thorough knowledge of their applications to her teaching.

Emily, an adaptive teacher, was both subjective and procedural in her thinking. She had a need to personally experience particular teaching practices and was not convinced that the theory presented at university was useful. Belenkey et al. (1986) might describe her as repudiating the experts. McAninch (1993) might describe her as being resistant to the expertise of others. Whilst she rejected theory and was unhappy about being asked by her superiors to teach in a way that was antithetic to her beliefs about teaching and learning, Emily was able to reflect upon her experiences in a school she described as curriculum oriented and acknowledge that she had learnt from her experience. There was evidence that she did not totally reject the experience. She incorporated information from professional development activity on the genre approach to her daily teaching. Hofer and Pintrich (1997) describe the evolving nature of knowing. Emily was constructing her knowledge and making decisions about her actions based on information gathered in context.

Colin, a moderately adaptive teacher, reflected upon past experience in "the real world" in making decisions about what and how he would teach. He commented that, as a parent of adolescents who had some difficulty coping with the

organizational demands of secondary schooling, he recognized that he needed to prepare his students for the challenges they would encounter when they left his classroom. There was evidence that Colin drew heavily on past personal experience when making instructional decisions but he also reflected upon both his own and student responses to previously employed methodologies, in particular the use of reading schemes. Reference was made during interview to the fact that educational theorists influenced his teaching. Colin had drawn upon a wide range of information in forming his personal stance on the teaching of reading. In acknowledging ambiguity and seeking to make sense of his world, he was categorized as a procedural thinker on the Belenkey (1986) and Mc Aninch (1993) models. Hofer and Pintrich (1997:121) would describe Colin as an active constructor of meaning. He was able to justify his particular approach to teaching reading.

Brian was also a moderately adaptive teacher. He was still exploring different ways of teaching his students, setting himself goals to reflect on particular aspects of his teaching each year. At the time he was interviewed, Brian was reflecting on the way he taught spelling. He gathered information from a variety of sources including colleagues and was trialing different approaches. When asked to describe the way he taught reading he commented that he reflected upon material that he read and the way he was taught to read. As a result of these behaviours he was categorized as a procedural knower on the McAninch (1993) model. Brian had definite opinions about the utility of the Curriculum Standards Frameworks for reading and there was evidence that he was also seeking answers from external sources. There was evidence that he liked predictability and clarity, qualities of a received knower as described by McAninch (1993). Whilst he did not provide detailed information about the skills and abilities of individual students, Brian was striving to find ways to teach that were responsive to his needs and those of his students. Brian accepted that there was no one way to teach, acknowledging that knowledge is tentative and evolving but seeking more guidance from external sources. He could be described as moving towards procedural ways of knowing.

Amanda was a less adaptive teacher. After four years of teaching she was still experimenting and testing different teaching methodologies described by her colleagues and her lecturers. She was developing a relativistic view of knowledge as described by Hofer and Pintrich (1997), as she was just beginning to substantiate and justify some of her beliefs. Amanda made direct comment that she did not like to involve the students in too much analysis of text by giving them a lot of reading comprehension exercises because she "hated" that when she was at school. This is a very subjective view. It is not based on impartial and logical consideration of the particular needs of students in her class. Amanda wanted her students to enjoy reading and so did not introduce tasks that she had not enjoyed as a student. Amanda commented during an interview that she would not do something like correct a students' grammar just because she was told to, stating that it would have to fit with her own ideas. This indicates that Amanda went into her pre-service training prepared to make sense of new information, but this information had to be compatible with her beliefs about teaching and learning. Amanda was not resistant to the expertise of others; a characteristic of a subjective knower described by McAninch (1993), but sought information that confirmed her beliefs about teaching and learning.

Frances, the least adaptive teacher in the study, did not have clearly defined reasons for selecting particular reading tasks and was unable to provide detailed information about her students. This led the researcher to conclude that she was not procedural in her thinking. She relied on external agents such as the Special Education teacher to provide appropriate modified instruction for identified students. Frances relied heavily on personal experience in making decisions about instructional methodologies and was very resistant to the expertise of others, a characteristic of the subjective knower as described by McAninch (1993). There was evidence that Frances was bound by her own experience and was unable to adopt what McAninch (1993:47) describes as other ways of looking at her teaching. For Frances, truth existed with certainty. Hofer and Pintrich (1997) describe this type of knowledge as absolute.

Teachers in the study who were more procedural in their approach to teaching were more likely to provide specific information about individual students who

experienced difficulties with reading. Knowledge of student need is a precursor to adaptive teaching practices. Knowledge of how to respond to identified student need is the next requirement. It was apparent that adaptive teachers were more likely to be procedural knowers or thinkers. Teachers who are procedural thinkers are active constructors of meaning who integrate information from a variety of sources. They are reflective educational practitioners. King and Kitchener (1994:7) write that reflection requires "continual evaluation of beliefs, assumptions and hypotheses against existing data and other plausible interpretations of data". Procedural knowers or thinkers who believe that teaching can influence student performance seek ways of responding to students who have specific educational needs. Knowledge about students evolves as part of a process. Educational interventions are put in place, evaluated and then kept in place for a time or modified as skills develop and new interventions are required.

The prediction that more adaptive teachers will be procedural or analytic in their thinking was met. It was not apparent however, that less adaptive teachers in the study were received knowers, that is, people who gained their knowledge from external sources with little reflective action. The two less adaptive teachers in the study were subjective knowers, basing their knowledge on personal experience. Belenkey et al. (1986:134) note that subjective knowledge is important. They write however of the need to integrate knowledge that is felt intuitively with knowledge learnt from others, integrating objective and subjective knowledge. Without this integration, subjective knowledge can be limiting. McAninch (1993:47) believes that it is intellectually repressive to think of learning to teach as primarily a matter of experience. A quality of subjective knowing is a resistance to the expertise of others. It is not surprising that teachers who had a more subjective knowledge base were less adaptive in their approach. One of the dangers of subjective knowledge, according to Belenkey et al. (1986:124), is the fact that it can lead to stereotyping. Teachers' perceptions of students will be shaped by ideas of the nature of schooling, intelligence, social class and ethnicity. If these ideas are not tested and reviewed in action, then teachers' personal theories will be in danger of remaining static. Whilst drawing on past experience is important, the ability to undertake formal inquiry

and to test both internal and external sources of knowledge through trial and observation will be more likely to lead to adaptive practices. Rational and analytic skills are valued over intuition when setting educational goals for students.

8.4 Summary

The characteristics of more and less adaptive teachers are presented in Table 8.1.

Most Adaptive ▲ Least Adaptive

	Engagement of Ss in Reading Tasks	Teaching Style	Teacher Belief	Teacher Way of Knowing
Dianne	High 9/9 100%	Constructivist or Socio-cognitive	Interventionist	Procedural
Emily	High 4/13 31% Medium 9/13 69%	Constructivist or Socio-cognitive	Interventionist	Subjective/ Procedural
Colin	High 1/8 12.5% Medium 7/8 86.5%	Constructivist or Socio-cognitive	Interventionist	Procedural
Brian	High 4/9 45% Medium 5/9 55%	Constructivist or Socio-cognitive	Interventionist	Received/ Procedural
Amanda	High 3/10 30% Medium 5/10 50% Low 2/10 20%	Discovery	Non-Interventionist	Subjective
Frances	High 1/8 12.5% Medium 6/8 75% Low 1/8 12.5%	Transmissive/ Traditional	Pathognomic	Subjective

Table 8.1 Teacher adaptation, engagement of students, teaching style, teacher belief and teacher way of knowing

Teachers who demonstrated more adaptive teaching practices were constructivist or socio-cognitive in their approach to teaching reading, held interventionist beliefs and indicated that they were procedural in their thinking. Generally, more adaptive teaching led to higher levels of engagement of students in reading related tasks, presumably because students were being given explicit explanation or feedback, were provided with material that was at an appropriate degree of difficulty or were provided with other modifications. There were exceptions. In Colin's class slightly higher levels of adaptation did not lead to increased recording of high engagement activity. This could be related to the fact that there were fewer opportunities for direct student:teacher interaction in this class as Colin had established an individual contract system.

Colin saw students at an individual level, monitoring their progress on their contracts and correcting work. Brian's classroom organizational structures led to more engagement. Grouping of students meant that Brian had more opportunities to interact directly with students at a group rather than an individual level. When groups of students were working with Brian they were highly engaged. Emily had less high engagement activity than Brian. She established groups but her approach was different. Whereas Brian gave alternative work to groups and stayed with a group throughout a session, hearing them read and supervising discussion, Emily gave additional instruction to her selected group of students at the beginning of a session and then tended to spend time with other students in the class. After explanation, engagement in the task by students who experienced difficulty was varied.

Less adaptive teachers demonstrated transmissive or discovery-learning approaches to teaching, did not hold interventionist belief systems and were subjective thinkers or knowers. The two teachers in this category tended to teach their students as a class, rather than respond to individuals. There was little observation of what Chan (1993) describes as interactive teaching where dialogue is used between individuals to explain strategic behaviours. Both teachers had developed their own methods of coping with diversity in the classroom. Frances and Amanda both tolerated the fact that some students would not be able to complete activities set in their classes. Frances believed that the specialist teacher met the needs of these students in withdrawal classes. Amanda believed that it would be more harmful to draw attention to the difficulties experienced by students than to ignore them.

The literature has shown that belief systems are directly related to adaptive teaching practices. The finding was confirmed in this research. There are also links between teaching style and adaptive teaching practices and teachers' ways of knowing and adaptive teaching practices.

A teacher who utilises a socio-cognitive teaching style, is procedural in his or her thinking and holds interventionist beliefs is more likely to be adaptive in their response to student diversity. Such a teacher will interact with students on

an individual level, determining their particular strengths and weaknesses through both observation of students at work and reflection on students' level of engagement and response to tasks set. The development of this teacher's knowledge occurs through participation in interactions with students. Knowledge is constructed through engagement in problem solving, as the teacher grapples with the task of deciding what and how to teach particular skills to specific students. This teacher thinks analytically or procedurally, reflecting on the results of past practice and adjusting teaching accordingly. New strategies are sought and tried as required. Teaching repertoires are expanded. There is a lack of acceptance of the "one size fits all" curriculum model. Integral to this process is the belief system of the individual. Interventionist beliefs are fundamental to the adaptive teaching process as this belief system holds that all students can learn, given appropriate instruction. Gathering information about students and selecting appropriate teaching behaviours in a procedural way are more likely to occur if the teacher has a view that this is their professional responsibility and an integral part of their role as an educator.

CHAPTER 9
CONCLUSION

In the final chapter a description of adaptive teaching practices and a definition of the adaptive teacher is provided. The strengths and significance and implications of the study are outlined along with the limitations of the study. Suggestions for further research in the field are proposed. A summary of the study is included.

9.1 Adaptive teaching practices

The research set out to discover:

- how teachers are prepared and supported in their endeavours to teach students with diverse educational needs;
- the teaching styles utlised by teachers in their daily interactions with students;
- how teacher beliefs influence the way they teach reading to students;
- the characteristics of students described as experiencing reading difficulty;
- the knowledge teachers have of their students and the way teachers acquire that knowledge; and
- how teachers respond to the needs of students who experience difficulties with reading.

The main findings of the research are as follows.

- Length of teaching experience had little influence on adaptive teaching practice within the small sample of teachers in this study.
- The most adaptive teacher was undertaking studies at post-graduate level. Her willingness to undertake additional study may have been related to her way of gathering information and knowledge.
- The two most adaptive teachers in the study had both undertaken recent professional development in reading. This activity involved the introduction of a whole school approach to literacy instruction.
- The most adaptive teacher in the study reported that she felt supported by her principal and school administration.
- The four more adaptive teachers demonstrated constructivist or socio-cognitive teaching styles, emphasising social contexts for learning and student teacher interaction.

- The four more adaptive teachers held interventionist beliefs about teaching, acknowledging that all students can learn if appropriate instruction is provided.
- All teachers in the study were able to identify students who experienced difficulty with reading. All those students nominated by teachers as experiencing difficulty with reading achieved below average scores on standardised assessments. The difficulties varied from extreme problems across all areas tested to specific difficulties in one area of reading. No student achieved scores that were average or above in all of the tests and subtests presented.
- The four more adaptive teachers demonstrated some aspects of being procedural in gathering information about students. They were more likely to base their responses on careful observation and reflection on student response to lessons. They were less likely to rely solely on external sources of information about students or base their knowledge on personal experience and intuition.
- Teacher response to these difficulties was varied with little modification or adaptation observed in some classrooms and frequent and wide-ranging adaptations observed in others.

The findings of the study add to the growing body of research on adaptive teaching practices. An extensive review of 21studies on the reasonability and feasibility of instructional adaptations was undertaken by Scott, Vitale and Masten (1998). These researchers state that undifferentiated large group teaching is the norm in general education classrooms. It was believed that this was because teachers lacked the skill to adapt, were provided with limited school support to make adaptations, were constrained by time and some teachers were philosophically opposed to making accommodations. A close examination of adaptive teaching practices in six Victorian classrooms showed that undifferentiated group teaching was not the norm for teachers who participated in this study. The teachers participated in this study on a voluntary basis and they were fully aware of the aims of the research. It is possible that this accounted for the fact that a range of adaptations was observed in these classrooms. A broad view of adaptation was used and teachers often modified for students within the context of whole class activities. A number of adaptations that

were observed could be classified as routine, that is, they occurred as part of established class procedures and structures.

The teachers in this study did not refer directly to their own teaching skills. Frances noted that a trained special education teacher in her school undertook remediation and Brian stated he did not have special education training and was still learning about his students and the teaching process. This might indicate that these teachers did not feel they had the skills necessary to meet the needs of a diverse range of learners. Only Dianne, the most adaptive teacher, referred to the fact that she felt her Principal was supportive of her approach to teaching. The conclusion of Scott et al. (1998), that some teachers were philosophically opposed to making accommodations, was supported by this study. Beliefs can be tied to personal philosophies. The two least adaptive teachers in this study did not believe that it was their role to make modifications or instructional adaptations for students who experience difficulty with learning. Beliefs were found to be an important factor in adaptive classrooms, as were factors such as the ways that teachers gathered and organised information about their students and their teaching styles. All teachers have a finite number of hours available for teaching. It was how teachers organised their time for teaching and learning that was an important consideration in adaptive classrooms. It is apparent that more adaptive teachers proactively organised their lessons in order to accommodate student diversity.

Van Kraayenoord et al. (2001:12) found that teachers used a variety of organisational structures as they engaged in literacy activities with students who have disabilities. They noticed that "when teachers were flexible and ensured that the organizational setting matched the purpose of instruction, teaching was more responsive to student needs." Brian, Colin and Emily established routines in their classrooms in order to respond to and cater for individual difference. Emily organised her identified students into a group and gave them additional explanation, Brian established ability groups for reading and Colin set up individually negotiated contracts with students. Dianne, the most adaptive teacher in the study, had a more specialised approach. She was more likely to adapt for students on an individual needs basis. Vos (1997:79) describes adaptation as "the use of strategies to adapt instructional treatments to the changing nature of student abilities and characteristics during the learning process."

It was Dianne's ability to determine individual needs and her alertness to the fact that some students need additional support in some circumstances and not others, that set her apart from the other teachers in the study. She was vigilant in her observation of students during the learning process and constantly monitored their participation and degree of success. Dianne was prepared to alter her approach to teaching in response to student need.

Scott, Vitale and Masten (1998) report that teachers were generally positive about the reasonability and feasibility of adaptations, particularly those adaptations that benefit the whole class and require minimal preparation. Adaptations that require individualised response to students and take extra time such as making modifications to materials and instruction were perceived by teachers to be less reasonable or feasible. This is consistent with research reported in the literature review (Ysseldyke et al. 1990; Schumm and Vaughn 1991; McIntosh et al. 1993; Schumm et al. 1994).

In this study all teachers stated that modifications and adaptations were required for identified students in their classes. As predicted by Scott and his colleagues (1998), the most common adaptations observed in the current study involved treatment by the teacher of the whole class:

- all students reading different text of their own choice;
- students individually negotiating reading tasks;
- and, in one case, all students reading from material presented on an overhead transparency to facilitate choral reading and assist those students who had difficulty decoding text.

Other teacher interventions took the form of

- additional explanation of tasks;
- monitoring of performance of identified students;
- provision of ongoing support during the lesson;
- reduction of choice of materials to ensure readability of text or selection of reading material by the teacher;
- enlarging print size of text;
- comprehension monitoring;
- modification of tasks;
- breaking task into smaller segments;

- provision of audio-taped text;
- provision of more frequent feedback to identified students;
- and offering the student the choice not to participate in a particular activity.

Adaptations that involved peer support included:

- the placement of students in mixed ability groups to complete reading activities,
- students working in ability groups to complete different tasks or read different texts, and
- and specific direction from a teacher for a student to provide assistance to peers.

A range of adaptive teaching practices was observed in classrooms in this study. Such a range was not expected given the findings of previous research. McIntosh et al. (1993) found that teachers rated adaptations such as providing reinforcement and encouragement and establishing personal relationships as more feasible than adapting materials, using alternative materials and provision of alternative instruction. These adaptations were rated as less feasible as they are more costly in terms of teacher effort. All but the least adaptive teacher, Frances, were observed providing positive feedback and encouragement to students who experienced difficulty. Establishing positive personal relationships was part of daily practice in the five other classrooms and was not recorded as an adaptation in the current study. Four of the six teachers in this study however had the skill and the organisational ability to make moderate to significant modifications for students who experienced difficulty with reading. This represents a major shift from previous research findings.

It is possible that the difference in findings can be accounted for by the fact that teachers in this study were not asked to make self-reports of the types of adaptations that they made. Adaptations were observed and recorded by the researcher and comparisons across different classrooms could therefore be made. Teachers may make a number of reactive adaptations in any lesson as they respond to the particular needs of students in their care. It is possible that when responding to questionnaires and making self-reports, teachers do not view these actions as adaptive teaching practices. Adaptations were observed and recorded. They were later discussed during interviews and reasons were sought for the use of particular adaptive teaching practices. Teachers rated as more adaptive had particular characteristics that set them apart from the two less adaptive teachers in the study.

9.2 Characteristics of the adaptive teacher

Glaser (1977:25) describes adaptive teachers as diagnosticians, observing informal and testing performance and providing alternative instructional paths that create a match between student ability and the educational environment. Apart from a clear set of studies on teacher belief and adaptive educational practices undertaken by Jordan et al. (1993), Jordan et al. (1997) and Jordan and Stanovich (1998), there have been few attempts to delineate further the characteristics of the adaptive teacher.

The current study explored the relationship between belief and adaptive teaching practices and found confirming evidence that teachers with interventionist belief systems are more likely to adapt their teaching practices in response to perceived needs of students. The researcher reasoned however that there were further characteristics that would define an adaptive teacher and she set out to explore these through a search of the literature and analysis of data collected in observations and interviews.

An analysis of the data led the researcher to conclude that an adaptive teacher can indeed be described as a diagnostician. A diagnostician must be an analytical thinker. Teachers' ways of thinking were explored and categorised through analysis of information collected in interviews with the six teachers who participated in the study. The four more adaptive teachers in the study were more likely to think procedurally or analytically. An adaptive teacher is more likely to utilise a procedural or analytical way of knowing, drawing on careful observation, and analysing situations and using process knowledge to select appropriate teaching practices from a repertoire of relevant theories and ideas.

Adaptation involves response to individual students. It is probable that there are particular teaching styles that lend themselves more to adaptive teaching practices. It was proposed that teachers who had a socio-cognitive or constructivist approach to teaching, interacting with students on an individual level, would be more adaptive in their approach to teaching. This proposition was confirmed. The four teachers who demonstrated socio-cognitive approaches to the teaching of reading were more

adaptive than the two other teachers, one had a transmissive style and the other demonstrated the use of a discovery-learning approach to teaching.

The adaptive teacher believes that all students can learn given an appropriate educational environment and sees the provision of a conducive environment as part of his or her role. The adaptive teacher is a procedural or analytical thinker who takes a problem solving approach to the task of meeting the needs of students who experience difficulty. The adaptive teacher interacts frequently and regularly with students – testing their knowledge, monitoring their learning and providing feedback on performance that supports learning.

9.3 Strengths and significance of the study

This study presents an accurate description of adaptive teaching practices observed in use in six different classrooms and the conditions under which they occurred. A rudimentary theoretical framework was developed prior to the research as a result of a review of the literature. This framework was extended and refined during fieldwork as explanations were sought for teachers' behaviours. Three different frameworks informed the design of the study and analysis of the data in order to illuminate the reasons for increased adaptive practices through exploration of teaching style, teachers' ways of knowing and teacher belief.

Previous research into adaptive instruction has relied heavily on questionnaire and survey data and has predominantly focused on teachers' self-reporting. The strength of this study is the richness of the data that has been collected. The researcher used multi-method design involving both interview and observation of teachers in order to describe and investigate adaptive educational practices in response to reading difficulty. Teachers' statements about their teaching were tested through observations of classroom practice. If a teacher stated that he or she used adaptations and these were not observed, discussion ensued in interview about the reasons for the disparity. Evidence was sought for teacher statements and consistency between stated beliefs and practice. The researcher strove to provide an accurate description of what was occurring in the classrooms and to maintain integrity of the data collected by presenting information about the contexts in which it was collected.

Previous research has also been predominantly based on self-reports and some class observation. The researcher was not able to locate other studies that investigated adaptive instruction for the particular and specific population of children who experienced difficulties with reading, unless the aim was to specifically report on particular literacy intervention programs Jenkins et al. 1994). This study provides a contribution to the existing literature as rich data were collected on teaching practices but, in contrast to previous research (Ysseldyke 1990; Schumm and Vaughn 1991, Fuchs et al. 1992; McIntosh et al. 1993; Schumm et al. 1994; Jenkins et al. 1994), reasons were sought as to why some teachers are more adaptive in their practice than others. Teaching behaviours were recorded during observation but reasons for particular behaviours were sought during interview and through analysis of teacher and researcher discussions with the aim of identifying the characteristics of the more adaptive teacher.

Because it has paid attention to the close description of classroom practices, the study has the potential to influence both teacher selection and teacher training programs. Administrators may look closely at the characteristics of their staff members when making decisions about placement of students who experience difficulties with learning. Acknowledging that teaching style, way of knowing and beliefs are important, it may be possible to identify teachers who are going to be more successful at adapting and modifying their teaching practice to accommodate students who experience difficulties with learning. It may also be possible to identify those teachers who require additional support and professional development, and provide planned training at appropriate times.

The study suggests that teachers can be assisted to be more adaptive in their practice through the provision of specific professional development programs where teachers are trained to be more procedural in their approach and where the benefits of a socio-constructivist teaching style are promoted. It is apparent that any professional development program that aims to support teacher change will be more successful if teachers are provided with opportunities to make their beliefs about teaching and learning explicit, particularly if new information is going to be challenging to the existing belief systems of some teachers. Westwood (2001) states that we may be aiming too high in expecting fully inclusive teaching within the realities and

constraints of the average classroom. It seems appropriate to give teachers time to reflect on their practice in the light of new information and allow opportunities for discussion about the integration of new information into current practice.

A recent trend in teacher professional development has been for long term programs that involve the provision of expert models and sustained teacher study groups that allow time for reflection (Hill and Crevola 1999; Chard et al. 2000). This type of professional development supports the contention of Schumm and Vaughn (1995) that teachers need structured opportunities to express their beliefs, attitudes and experiences and to talk about what works in terms of accommodating students with learning disabilities in the regular classroom. They concluded that teachers need support in providing instruction through the provision of clear examples of strategies and the means of implementing them. Schumm and Vaughn (1995) state that direct hands-on experience should be part of the learning experience.

Given the evidence of the careers of the more adaptive teachers described in this research, it is possible that less adaptive teachers can be trained to become more adaptive and flexible in their approach to teaching. Increasing the number and range of strategies that educators have in their teaching repertoire will be important if teachers are to be responsive to a range of needs. Teachers require information on a range of skills required for reading in order to be able to respond appropriately to difficulties experienced by students. It has been suggested that teachers should be versed in the teaching of decoding skills through the explicit teaching of letter-sound relationships (Tunmer and Chapman 1996; Hall 2000). Hall (2000) also points out that there is a need for early instruction in phonemic awareness. Reutzel (1999) alerts teachers to the fact that a balanced approach to the teaching of reading is required with emphasis on strategies that aid the development of decoding ability along with strategies to develop and extend comprehension of text.

Teachers who have a range of skills in their repertoire will be more capable of responding to the needs of individual students. There may however be prerequisites to teachers' openness to extending their repertoires and developing these skills. Once the skills are developed, teachers need to have the organisational ability to put skills into practice. Teachers will be less likely to develop new skills if they do not see the

need for their application. Teacher beliefs are an important consideration in professional development programs. Once a skill has been developed it must be incorporated into practice. A belief system or teaching style that is antithetic to adaptive teaching practice will be a barrier to the implementation of such practices. Some teachers will need to be provided with new ways of operating and organising their classes. It has been suggested that whole school approaches to literacy development are more beneficial to students (Hill and Crevola 1999). Different teaching styles, teacher knowledge or ways of knowing and belief systems of teachers may need to be acknowledged and dealt with if whole school programs are to be implemented effectively.

Adaptive teachers utilise constructivist or socio-cognitive teaching styles, are procedural thinkers and hold interventionist beliefs. Programs that aim to increase the use of adaptive instructional techniques and practices will be more successful if they specifically train and promote a socio-cognitive approach to teaching and learning. They will be more successful if teachers are shown how to be procedural and are given opportunities for reflection on action. Finally professional development programs will be more successful if teachers' beliefs are acknowledged and, where necessary, challenged.

9.4 Limitations of the Study

Analysis of data was undertaken over an extended timeframe. The data were collected in 1995 and could be considered dated. The researcher is currently employed as a consultant in special educational needs for a cluster of 17 schools. In her visits to classrooms she continues to see a range of adaptive teaching practices being utilised by teachers and has noted that there are both more and less adaptive educators teaching in primary classrooms throughout her district. Whilst the data were collected some time ago, there does not appear to have been a significant change in classrooms that would impact upon the findings of this study regarding adaptive teaching practice.

This is a descriptive study based on research undertaken in only six classrooms. Generalisation of the findings from such a small sample is fraught with difficulty.

Findings of this study would need to be tested with a much larger population in order to assess the application of the three theoretical frameworks in wider contexts.

Adaptations were recorded and analysed in this study but it was not possible to identify the success of the particular adaptations being made other than to comment upon the engagement of the students in the particular activity presented. It is possible that there were particular adaptations that were more likely to result in increased skill development of students.

9.5 Suggestions for Further Research

Further multi-method research is required on the topic of adaptive instruction. Collection of interview and observation data from a larger population of teachers would need to be made in order to ascertain whether the results of this study could be generalised to the wider teaching community.

Teachers in the study had different organisational processes in place in order to deal with diversity in the classroom. These processes included working with individuals, establishing mixed ability groups and ability groups. Processes also included the teacher focusing attention and intervention on a fixed group of students or flexibly grouping students for additional explanation or instruction. An investigation of the impact of different organisational processes on student-teacher interaction patterns would provide useful information and may further inform the adaptive teaching movement.

It would be appropriate to undertake longitudinal studies such as the Queensland School Reform Longitudinal Study (1998-2000) in which classroom lessons were carefully observed and rated for each of 20 elements that were identified as productive pedagogies. It would be useful to collate information from studies such as this in order to investigate the effects of particular types of adaptive teaching practices on the learning of students. It is probable that there were some adaptive practices identified in the current study that were more efficacious and led to higher student attainment.

9.6 Summary of the Study

Adaptations made in response to perceived needs of students who experienced difficulty with reading were recorded and analysed. Teachers were ranked as less or more adaptive. A detailed description of the contexts in which the teachers taught was provided. The abilities of the students in the areas of reading comprehension and decoding were assessed and recorded. Differences in school contexts and student ability did not appear to account for the differences in teachers' predisposition to adapt instruction. Identification of specific teacher characteristics that might lead to the utilisation of adaptive teaching strategies was sought.

The surprisingly insightful statement made by J - that he was "not the type to be teached" by Amanda indicates that this student, despite his learning difficulties, was fully aware of the fact that he learned differently and required specific instruction in order to learn to read independently. J was aware that there are different types of students. It was apparent that participants in the study were different types of teachers.

There were particular characteristics that typified more adaptive teachers in this study. Adaptive teachers in this study had a socio-cognitive or constructivist approach to teaching reading, identifying particular needs of individual students and assisting students to develop skills and gain meaning from text using an interactive socio-cognitive teaching style. Adaptive teachers in this study were more analytical and procedural in their approach to educating students who experienced difficulty. Adaptive teachers were more likely to take a problem solving approach with their students, attempting to accurately identify specific areas of need and then providing instruction in this area and tasks that matched the ability level of students. More adaptive teachers in this study believed that students who experienced difficulty could learn if appropriate modifications were made to instruction and they were prepared to make such modifications.

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Appendix 1
Sample of Questions Asked During Teacher Interviews and Responses

Interview One - Colin

R: I suppose I'm interested how you approach reading. I have a few focus questions, but I am happy to just move around those and over a couple of interviews we should cover them. It's more just talking about reading. How would you describe your approach to teaching reading? Do you have a particular approach or method?

C: Probably the five step approach, I decide five steps before the class room door, as (colleague) says to me... Whole language, I guess. Trying to put it in context, and isolating particular problems that kids have. Trying to work on their phonics, if they need phonics but not flogging it, if obviously it is not needed. With kids like L, trying to build up their self-esteem again using the novels and their real reading rather than readers as such, just trying to give reading a reality or context.

R: So students always have things to do with their reading.

C: Yes. I guess legitimising all sorts of script as part of the program, not just fiction which tends to be a focus, using non-fiction stuff as well - newspapers, comics, those sorts of things.

R: So the work on their inquiry gives them scope for that too. I noticed F come up and say that the book was too hard because it was too long, no, too thick. Did he select that book to start with or did you point him to it?

C: No, I gave it to him. He has just finished reading and doing a text response on "I Can Jump Puddles". If he can do that, he can do most things.

R: Yes, that is right. So you actually steer children towards particular material. Do they sometimes self select?

C: No, not now, no because I am trying to get them away from books that they would normally choose to books that I think that they ought to choose and that they could cope with. Maybe they have to push themselves, in fact, to have to understand or to finish. I quite often hear that is boring but they still have to read it.

R: A lot of Whole Language advocates would disagree with you on that. They would say that unless the readers are enjoying the material, there's no point in reading.

C: Last year and this year in particular when I have been pushing it ... I didn't use to... but when they finished "The Hunter" that was really great and they asked: "Can we get another book by that same author?" I have gone through a barrier if you like, they have hit the wall at 26k and there is only a another 300 metres to go and they have got there, and for some kids, I will say: "Look, don't keep going if you are finding it difficult, strenuous." I have started some books with them for their serials and I have just said to them half way through: "Look I don't think this is really working as a read to you story, read it yourself." It might work better because some books you do start to read, you read yourself and think that it would be fantastic. You start reading to the kids it just doesn't work.

R: They're not responding, some do but not the bulk.

C: But quite often, it's just the language patterns in the book itself, which is fine when you are reading to yourself but as soon as you start reading orally, they just don't come together very well, don't work. I found that with quite a few books, so I have just said that it was a good read at home but when I start reading it to them, it just doesn't work. I just say: "Look, I don't think this is working but it's a really great story if you want to read it to yourself". It's certainly not something that's definitely a no-no, to stop reading a book that you lose interest in, you lose it.

I try to push them, particularly kids like F, M and V that obviously have got the ability to sit and concentrate. It's probably one of the main abilities they have got, reading for an extended period of

time. I guess the reading program now is to try and get them to a sustained reading effort rather than just something that has got to be over and done within two days. It's rather difficult with just the text response because they could be reading their books for two or three weeks before they actually get to write about it, while in which time other kids who have a shorter book have well and truly finished. It seems to be working all right. The kids, when you do challenge them, they respond pretty well.

R: So what lead you to come to that conclusion or to take that trail? Is it your training or your personal experience over the years? Is it professional knowledge or personal knowledge about kids, about how they learn?

C: Probably a mixture of just experience with reading schemes, and seeing how they don't work and going through all those failures of putting red dots on books and classifying - "You don't read that because that is a green dot and you are only a red dot reader" and all that sort of nonsense.

Actually watching how people really read in real life, I suppose. Nobody goes into a bookshop and says "Can I have a red dot book?" They read the blurb but if it interests them, they will perhaps will buy it.

R: But there are adults who won't choose, they be like F and won't choose a thick book, they will choose a book that they are happier to complete quickly.

C: Maybe that's so, there are a lot of adults who never read books, they only read Women's Day. I am really trying with these kids in particular, I suppose.

R: In some respects you are imposing a red dot, green dot thing, if you say "This is, I deem this is a book at your level." You're making some decision about what's challenging for them.

C: Well beyond their level. Yes, that's true enough. I do make judgements about print size and so on from kid to kid. But there is no reason why, if they decide they want to pursue an author that they can't read a particular book.

R: So they negotiate with you?

C: Yes, they can say "Thank you."

R: But they could say "I have finished reading "I Can Jump Puddles " and want to read another Alan Marshall book." and you would say: " Yes, that's fine"?

C: I'd say "Yes, go to the library and choose one." F really devours books. He will read that book in two days and he will have a text response of a quality that you rarely see in primary school. Finished within two days not just the first draft, its just incredibly what he does and there are others who have the capacity but unfortunately they tend to get mesmerised by his capacity. They will say: "Oh F did that. That's alright. That was F. That's not what I can do." and I guess, that's what I have been trying to overcome with them. In a sense, in the same way that people have told me that: "Oh you can't do that here, it's (names suburb). You need to step back a few steps." but I haven't. I did initially when I arrived here, and I took their advice but then I thought Well I am not going to let them be disadvantaged by a disadvantage label because I think that unless you do push the frontiers for them they will be. They will live up to the label but you do always have to take into account that they do have restricted language codes and all those sorts of Bernstein things and try to account for that too.

R: So, how long have you taught, I know you left teaching for sometime and came back to it, you told me about that.

C: Well, I went college in 1968 and taught for 20 years, resigned at the end of 1988 and was in private industry for 3 and a bit years.

R: And you came back?

C: By the skin of my teeth, I was the last person appointed.

R: Really!

C: Before the government came back in.

R: So you have had 23 years experience. In your initial training you would not have been trained in the Whole Language approach.

C: Oh no, no, it was far different. Basically phonics and maybe a bit of sight vocab if you were lucky. The whole push was flash cards and "here is this sound and lets do 50 words but ignore all the exceptions."

R: That's right.

C: I guess when I left teaching, I probably was and I had certainly moved away and I was certainly doing Greave's sort of approach to writing and so on, well before people were doing it. It caused a lot of angst for people who said "What are you doing? ". But it was only, I guess, when I went out into the real world for the first time in my life, having left school, that I realised that the paradigm in schools was not right, that it did not relate really to reality and that when you learnt you a new trade (because I learnt a new trade/skill) and I did that by actually doing it and by doing it in context rather than being a part/whole thing. Nobody said "Well, when you sell a house you only do this little bit and you take them to the front door and you don't do any more. You can practise taking people to the front door for 15 minutes or an hour." you don't do that. That isn't how reality works. You just repeat the whole process over and over again, then to build up. So, I guess, when I came back I was determined to try those sorts of things and fortuitously, I guess, by then the rest of - much of the community and caught up with the implications.

R: You have been willing to try new things.

C: I have always tried new things. In my second year out of teaching I was up running an open class room. It didn't work within a closed system because it was too difficult so I closed that down. I realised I had been working far too hard.

R: It does happen, doesn't it?

C: I was preparing individual stuff for every kid. Now I had 34 kids in Grade 3/4. Every kid had a different worksheet. Everyday they wanted different things. I was really pleased when it stopped.

R: You do have to realise your limitations and the limitations of the system. Sometimes it's more than your own limitations it's your inability to fight the system. I suppose, my comment on that, is that my experience has been fighting the system doesn't help the kids because you give them this one year of a totally different experience it makes it more difficult for them sometimes for them in the following years.

C: That why it's been good here, in the sense that people are picking up on those features.

R: That's good

C: Yes, (colleague) is much more likely now to run things in a similar sort of way, even though it's different, but at least it's within cooee.

R: But people do put a bit of themselves into their teaching.

C: Yes and its great and that's what its all about. It would be boring otherwise.

R: Yes, it is interesting because I have been thinking over the events of the last two mornings. I have been watching and thinking, I can't quite work out, I know it's more student centred than a lot of other approaches but it is also in many respects very teacher centred.

C: Very, and a lot of people said... M said once that I had to explain what I was doing, so people think that I am involved in this process. I just told him to come in for half a morning and see. Despite the

fact that the kids are given lots of chances to make decisions and manage their learning, you just see how dominant I am. Its not as if they're getting no direction. I am directing them all the time. It gives me much more flexibility and interaction with kids who need help and those who don't at that particular time, they can just go on with what they're up to. Sometimes I think I am too clever, sometimes I think I should back away a lot more, let it go.... but then I sort of see that I can't. No, not yet.

R: Maybe you could if they have had that kind of approach for a number of years.

C: Well, the policy of the school is very much that sort of approach. I read the school policies when I came here and things started to sort of gel a bit about what I was trying to do, my ability to do it within the whole school approach. The fact that it does not happen in every classroom, of course, is a different thing or it happens differently in some of the classrooms. Yes, I began with a fascination with the idea of cooperative learning as opposed with what I did in the past as in the terms of group learning. I did a lot of that sort of work with kids: "You be a gopher and you be a scribe." and that sort of thing. I have done a bit of that this year but I haven't really pushed it all that much.

R: Yes, I noticed the three girls working this morning. They weren't assigning roles at all and when I asked them if they had talked about that, they said: "No. We were all going to do it." I asked who was going to do the front cover and they claimed they all were. I asked who was going to do the heading, and the response was that they all were. It was very interesting to me that they all claimed that they were all going to be able to do everything. I think that it was starting to dawn on Michelle that it really wasn't going to work, that somewhere along the line there was going to have to be some division of labour.

C: The group that was in the corridor had divided up their roles. Betel was going to do the layout, F was going to do something and V was going to do couple of other questions or whatever. They were going to... they had sort of thought about that and talked about that. I have always said, even though we hadn't formalised that process, that you can't possibly all be doing the heading and you can't just sit around and wait while someone was doing the heading. If you're going to do the good copy of the text, you have to be doing other things at the same time and that's why I introduced the idea of the four questions. If there are four people in the group, they get one question each to go and try and research. If there are two, obviously they share which whatever way.

R: Those girls weren't doing that, at that point but they would have to get there. They would have to learn that by trial and error. I suppose my concern was that L was in fact in that whole session doing very little. I focussed on her so much I have actually lost sight of who the other children would be, who would be children experiencing difficulties with reading in your group, the ones who would be going to the special reading group, so I was trying to guess. Moving around the room the good thing was I couldn't easily identify them.

C: Yes, it is hard to find them.

R: Which is good.

C: Yes, a kid like M, who sits here....Last year he was having terrible trouble and I really did not hold much hope. I thought he should go to special reading, but he has been so keen and just so enthusiastic... He still has problems, but he "has a go". He will ask questions and he will ask for help and just work away. In his maths work he will always drive you mad with: "What does six with that silly small 2 mean? Six squares - Is it six times two?" but he will go away and do it and come back with enthusiasm asking what his next problem is. He wouldn't have asked those questions last year. He was just so intimidated I think, where he was, (I didn't have him last year). He has some way to go but his self-confidence is sort of up now. I really try with their self-confidence.

R: So, what happens to these children in your class that might be different? How are you adapting for them? That's really what I am on about. How do you need to adapt for the Ls and the children who really struggle with reading?

C: Yes. I determined there would be struggle as soon as L arrived but I wasn't going to because she is so far down, I could spend hours and hours with her. I wasn't going to isolate her from the group in that sense and I was even reluctant that she went to special reading because she needed so much self-confidence and boosting. Having gone, reading group is great for her. In the end, we sort of pushed very hard to get her in because the groups by the time she had arrived were pretty set. It was pretty difficult with the resources we have got but she has, at least, got a very healthy self-concept. She understands that she's battling, which is, I think, probably helpful to her and she is willing to ask questions and pursue things more than she was. She has been really isolated in the classroom; just left to cope and sometimes I just do leave her. I just don't make a particular effort towards her but I am always watching what she is up to, keeping an eye on the situation. She is so much more mature than the other kids.

R: Yes, she is. So if you were to think about adaptation in terms of the materials presented or the tasks presented... There is no adaptation of tasks because she gets the same tasks as everyone else. You would be choosing materials for her that would be appropriate for her level in terms of novels but in terms of inquiry its up to her to choose materials isn't it?

C: Well, it depends on what we are doing. They're doing a free choice topic at the moment. You then have to cope with the fact of what's available, the available resources for them. That tends to be what's available in books. It's pretty book based. Brian's got the CD-ROM and those kids have access to that but even though we initially thought it would be great, we would be able to interact with that and my kids could go and use that, it's not practicable because he has got things going in his room. He is using it for word-processing and whatever too.

We don't have CD-ROM in the library so something will just have to be done. It's pretty book based and the resources are sort of, they have been purchased in the past for Grade 6 topics. They all get Grade 6 standard or adults standard literature, so it makes it difficult for L and kids with those sorts of problems. She tends to be able to get what she can from it at her level. Her coping and understanding.... Working with other kids is good modelling for her and if she can work with someone like M particularly, she can see what is possible in terms of presentation and in terms of left to right movement of script and all those basics sorts of things. She has terrible trouble with her eyes. Her rapid eye movement must be shockingly awful.

R: What about the others? I can identify her and I can remember her from the group because she stood out so significantly, who are the others and what can you tell me about them?

C: M and U. U gives the impression of being pretty capable but when you listen to him read, you realise that it is a struggle and when you ask actually for some meaning, you realise how great the struggle has been but he is much more confident with his script now. Writing down his work and so on but again that is something that a lot of them will miss out on developing because they will go back to Turkey for a year and it might be just that year that someone flogged phonics or someone flogged something that is worth knowing which is going to help them in their reading. It may not be picked up or may take some time for it to be caught up with.

R: He did actually did tell me at lunchtime. He made a great effort to tell me how he had repeated a year because he had been overseas.

C: Yes.

R: He said: "They kept me down." and someone said "No". He said "I failed" and someone else said "You didn't fail, they just kept you down, that's the difference." So that was interesting, his peers were reinforcing that he was OK.

C: Yes, because a lot of them would have faced that prospect of being away for extended periods, among the Turkish children anyway. After six months we are just sort of beginning to see the light at the end of tunnel with E but he is going now to be away for two, maybe three months and it puts the process back.

R: E is another student who goes to special reading and who else? M, U, E, L and S?

C: I could not read any of her writing at the start of the year. I had no idea what it was about. She had to read it for me. It was just a whole lot of letters in no particular order. At least now she gets a fifty percent strike rate which really is pretty good.

R: What do you attribute that change too?

C: Maybe maturity, maybe more exposure to learning. I read this book and I thought: "That's not what it's about - parent, teacher and child interviews. Then I started reading it and I thought it was a lot of nonsense. I was not having children come along and ..... I kept reading and suddenly I thought it was fantastic. Yes! It is, what have we been doing all this time. Why haven't the kids been involved?

R: It's about the child. If the child is having problems, it is the child's behaviour you want to change, so they should be there?

C: The whole thing sets it up beautifully. You are set at the first interview with the parent and the child there. You set up a contract there... this is what you are going to try to achieve. This is what your objective is.

R: Everyone is in on it.

C: You evaluate it mid-year and at the end of the year you see how you have gone. It sounds so logic but pushing it here is... It just hasn't worked. I'll say it.

R: The other thing is the time factor. It is virtually impossible to do that interview in ten minutes.

C: That's right, it would.

R: It would take a lot longer than that.

C: Yes, and interviews are structured here for ten minutes and that's it. In and out which is the way it is done in most places anyhow. It would be good to try, good to try maybe next year.

R: Another time. You have to walk before you run... little bits at a time. I am interested in S. You attribute her progress to maturity and the fact she does more reading, more writing here than she has probably done before. Why do you think she does more reading and more writing and how do you think she does more reading and more writing than she would have done before?

C: Well, I guess essentially the whole day is involved with reading or writing, rather heavily and lots of writing. I mean, if they're not doing their year book, they're doing their core work or their text response or their doing inquires. There is lots and lots of writing going on. It is very text orientated. I guess it's the idea of a writer's community school... and again an expectation that half a page was terrific in Grade 3 but they can do more now.

R: I did notice you do that yesterday, I gave you a little private clap. H came up and said "This is what I have done" and you said "You can finish the page". So your expectation for him was that he can do that. I imagine, if perhaps, U had brought you that much, you would have said that it was really good.

C: That's right, but I might have also said to U: "Do you think you might be able to do a bit more?" I might have asked him to challenge himself whereas there is no point in asking H to challenge himself because he would always say "No." He would invariably say no. Yes, he will say "I will do more but will this get me out of a detention?"

R: It is true that this kind of set-up does work better for those kids who are self-disciplined. You can be experiencing difficulties but still be self-disciplined and also be very, very capable and have no self-discipline.

C: Exactly. I figure that if they don't have these skills by the end of this year, they will have massive problems next year and that will translate into worse behaviour problems. I guess that has really come from my experience as a parent, more than anything. I saw how our first two kids struggled in secondary school because they just weren't organised. Every report for the first four years said they

could do a better job if they could get themselves organised but they were never taught to be organised. They were taught to be organised at home and they hated it, but it is different at school. They were never given skills, they were given sort of reading skills but not ways of coping with having to organise their homework, having to collect books, just the whole thing.

R: That was something that L said actually. I was talking to him about his Dinosaur project and I said "Dinosaur's that is an interesting topic. It crops up again and again in schools. Have you studied dinosaurs before?" and he said: "Oh yes, I did them in Grade 4." I asked why he chose the topic again now as a lot of people would say they had done it. He said: "Well, I know how to look up a lot more books now than I used to be able, would have been able to read, in Grade 4." I asked if he meant he could read more difficult words. He said "No, I know how to find more books" which is really good.

C: Remember when we doing the... before the nonsense about CSF came out we were sitting down re-inventing the wheel by doing our own Social Ed. policy. The scope and sequence charts and I kept saying all the time there: "Look, lets forget about topics, let's teach skills". If you teach the skills using particular topics, then the skill is important, that's what they will take with them out of this class.

R: Process not content

C: That's what they take to High School. They don't take a particular thing like a fact about energy. They will take with them the fact that they can look it up and know how to deal with it, once they found it.... But it didn't get up because it was too hard. M wanted to pursue it but just felt that it wasn't time yet, so we just didn't. I agreed with him in the end. I agree, that it wasn't and it would have been very frustrating for people who aren't orientated that way, that have a chart that just says you are to teach these skills and not have what they are to teach. They would be put down. So that's what we did. So then we listed a whole lot of skills.

R: There are certain children who would never want to study dinosaurs again. They would say that they have done that.

C: Exactly.

R: They need something different.

C: Well, its like the point you talked about before, about watching the same video, some people like to and others never.

R: That's right, different strokes for different folks.

C: Those skills, those research skills and just sort of knowing what to do when you find it, I think are really important for people to have. Much more so than a lot of facts that we tend to sort of have to concentrate on.

R: The idea of this approach, I would imagine in many ways, is that you can individualise and you are not just treating them all the same. They don't even do the same task , they're not even working on the same tasks at the same time necessarily. Do you think you really can individualise reading instruction? It is a difficult one. We are told all the time that individualising is the way to go, to look at individual's needs. Can you really do it?

C: Yes, I think you can. I have tried to put it within the cultural context too, not just the individual. I guess, I was always very influenced by people like Michael Young in terms of what they said about knowledge and how we define knowledge fairly restrictively. You have really got to look at the cultural context in which you are teaching. I guess what they were saying was the old thing, you start with the here and now and you move to the other perimeters after that but just try and sort of focus on kid's interests, giving them a chance to study. We are supposed to be doing the media at the moment. That's our objective, that's what we always said we were going to do but I also decided that in the interim between having done energy and now doing media, that we will give them a chance to choose a topic that they're interested in, in order to re-hone their skills if you like. When they now sit down to do something about the media they will have used something of interest to them as a practice. They will be ready to get stuck into a study of the media which may not necessarily be of interest to them.

R: Right, so the individualisation is in terms of topic, not tasks, but topic.

C: At the moment, yes. I guess the individualisation is in terms of the expectations of one child will have outcome of x level and someone will have one at z level, or whatever... all of which are to be valued and each little step that they make is fantastic. That's one of the reasons I like this point system because it is hugely motivating. It just motivates so many kids, probably for the wrong greedy reasons that they get a mars bar at the end of it. It means that their whole individual effort is being given a value in terms of just the points and it is a productivity things as much as anything else. All they have to do is get the tasks finished on time and they get the points. It's not 9 out of 10 because they have done it better than someone else, so there is no comparison between what they have done and what someone else has done, although they make comparisons. They will say someone got 460 points and somebody else got 490 and those sorts of things but the points themselves are a bit different if you like to actual learning itself and the skills and so on.

R: What about those kids who aren't interested in the points?

C: They all are, they are all highly motivated. You will hear them talking all the time: "I got extra points" and that is why M always does it as she goes.

R: Fills her chart in as she goes?

C: She is adding it up as she goes. They get points for filling out that sheet. It is an easy 50 points or whatever it is.

R: I have watched children in here though, quite happily chat their way through 40 minutes and not actually have completed any tasks on that sheet.

C: And that has been a product of the fact that I said that we wouldn't add points yesterday because you remember we were going to, that we would be going to do it Friday.

R: I see.

C: So they say: "Beauty, the pressure is off", they will learn on Thursday that they won't have plenty of time. Time is running out.

R: They had LOTE this morning. They had some breaks and they have done some other types of tasks, and they won't be working on these tasks tomorrow but they haven't sorted that one out yet.

C: No, but it is back to that thing you were talking about, you know how long it is going to take to type that bit.

R: They have not worked it out.

C: And you find kids like Sh. who can do quite well. He is still coasting. Thursday, he will go, he will really start to panic. He will go into a sort of mode... it is probably too much because he won't do as well.

R: What happens to the kids in the reading group who are missing for part of the time when they could be working on their set tasks?

C: I take that into account.

R: You do?

C: I mean if they have nearly finished the work that they are supposed to be doing and it's only the matter that they have been out of the room for a couple of hours, then I will consider it's finished, it's done. You have done as much as you can do in the time, so that's accounted for, but not for those who have been here all the time. H. has been here all the time and not finished and that's it. Really when I first sort of introduced it, it was a sort of desperation day thing: "What will I do to get these kids

motivated, get them finishing work?" (Colleague) is having the same trouble. It drives him mad. He just can't... kids just don't finish so I just introduced the points and suddenly it was unbelievable.

R: I did notice it was working pretty well in his class, particularly with a group of high achieving boys who were very competitive. There was a group of girls in his class who didn't appear to worry too much about points.

C: Right, right.

R: It wasn't as interesting for them and for them it was pretty much tied up in finishing things off at home. Those kids who were motivated to finish things at home were interested, being encouraged at home might have been a big factor.

C: A couple of kids in here don't finish much in class. They finish it at home because this is too much of a social life. They come to school to socialise, not to work. They go home and they take their homework home. B, for instance, will work to 11 - 12.00 o'clock at night to finish her work off and her mother is driven mad by her but she could do it here. All the work she does at home, she could easily finish here, but there are too many other things, boys are suddenly on the horizon. Hormones chasing around and things like that.

R: It's hard to fight that one.

C: I have given up on that one but not so much perhaps that we are back giving them two weeks. Once the results, the scores are put on the sheet they will go and look at their score and they will see what they did last month.

R: I see, you post the scores.

C: And I graph them too, I am a good grapher. They can compare them with their score last month and then they will also compare it to the others. They will see who is 1st, 2nd, 3rd, and 4th. I did not do that to start off with and then I thought well, the real world is competitive in lots of different ways and so, those who are, particularly those who are bludging ought to know, with a bit more effort they could improve their score. That worked fairly dramatically with a couple of kids last year.

R: How is a kid like L fairing?

C: She is doing really well, to begin with she might get.... to just turn up you have to get at least 120 points. Initially she might have been scoring about that, maybe a bit less. She wasn't getting things finished but now she has scored 380, now 400 points. "I can't believe it," she says, "400 points." She is rapt. Four hundred points, I can't believe it.

R: I have noticed that they were telling me how they have an individual score and they have also a table score, so she is on a table with M which also ups her chances.

C: That's an average.

R: I talked to M about how she felt about that and I said if she could choose anyone to be on her table she would choose F. That was pretty obvious. I said: "So does it really bother you that you are sitting with people you didn't choose?" She was noticing the two boys sitting opposite who had not done much that session and she said "Yes and no. Everybody has got people on their table who don't work".

C: The arrangement you are seeing at the moment, is the first time that they have been allowed to choose their table. In the past, I have made fairly different rules that there has to be at least two Grade 5's at each table where we can because it is predominantly a Grade 6 mix.... The average, by averaging it out, I try to cope with that sort of imbalance, but every table has won and I haven't rigged it anyway. Every table through the last half, at some stage, has had a top score so I don't think that they think that it is unfair. They have all had a prize.

I guess again that it is how some parents value education. Some value it really highly as part of their culture, especially Turkish parents and some don't. The kids really need that extrinsic reward on a short term basis to kept them motivated and interested because it is too easy just to leave. Once they leave this place in the afternoon, it's not until they come back in the morning that a lot of them even think of books again. That is why we push them hard, there are no books at home. It's not a terribly bookish culture, I guess.

I don't know if that helps us in talking about individual reading.

R: I think we will probably leave it at that and talk about specific instances as I observe them. Thanks for your time.

A full transcript of interviews is available on request.

Appendix 2
Consent Forms

The research design was passed by the Victoria University Human Research Ethics Committee. The Victoria University standard consent form for subjects involved in experiments was provided to all teachers participating in the research.

As the majority of parents whose children were to be tested were from a non-English speaking background, a simplified consent form was sent to their homes.

I hereby give consent for Wendy Scott of Victoria University to carry out a diagnostic reading assessment with (insert name of student) . I understand that the results will be discussed with the classroom teacher and will be made available to me upon request.

Signed _____

Date _____