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RECPROCAL TEACHING AS
A SCHOOL-WIDE
INCLUSIVE STRATEGY

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A thesis submitted in fulfilment of the requirements for
Doctor of Philosophy, University of Auckland, 2002
ABSTRACT

Informed selection, development and implementation of inclusive teaching practices are critical with the move towards more inclusive education evident in recent major policy changes in New Zealand.

In this thesis, guiding questions for validating inclusive teaching practices were extended to include a school-wide approach. These questions guided a review of the literature on reciprocal teaching (RT), a metacognitive method for teaching reading comprehension, to examine its potential as an inclusive method. They were also used to examine the findings from two implementation studies using RT within inclusive and culturally diverse urban classrooms in a school-wide approach.

In the high school study, RT was introduced after a systemic analysis showed the need for a school-wide approach to pervasive reading comprehension problems. In a collaborative effort between departments, English, social studies and learning support teachers were supported in incorporating RT into the regular curriculum and timetable. Four classroom teachers with two support teachers were trained and ran eight RT groups for the lowest reading comprehenders within seven classrooms.

In the primary school study, RT was incorporated into four Year 4 and 5 inclusive classrooms at syndicate level. Half of each class (Group One) was matched on reading comprehension (high, medium, and low) and in prior experience of RT, with the other half of each class (Group Two). Group One completed the intervention in the first part of the year, whilst Group Two formed a no treatment comparison condition. Group Two completed the intervention in the second part of the year.

In both studies, teachers and teacher aides were trained and supported into the use of the new procedure, including in-class observations, feedback and regular discussions during intervention. In the primary school study, specific adaptations to the RT method were also made by read aloud, tape-assisted, and prior repeated
practice methods, for students new to the English language, and those with special needs.

Statistically significant gains on reading comprehension scores were observed with the 20 high school students who received an extended RT programme (with 12 to 16 sessions), whereas no significant differences were observed with 26 students in the short programme (6 to 8 sessions) and control groups. Follow-up assessments of extended programme students showed maintenance of comprehension gains. This study highlighted the need to introduce preventative and inclusive metacognitive instruction methods not only at high school, but also earlier.

With intervention in the primary school study, low comprehenders \((n=41)\), including those who had prior experience with RT, made practically significant gains not only on reading comprehension, but also on decoding. Further, all students \((n=103)\) made significant gains on a measure of metacognitive awareness of reading strategies, but not on measures of reading comprehension and reading attitudes. Analysis of data on programme adherence showed that students had high participation rates and regular use of all four cognitive strategies throughout the intervention. In terms of programme adherence by instructors during the group dialogue, there was an appropriate focus on idea rather than word level, but scaffolding was only partially evident.

Teacher feedback in both studies supported the feasibility of the method for regular teachers working together with support staff during the introductory phase. The high school study also showed that this arrangement can work for several years, and that RT will be effective - if students are provided with more than 12 sessions, and if adequately sustained at a class teacher and school-wide level.

Both studies contribute to our understanding of the potential of RT as an inclusive instructional procedure, illustrating that RT can be incorporated at a school-wide level as a means of early intervention to address widespread reading problems and
facilitate more inclusive practices between regular teachers and special needs staff.

Implications are also discussed in terms of strategic resourcing for remediation, value for staff development in inclusive methods, and school commitment to sustaining inclusive and early intervention within a school-wide approach.
ACKNOWLEDGEMENTS

This thesis is dedicated to my extended family. To my late partner Stuart, who knew when to work and when to put the Laptop away and play. To my son Rick, for his support, illustrations and technical assistance. To Nina, Mel, Jessie, Heleen, and Mike, for their freshness and love. To my prickly Tamara, who graciously bore the brunt of my increasing absentmindedness. To my late parents, who instilled in me a deep sense of self and roots.

Outside my family, I feel very indebted to Dennis Moore. He introduced me to reciprocal teaching and later proceeded to mentor me through a Ph.D. journey coloured by several difficult disruptions. Thank you, Dennis, for being there, and for your ongoing pragmatic support and expertise in guiding this research.

Many heartfelt thanks are also due to Ted Glynn, who in his congenial and challenging way inspired and extended me during the final integrative and drafting phases. I also wish to acknowledge Courtney Cazden, Marie Clay, Dorothy Howie, Stuart McNaughton, Viviane Robinson and Keri Wilton. Looking back, they had a formative role in extending my thinking in the 1980s.

Many thanks to those with that rather special friend cum colleague blend who have contributed in differing ways at various stages of the research: Fiona Ayers, Mary de Beer, Lyn Doherty, Irene Fong, Delinda van Garderen, Fiona Larsen, Deidre Le Fevre, Jey Monsen, Dan McKerracher and Ian Wilkinson. Thank you, especially, Delinda, for your superb and timely personal and professional support.

A special debt is owed to the principals, heads of department, teachers, teacher aides, parents and children of the two Auckland schools who participated so fully in the research projects. I have fond memories of our joint work.

For generous financial assistance I am indebted to the New Staff Research Grant of the University of Auckland. I have also been spoiled by the supportive flexibility of employers - Margaret Zubcic, Northern Hospitals School, and Vivien Knowles, Ministry of Education, Special Education.

Finally I wish to acknowledge my immigrant past. From a legacy of monocultural schooling and university in the 1950s and 1960s I developed a deep sense of alienation. Fortunately teaching practices that are hospitable and interactive are more commonplace.
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CHAPTER ONE
THE CONTEXT OF INCLUSION

1.0 Introduction

This thesis is about validating inclusive education practices within the context of pressure to translate current theorising about inclusive educational reform into practice. A method of metacognitive instruction of reading comprehension, reciprocal teaching (RT), was selected to explore its potential as an inclusive practice. This selection was based on prior research with RT by the author (Westera, 1996; Westera & Moore, 1995) originating from a needs analysis demonstrating pervasive reading comprehension problems in several high schools. This research culminated in the selection and implementation of RT in a school-wide approach in one high school. In this field study it became apparent that RT provided benefits at a teacher and school-wide level towards more inclusive practices.

An analysis of some of the major themes in the current inclusive education context is presented in Chapter One. This led to conclusions that inclusive practices need to be selected, developed and implemented in an informed and planned school-wide approach. Subsequently, based on an analysis of reviews on relevant instructional practices, guiding questions were developed to validate the selection of instructional practices as inclusive (Chapter Two). These questions were applied to a literature review on RT (Chapter Three), and to the findings of two implementation studies conducted in a high school in 1991 (Chapter Four) and a primary school in 1995 (Chapter Five). Finally, I reflect on the findings of both studies in the light of the literature on inclusive education and RT (Chapter Six). In this first chapter I outline the backdrop to the study. This leads to a formal statement of the problem this research addresses.

1.1 The Foundations of Inclusion

Recently substantial international educational reform is moving regular education towards developing more equitable and inclusive foundations. Schools are now expected to provide for the needs of all students in their communities, irrespective of
any individualised learning needs due not only to disability, but also to diversity in culture, literacy, language, or gender.

In New Zealand (NZ) the last decade has seen substantial changes in both regular and special education towards more inclusive beliefs and practices. Pressures conducive to inclusion have come from different sources. An immediate pressure on teachers and schools originates from changes in the social and demographic patterns of school populations. Teachers are encountering an increasing number of children coming to school from a wider range of ethnic, language, literacy and economic backgrounds than ever before. Confronted with marked differences between students in prior language, knowledge and experience, teachers and schools have to reconsider their educational practices. Another recent pressure on NZ teachers and schools derives from wide-ranging shifts in national policy towards mandating equity values and practices, as well as devolved accountability of schools. Such shifts in regular education have enabled changes in special education policy and practices to take place. Schools are now responsible for the learning of all students, and are required to foster inclusive environments where diversity is valued and affirmed.

This study is set in the context of educational reform driving schools and teachers to become more inclusive in practice.

The Concept of Inclusion

There is wide debate around the concept of inclusion and its underlying philosophy, with the meaning of the term ‘inclusion’ remaining elusive. For example, ‘inclusion’ is not defined in recent special education policy, Special Education 2000 (SE 2000, Ministry of Education, 1996), although this policy includes the promotion of inclusive goals. The policy states that “the Government’s aim is to achieve a world class inclusive education system that provides learning opportunities of equal quality to all students” (p.5). The lack of an explicit definition leaves the extent and nature of inclusion open to different interpretations.

An essential dimension of ‘inclusion’ is values, beliefs and attitudes promoting human rights, social justice, equity and human dignity (Lipsky & Gartner, 1996). The term also refers to an education process or model of service delivery. From this service delivery perspective, York, Doyle and Kronberg (1992) define inclusion as “students with disabilities (a) attending the same school as (their) siblings and
neighbours, (b) being in general education classrooms with chronological age-appropriate classmates, (c) having individualised and relevant learning objectives, and (d) being provided with necessary support" (as cited in King-Sears, 1997, p.2).

However, this model has some ambiguity, provoking differing views in western countries. Proponents of “Full Inclusion” advocate that all students, regardless of disability or learning problem, receive all their educational services in the regular classroom (Lipsky & Gartner, 1996). In the United States (US) leaders of the “Full Inclusion” movement are primarily advocates for students with severe cognitive impairment who are seeking greater social integration and participation of their students (Fuchs & Fuchs, 1994; Sailor, 1989). Proponents of partial inclusion recognise that for some children there may be reasons for some formal instruction occurring outside the regular classroom (Sailor, 1991). According to King-Sears (1997), the considerable rhetoric about ‘Full Inclusion’ is misrepresented. King-Sears comments that Brown et al (1991) report that “nowhere in the literature do they find any professional who is saying that all students with all disabilities should always receive all their instruction in general education classrooms” (King-Sears, 1997, p.2).

As a concept, ‘inclusion’ evolved from the special education sector, in reaction to questioning about the adequacy of many mainstreaming practices for students with disabilities. The term has generalised to encompass a broader notion due to changing ethical, philosophical and socio-political bases, as well as changing theoretical bases.

**Equity and Ecological Grounds of Inclusion**

The ethical, philosophical and socio-political bases of inclusion flow from a values shift in the western world towards greater equity for all.

In Scandinavia the shift in values arose out of concerns about the lack of empirical underpinnings for the effectiveness of segregated facilities for people with disabilities (Sobsey & Dreimanis, 1993; Wolfensberger, 1969). Consequently, normalisation principles were established to ensure people with disabilities had the same rights to services and patterns of life as those without disabilities (Nirje, 1969; Wolfensberger, 1969, 1972). These principles challenged existing segregating practices and provided a platform for organisational change.
A similar values shift in the United States towards equity can be subsumed under the larger multi-cultural education movement. Born out of the Civil Rights movement of the 1960s and 1970s, the initial focus was on countering racism, and later, on promoting educational reform. Subsequent legislation (PL 94-142, 1975) promoted ‘the least restrictive environment’, individualised education plans (IEP), and mainstreaming values and practice, such as the continuum of services model (Dano, 1970). Parallel development in the United Kingdom was exemplified in the Warnock Report, which provided the impetus for legislation with a needs-based rather than a category identification system (DES, 1978). More recent legislation in the United States (PL105-17, 1997) extended the mandate further towards inclusion. Specifically, the focus was on providing students with special teaching needs access to the general curriculum with appropriate accommodations and with measurable goals that were regularly reviewed to ensure accountability.

The inclusive schools movement grew out of but goes further than the mainstreaming movement (Stainback & Stainback, 1990). Mainstreaming is the process of integrating students who have been excluded from the mainstream, into regular schools. Its values were based on a concern for social justice for students with disabilities who typically were excluded from regular education. Inclusion has a wider scope. It values equity for all, and demands appropriate school reforms in order to meet the needs of diverse groups of students, and not only those with special educational needs. Mainstreaming highlighted equitable access and how to ensure access for students with special needs into schools. With inclusion the main issue is broader, that is, how to shape a culture within educational and social organisations that is responsive not only to the needs of ethnic minority groups but to the “long-silenced publics including those who are economically poor, women, gays and lesbians and people with disabilities” (Sleeter, 1995, p.83).

The inclusion movement can be examined in the context of multicultural education. Both movements view diversity, including cultural pluralism, as the norm (Ferguson, 1995; Riehl, 2000), and assume that the primary problems facing people with diverse needs arise from external and not simply internal sources. This implies the task of educators becomes one of major school reform, to ensure all schools focus on the principles of equity, success and social justice for all students (Baptiste, 1999). With a wider focus than services predominantly for students with special needs, minor
changes in service delivery models would not be enough (Skrtic, 1995). The aim is to promote structural equality in educational organisations, with all students having equal access to meaningful learning. The task of educators becomes one of altering, adapting and improving educational organisations and environments to meet the educational and social needs of all students. Ferguson (1995) argues for “a unified system of public education that incorporates all children and youth as active, fully participating members of the school community; that views diversity as the norm; and that ensures a high quality education for each student by providing meaningful curriculum, effective teaching and necessary supports for each student” (p. 286). According to Stainback and Stainback (1990), to achieve this demands that general and special educators come together to create a new type of unitary system “in a unified consistent effort” (Stainback & Stainback, 1990, p.3).

The second base of inclusion reflects a theoretical shift in our understanding of learning processes. There has been a paradigmatic shift, or move in ‘stories’ (Meyen, 1995; Moore, et al, 1999; Skrtic, 1991), reflecting changing assumptions about the causes of learning and behaviour. This shift has been away from a functional limitations model, whereby the focus is on problems within the person, to an ecological model, whereby the focus shifts to view the problems within the wider context, from a transactional perspective of development (Bronfenbrenner, 1979; Sameroff & Chandler, 1975).

The old story or paradigm focussed on the individual and his/her functional limitations. It attributes difficulties and failures in learning to neurology, motivation, or other deficits or dysfunctions within the individual. This paradigm led to a narrow and specialised view on intervention, which involved categorising students with disabilities, and marginalising them by labelling and excluding them from regular classrooms and schools. Further, resources and energy were targeted at the individual, and not broader ecological issues. Even with the development of mainstreaming, the individual stayed the primary focus. According to Ferguson (1995), mainstreaming tried to relocate the special needs child into the regular classroom, but relied on special education attitudes, curricula and methods. This meant that special educators often failed to require the regular education setting itself to adapt to meet the child’s needs. With the predominant focus still on the individual,
the importance of the nature and quality of instruction in mainstreamed settings, and wider social and environmental factors, were minimised.

The new story or paradigm shifted the focus towards a more inclusive view based on ecological perspectives on learning and development. Ecological and social construction theory conceptualise learning as an interactive and contextualised process (Bandura, 1977; Bronfenbrenner, 1979; Vygotsky, 1978; Will, 1988). From an ecological perspective, instructional environments, and not internal factors in the individual, are considered the primary problems facing people with disabilities. The task of educators, then, is to facilitate a maximum level of inclusion (Moore et al, 1999). Assessment and intervention need to address both individuals and the environment where their learning occurs, and associated social relationships (Ysseldyke & Christenson, 1993). This requires individualised curricula and instructional adaptations being made. In addition, an inclusive and ecological view also promotes the creation of more inclusive environments (Skrtic, 1995).

**Instructional Grounds for Inclusive Regular Classrooms**

In most western countries special education evolved as a separate system of provision largely on political grounds. Parents, educators, researchers and others raised issues with the adequacy of regular education to provide for students with special teaching needs (Sage & Burello, 1994). Although some political and feasibility grounds for exclusion may still exist, such as a parent’s rights to choose where their child is educated, and the need to cluster finite resources and expertise or they may be lost, this situation is changing. Currently few instructional grounds remain for such separateness. For instance, Sobsey and Dreimanis (1993) concluded that “the vast majority of students with intellectual disabilities do better in integrated classrooms rather than special education programs... It is only the delivery of special education services in segregated settings that is called into question – not the need for individualised and intensive education” (p.10). Clearly regular classrooms have become the primary setting for instruction, for several reasons beyond values and ecological theory.

One major reason supporting regular classrooms being inclusive is the compatibility of the shift in paradigms in regular education (Sage & Burello, 1994) with those in special education. According to Peters (1987), the paradigm shift within regular
education includes changes in perceptions of how people are viewed and valued in organisations, how organisations are structured (with a shift to decentralised semi-autonomous workplaces), and how effective leadership inspires self-management and continuous improvement fostered by a shared vision for the future. The new paradigm promotes innovation and entrepreneurship in response to student needs. Teaching and learning are supported in an authentic learning community (Paris et al., 1992), which values supporting and helping each other, cooperation, shared responsibility for all students, interactive teaching-learning practices, and active learning.

The paradigm shift in the regular curriculum is similarly consistent with the inclusive shift in special education. In an analysis of curriculum change in Ontario, Canada and New Zealand, Drake (1995) commented that the shift in the curriculum reform from a time-based and subject-based approach to an outcomes-based approach reflected changes in three underlying assumptions: (a) the purpose has shifted from maintaining the status quo to ensuring success for all students; (b) the curriculum has extended from primarily a content focus to include other dimensions, such as extending higher order thinking and interpersonal skills; and (c) the principles of learning and teaching have also developed from transmission models to integrated constructivist models. This shift makes the curriculum changes particularly responsive to meeting the needs of all students, including those with special teaching needs. Since moves to more interactive learning-teaching practices are seen as more conducive to the inclusion of students with special teaching needs, the dual reform (Moore et al, 1999) is mutually beneficial.

A second comprehensive argument supporting inclusive classrooms is based on a central message from the school improvement research, which is that it is the regular classroom teaching that exerts the dominant influence on children’s progress. Recent research shows that differences in the quality of teaching between regular teachers may account for 40 to 55 per cent of the variation in student outcomes – with the rest of the variation accounted for by home backgrounds, genetic inheritance and the nature of the school (Ministry of Education, 2001).

The third ground for inclusion is that the principles of effective teaching practice are essentially the same, no matter where the setting. The quality of instruction has become the central issue, not the location of instruction. Specific characteristics of
quality instruction include a supportive teacher, regular and extensive review of the learning material, explicit instruction, a positive climate, and requirements that students work (King-Sears, 1997). Many students with learning difficulties may simply require more explicit, intensive and systematic instruction than those who are achieving in regular classrooms (Eber, 1996).

Other arguments for the inclusion of students with special needs in regular classrooms include avoiding separating students with learning difficulties from same-aged peers; helping regular teachers acquire new skills for working with low achievers and students with disabilities; preventing further referrals out of the classroom by meeting needs within the classroom; reducing special education costs; and improving outcomes for students with disabilities (Schulte, Osborne & Erchul, 1998). However, these have to be understood in the context of possible barriers to learning in inclusive classrooms. Studies focussed on working with regular teachers in inclusive settings showed there were staff development as well as management and resourcing issues. In particular, regular class teachers were unlikely to provide instruction with sufficient intensity, focus and duration (Schumm & Vaughn, 1995).

Schulte et al (1998) summarised the pragmatic barriers to effective instruction in such inclusive settings as the regular teacher's skill levels in individualising instruction; time available for instructional planning; support available from special education staff; class size (Forness, Kavale, Blum, & Lloyd, 1997; Scruggs & Mastropieri, 1996); and difficulties implementing individualised and/or small group instruction in a large group setting (Schumm & Vaughn, 1995; Zigmond, 1996).

Inclusive directions are also supported by research showing few over-arching arguments for maintaining exclusion practices. Research contrasting separate special classes and pull-out systems with regular classes, has not supported the efficacy of separate education. For example, comprehensive reviews (Leinhart & Pallay, 1982) for students with mild disabilities have found mixed results. These included that for students with mild disabilities, there were small or negative educational outcomes, relative to students without disabilities, regardless of where teaching occurred - in regular classrooms or in pull-out settings for part of the school day (Schulte et al, 1998). Of concern is that segregation may disadvantage students with special needs, in that they are more likely to remain segregated for long periods of time. Repercussions from this are the consequences of associated labelling on students.
These include limited teacher expectations and restricted learning opportunities (Kube & Shapiro, 1996).

Schulte et al (1998) identified the barriers to effective instruction in pull-out settings as largely management and resourcing issues; such as large caseloads; time lost transitioning between settings; lack of communication and coordination between teachers; difficulties in scheduling similar needs at the same time; and slower pacing. Further issues have been raised, such as the failure of regular teachers to take responsibility for individualisation of instruction and their preference for pull-out systems (Fields, 1991); the stigma that pull-out systems can create for their students (Conroy, 1988); and the lack of coordination and continuity between regular and pull-out programmes (Johnston, Allington & Afferblach, 1985). According to Gelzheiser and Meyers (1991), pull-out programmes can be justified if they provide increased opportunities for students to learn, small groups, individualised instruction, and more intensely structured teaching.

Note that these research findings need to be qualified because they are likely to be specific to US primary school contexts and to students who have 'learning disabilities, behaviour disorders or mild mental retardation' (Fisher, Schumaker, & Deshler, 1995, p.1).

Overall, research provides no strong basis for an extensive practice of separating students with disabilities from their peers. Nor is there research support for merely locating students with special needs in regular classrooms, particularly as this practice does not guarantee learning will occur. Rather, equity, ecological and empirical research grounds support the central role of the regular teacher in creating inclusive environments for all children in their classrooms. Improvement projects should aim to have a direct impact on the regular classroom, as long as children spend most of their time there.

Research themes currently being explored include the efficacy and feasibility of new service delivery options in regular classrooms, such as appropriate consultative services and co-teaching models (Schulte et al, 1998). A further imperative in this situation is the development of specific instructional strategies (Wilton, 1985) that are powerful and can be implemented in regular classrooms for students with low achievement and / or disabilities (Fisher et al, 1995; Schulte et al, 1998).
Inclusion as Fundamental Change

Inclusive reform involves fundamental change at a national, school-wide and classroom teacher level (Lipp, 1992; Sailor, 1991). Cuban (1996) defines fundamental change as substantially transforming the culture and work of schools and classrooms (Cuban, 1996). Fundamental change is clearly required when considering the paradigm shifts that have occurred.

Lipp (1992) outlined an emerging inclusive paradigm on the basis of research and thinking in special education. In terms of policy and administration, Lipp viewed the emphasis shift from a parallel (separate) to a merged system, with special education becoming more inclusive and the development of a single inclusive culture. Special educators would work at prevention, assisting regular teachers with all children in the context of the general school programme. Programme development would be site-driven, to fit with the increasing emphasis on school restructuring and the development of inclusive school cultures (Lipsky & Gartner, 1996; Riehl, 2000). With the school’s clients changing, the emphasis becomes one of providing for independence and diversity, including cultural pluralism (Baptiste, 1999; Cummins, 1997; Delpit, 1995; Ladson-Billings, 1995). In terms of curriculum and instruction, the emphasis is on flexibility, providing for diversity of learning styles, individualised curricula, meaningful and powerful instructional tasks involving a range of learning processes, a repertoire of teaching structures combined with explicit teaching, developing independent attitudes and habits, access to quality programmes, and collaborative team development.

Support and funding for students with special teaching needs would be centered on programmes, blocks of students and accountability systems. Teacher education would shift from training specialists in special needs to training all teachers to educate children with increasingly diverse learning needs within their classrooms. This would require methods for embedding specialised instruction into the regular class context. At the regional or district levels, interagency liaison would shift from the provision of a range of segmented services disassociated from education, to collaborative school-based services. Lipp’s evolving paradigm shift integrates special education with regular education, and clearly requires change that is ‘fundamental’.
Fundamental change is also critical when considering the many components integral to effective inclusion. Different researchers (Sage & Burello, 1994; Sailor, 1991; Vaughn & Schumm, 1995; Wilson, 1991) have attempted to establish these. Components identified as integral to full inclusion are:

- the regular school providing an inclusive environment for all students, with a 'zero-rejection' philosophy (Sailor, 1991);
- age appropriate school placements, with no self-contained classes operative (Sailor, 1991);
- “significant use of cooperative learning and peer instructional methods in general instructional practice at the school site” (Sailor, 1991, p.8);
- non-categorical individualised programming (Wilson, 1991);
- maximum coordination across settings (Wilson, 1991);
- “special education supports provided within the context of the general education class and in other integrated environments” (Sailor, 1991, p. 8);
- merged replacing parallel systems between regular and special education (Sage & Burello, 1994);
- the appointment of consultants to enskill (Wilson, 1991) and co-work (Schulte et al, 1998) with regular teachers;
- provision of educational support to facilitate attitude change in teachers (Wilson, 1991); and
- the involvement of teachers and parents in the provision of services (Wilson, 1991).

Implementation studies have provided a further perspective on critical components of effective and responsible inclusion. In their two year study on implementing both 'effective and responsible' inclusion in three primary schools, Vaughn and Schumm (1995) identified nine components:

1. the extent to which students can make satisfactory academic and social progress as the criterion for considering alternative interventions;
2. allowing teacher choice in teaching inclusive classes;
3. ensuring adequate provision of human and physical resources;
4. encouraging schools to collaboratively develop their own inclusive practices;
5. encouraging alternative teaching strategies and adaptations to the curriculum;
6. maintaining a continuum of services;
7. continual monitoring of organisational provision and student progress;
8. maintaining ongoing staff development for all who need it; and
9. collaborative school-wide development of a philosophy and policy on inclusion which provides guidance to teachers.

Fundamental change is clearly integral to inclusion because the components of inclusion are multi-level and interactive in nature, and involve concurrent shifts in major contemporary educational paradigms. Hargreaves (1989) argues that even practical curriculum change at the classroom level requires "substantial changes in the culture and work of teaching" (p. 159), with fundamental changes in how teachers think about knowledge, teaching, learning and their role in the classroom (Brown & Campione, 1990). Fullan (1990) notes that without fundamental change any specific intervention would be short-lived or superficial.

**A school-wide approach to inclusive change**

To translate fundamental changes in national policies into beliefs and practices of teachers and schools is a complex process. Several key factors have been identified in the organisational change, staff development and inclusion literature (King-Sears, 1997; Lipsky & Gartner, 1991; Richardson & Placier, in press; Riehl, 2000) as pertinent to building secure foundations for effective reform programmes such as inclusion.

First, the main focus of inclusive reform is "changing the nature and the quality of the general education classroom" (Cuban, 1996; Sapon-Shevin, 1996). This requires a heavy reliance on regular teachers. They are central to the success of an inclusive classroom, may exert the dominant influence on their students, and are ultimately accountable for outcomes. They need to promote forms of teaching and learning that enable diverse students to succeed and foster cultures that embrace diversity (Riehl, 2000).
Second, interventions required to secure and support complex fundamental change need to be developed in a collaborative way (King-Sears, 1997; Vaughn & Schumm, 1995) with schools at a local level (Gersten et al., 1997), and with a site-based school-wide approach (Fullan, 1985). This should involve not just a few teachers, but the whole school and/or relevant subsectors are considered as a unit. Reasons for this school-level focus include the need (a) to develop a culture for improvement (Anders & Richardson, 1991; Riehl, 2000); (b) to focus on issues within a specific context (Griffin, 1991); and (c) to provide the programme with long term and varied forms of support required for deep reform (Richardson & Placier, in press). To action such change, a school-wide strategic plan is commonly developed to specify a shared vision and commitment (King-Sears, 1997). Specific goals, such as curriculum and instructional improvements, can then be achieved alongside attempts to alter organisational conditions and climate integral to or conducive to such improvements.

Third, for long term student benefits, Cuban claims fundamental changes are only likely to survive if institutionalised and incorporated into routine school and classroom activities. This usually includes some standardisation of the curriculum and associated adaptations and tracking of student learning through assessment (King & Newmann, 1999; Richardson, 1998) - so that the school has a coherent approach, with all teachers being supported and accountable. It also means that resources need to be mobilised so teachers can learn and maintain new teaching practices and assess them (Riehl, 2000).

Fourth, the nature of the change process is another factor impacting on the likelihood of achieving deep change. The need of the regular teachers for adequate preparation, training and ongoing support (King-Sears, 1997) has to be combined with other elements central to teacher and school-wide change. These include the importance of agreeing on shared goals and commitment by participants before and/or during the programme, acknowledging existing beliefs and practices (Richardson, 1998), and developing collegiality or a learning community including dialogue in groups (Palincsar, Magnusson, Marano, Ford, & Brown, 1998). Further, the reform needs to be seen as relevant to and benefiting all or most of the students (Gersten et al., 1997).

Fifth, teachers may also need more or different support while learning and refining new methods (King-Sears, 1997). Wolery, Werts, Caldwell, Snyder, and Lisowski (1995) report that regular and special educators consistently rated personal training
and support as high need areas for implementing successful inclusion. With many instructional programmes, “mentioning is not enough. Teachers must have clear examples of how strategies work for different types of students and how to orchestrate the whole” (Sindelar & Kilgore, 1995, p.352). Cuban (1996) identifies “tailoring the implementation to the contours of actual classroom realities” (p.79) as central to promoting the effectiveness, fidelity, longevity and adaptiveness of any intervention. Eber (1996) argues for other critical elements of school-based change, such as flexibility, individualisation, building on individual and environmental strengths, and working across settings.

Sixth, educational professionals skilled at working as agents of change are often central to reform programmes. They need to be able to work in a staff developer and facilitator role (Le Fevre & Richardson, 2000) within school systems and the curriculum framework, and support regular teachers in acquiring current knowledge, attitudes and skills in inclusive teaching strategies and in curriculum adaptation (Moore et al, 1999). To be effective, facilitators need to work collaboratively over a considerable period of time (Richardson & Placier, in press), at the research-based conceptualisation stage as well as with the more practical elements (Gersten et al, 1997). Further, King-Sears argues that training should occur not only at the early stages of implementing inclusion. After working in an inclusive context, teachers also benefit from being able to target their own needs for further training.

To work as an agent of change requires understanding the macro and micro context, as well as identifying the type of change required and crafting a strategy to achieve it (Cuban, 1996).

1.2 The New Zealand Context

Background

In NZ major educational reform is being facilitated through comprehensive changes in legislation and policy. The direction of this reform is not new. It can be argued that, historically, regular and special educators in NZ have readily incorporated inclusive beliefs and practices. In NZ educators were open to and evolving a more inclusionary approach because they have always had a fundamental belief that
appropriate education should be provided for all children in the regular school setting wherever possible (Moore et al, 1999). For instance, Winterbourn (1944) foresaw a time when the regular class teacher could handle students with special needs, after 'considerable advances in school organisation and the professional skill of the rank and file teachers and, as well, a great development of expert and advisory services' (p.7).

However, like other western countries, NZ commenced with separate provision for students with disabilities in the first decade of last century (Winterbourn, 1944) with a gradual expansion thereafter of special classes, special schools and advisory services (Wilton, 1985). In the early 1970s some of these exclusion practices came under more scrutiny due to the principle of normalisation gaining acceptance in NZ. The efficacy of special classes and alternative integration approaches were also being considered (Pipe, 1985; Wilton, 1985). Such questioning over the last 25 years has resulted in NZ education clearly evolving towards a more inclusive position. This is evident in changes in service delivery models. One of these was the gradual transfer of students and resources to the mainstream, with the majority of separate special education facilities being disbanded in the 1980s (Milne & Brown, 1987). A concurrent change towards more inclusionary models of service delivery was the early exploration of more ecologically valid systems of support for students with significant learning and behavioural difficulties. This was first formalised in 1975 with the development of in-class ecological models of support, called guidance and learning units (Thomas & Glynn, 1976). The release of special class teachers allowed for further inclusive developments, such as the 'support teams' project (Moore, Glynn & Gold, 1992) actioned in 69 schools by 1990. This school-based project developed regular schools to "maintain students in the mainstream by supporting classroom teachers in the development of their resources and programmes for students" (Moore & Sheldon, 1989, p.5). The training and facilitation occurred through ongoing support from educational psychologists in the NZ Department of Education Psychological Service.

Despite these pioneering inclusive developments, there was no inclusive formal mandate until The Education Act (1989) legislated mainstreaming of students with special needs within a non-categorical, needs-based system. Further legislation
supporting the rights of all children to have an inclusive education in their local schools occurred through the Human Rights Act (1993).

**Recent Fundamental Changes**

Significant educational policy changes recently mandated fundamental inclusive reform in both regular and special education. Major administrative and curriculum reforms in regular education culminated in 1996 with the Special Education 2000 (SE2000, Ministry of Education, 1996) policy. All these policies reflect a movement towards an inclusive paradigm with a positive equity and ecological stance.

Paralleling with changes in special education, administrative policy in regular education shifted paradigms, changing school governance from a centralised to a decentralised system (Ministry of Education, 1988). This required schools to establish policies and practices to meet the needs of their own students within nationally determined guidelines. The policy recognised the diversity within NZ society and provided a basis for an inclusive and accountable system of education. For instance, it became each school’s responsibility to ensure successful learning occurred for all students, and to recognise the impact of the quality of teaching on student learning. The first goal of the ministerial Maori Education Strategy has similar themes: “to make mainstream schools more accountable and responsive to the needs of Maori students and parents” (Velde, 1999, p.1). An equity and ecological stance is further evident in the way these administrative guidelines require the boards of trustees of schools to work systematically at access for all students. This includes analysing barriers to learning and achievement, and developing and implementing strategies to overcome barriers to learning. Barriers are described as arising from student characteristics, home circumstances, school systems and practices, cultural influences and environment issues. Strategies for overcoming barriers are identified as operating at classroom, school-wide and outside community levels.

Another paradigm shift is evident in the new curriculum policy, the NZ Curriculum Framework (Ministry of Education, 1990, 1993). This aimed to provide ‘excellence’ and a seamless education for all students. An ecological and educational stance towards learning is evident in the way this policy stresses the interrelatedness of knowledge and skills, the ongoing developmental nature of learning, and an integrated teaching and learning cycle. Teaching is viewed as needing to become
more responsive to individual interests and needs. All teachers are expected to provide a range of assessment procedures, adaptive teaching strategies, concurrent activities and different criteria of success for different students. A recent revision of the National Curriculum Guidelines (Ministry of Education, 1999) also requires schools to specifically identify groups of students “who are not achieving, who have special needs and aspects of the curriculum which require attention” and to “develop and implement teaching and learning strategies to address the needs of students” (p.5).

In special education inclusive reforms are evident in another new policy, Special Education 2000 (SE2000). This policy aims “to develop a fair system to ensure students receive appropriate support wherever they may be and according to their level of need”. The policy provides parents with choices while simultaneously structuring a continuum of service delivery options, and therefore does not represent ‘Full Inclusion’. The policy removes administrative categories of disability and sets priorities in national guidelines for the allocation of school-based resources for special needs. Further, it emphasises the need for teacher training to meet special needs in regular classes and schools, support systems for mainstream settings, in-service training for regular class teachers, and specialist training for support personnel. The inclusive aim is also furthered by assistance being provided to schools to promote the best possible learning environments for students with special needs. An implication of this policy is that in many areas schools will need to cater for an increasingly diverse range of students within their regular classrooms and regular curriculum. The interlocking of this special education policy within the broader official administrative and curriculum policy clearly consolidates the inclusive aim. The establishment of Resource Teachers of Learning and Behaviour (RTLB) positions with a pivotal role further supported this new inclusive system (Thomson, Brown, Jones, & Manins, 2000).

Note that, when reviewing the international and NZ situation in special education, culture has scarcely featured (Macfarlane, 1998; Moore et al, 1999). In NZ this has occurred despite documented cultural and equity issues evident in educational placements and outcomes. This includes the under-achievement of Maori (Smith, 1990) and over-representation of Maori children presenting with behaviour difficulties (Macfarlane, 1998). Further, Maori and Pacific Island students and / or
students from socioeconomically disadvantaged backgrounds were also over-represented in lower band classes (Vellekoop, 1969) and in segregated facilities (Clark, Smith & Pomare, 1995; Kelly, 1990). Issues have also been raised about the cultural appropriateness of diagnostic practices (McCreanor, 1988). Macfarlane (1998) claims that it is only recently that culture has become more visible and that 'piki aki te tikanga: culture counts in special education'. This has become clearly evident in the way that bicultural values and practices, such as those in Te Whariki, the Early Childhood Curriculum (Ministry of Education, 1993), have been well-integrated into the principles and practices of the Early Intervention services of Group Special Education in the Ministry of Education. Similarly, the RTLB programme was collaboratively developed in a bicultural way, and expects RTLB teachers to recognise and promote the bi-cultural nature of the NZ education system. The programme acknowledges cultural values and preferred practices from within a Maori world view (Thomson et al, 2000). Macfarlane (1998) suggests that a bicultural perspective 'may enable special education professionals to draw from both traditional perspectives as well as contemporary theories' (p.4), so that a 'plurality of pathways' include those from within a Maori theoretical framework (p. 5). This is necessary when considering the NZ commitment to the Treaty of Waitangi, which requires that educational institutions foster bi-cultural development as well as Maori rights to self-determination.

Although both regular and special education are coalescing into a predominantly inclusive – and more culturally responsive - meld, the current situation reflects a co-existence of both traditional and inclusive paradigms. This is clearly evident in one policy in particular, SE2000. Moore et el (1999) describe this NZ policy as 'caught between stories', because it demonstrates both inclusive and categorisation approaches. Full inclusive reform is unlikely in this situation. A second reason for incomplete inclusive reform is that, because the current situation has evolved only recently from a mix of approaches, schools and teachers are at different stages of adapting to change. A third reason is that current policies rooted in autonomous schooling, economic competition, market-led services and personal choice may not be sympathetic to inclusive schooling, and can result in tensions with and avoidance of inclusive requirements. Fourth, some traditional philosophies and practices are entrenched and are difficult to change at a grassroots level. For instance, guidance
and special needs systems are usually positioned on the periphery of school organisations, reinforcing a reliance on marginalisation and/or removal of differences and difficulties with children. This pattern can protect teachers and administrators from changing their beliefs and practices, as the onus to adapt is placed on the child and peripheral systems, including the teacher aide. Fifth, because there is variability in the knowledge and skills of NZ teachers, schools, and backup services in adopting and maintaining effective inclusive practices, pull-out systems can be reinforced. Sixth, alternative paradigms are gaining some foothold. This is a result of factors such as the deprofessionalisation of special education, and the deregulation and fragmentation of ecological and educational approaches (Westera & Charles, 1995).

For instance, there is an increasing reliance on professionals and teacher aides to test and deliver programmes and 'therapies' when they do not understand how to collaborate with NZ teachers to ensure the ecological, developmental and cultural validity of instructional methods. And this is despite NZ primary teachers, for instance, being well-known to have a background of unique training, mentoring and socialisation in integrated natural language and grouping (Wilkinson & Townsend, 2000) practices, which are more likely to be compatible with inclusive and bicultural beliefs and practices. Further factors maintaining a mix of paradigms include the relative absence of culture safe training and formal mentoring in awareness and consultation within NZ educational and bicultural policies and practices, for anyone working with NZ children, families and schools – whether they be for teachers, medical therapists or psychologists new to NZ educational beliefs and practices.

In summary, the inclusive mandate, to ensure equal educational opportunities for all students and to establish inclusive environments where diversity is valued - is written into NZ national policy in both regular and special education. This inclusive direction is consistent with national and international trends, paradigm shifts and research in both special and general education. These policy changes are resulting in fundamental change. Both regular and special education goals, structures, curriculum and teaching practices are being shaped into a more coherent and unified system. In particular, they are reforming regular education into developing more inclusive beliefs and practices. The vast majority of students with special needs are now located within regular education, rather than in a parallel special system. Further, the drive for inclusive reform has provided an impetus for fundamental change towards
increased instructional equity for students with special teaching needs. However, the current situation reflects a mix of paradigms and practices.

**A Climate of Change**

A climate conducive to inclusive change at a school-wide level has been generated by both fundamental reform in NZ education policy, and by researchers who have shown the failure of our education system to serve our lowest achievers well.

The reform has made all teachers, whether regular or special, accountable. They have to be able to demonstrate all children are learning in regular classrooms. In this they are supported by their school organisation and culture. With the onus on schools to demonstrate outcomes and resolve educational issues, each school community has a vested interest in ensuring inclusive strategies are being implemented. Further, because of the decentralising of administration and resources, they also have the means and experience to facilitate and support comprehensive school-wide development and staff development. Many educators have become more aware and reflective, with decision making becoming increasingly based on wider consultation and a database. For instance, to address equity issues, educators are analysing and responding to the learning needs of an increased diversity of students, and having to support new structures and staff development to ensure more appropriate pedagogy.

At the same time researchers such as Wagemaker (1993), have raised concerns about the equity and efficiency of the NZ education system. In an analysis of the data from the survey of reading literacy conducted by the International Association for the Evaluation of Educational Achievement (IEA), Wagemaker showed that a disproportionately large number of Year 5 and Year 10 Maori and Pacific students, particularly those not speaking English at home (14% of Maori and 40% of Pacific Island students) and boys, scored very low relative to the lowest students of other countries. This was most marked in comprehending expository prose. Note that NZ is more ‘inclusive’ than most countries in the IEA survey, and that students with special needs were not included in the survey. More recent figures (Ministry of Education, 1997) also show a disproportionately number of Maori and Pacific students leaving school without formal qualification, with numbers increasing over time.

Clearly a range of factors are perpetuating this deteriorating situation. One of these is that many traditional teaching practices may be ineffective or even detrimental. For
example, removing difficult to teach students or merely placing children with special needs into regular classrooms, are no longer adequate practices if schools and teachers cannot demonstrate the performance outcomes that are required (Zigmond et al, 1995). Nor are strategies that maintain students as passive rather than active participants. It is still common for students to “speak little and even say less” (Goldenberg & Gallimore, 1991, p.6). Another factor that may be contributing to poor outcomes for many students is that teachers may lack the knowledge about instructional strategies that can be used to accommodate diverse groups of students.

By taking on the responsibility for ensuring change occurs, and is effective, regular and special educators are searching for ways to become more effective at both classroom and systemic levels to support inclusion. In this pursuit they can draw from a developing body of theory and practice on alternative and more effective practices. For example, quality of instruction (Hocutt, 1996) is critical to effective outcomes. This includes intensity of instruction, time allocated, appropriateness of the curriculum, and interest and difficulty level of tasks (Delquadri, Greenwood, Whorton, Carta, & Hall, 1986; Eber, 1996). Further, “new social conditions require different structures which can generate higher levels of purposeful knowledge and skills by many more students than traditional arrangements typically serve” (Moore et al, 1999, p28). This involves teachers in developing different skills, such as inclusive instructional practices and flexible programming; and being able to orchestrate a broader range of instructional experiences than before (Moore et al, 1999). According to Moore et al (1999), both the equity and ecological challenges of inclusion have “produced a considerable ethical, philosophical and political drive towards the establishment of practices in special education that reflect naturalistic interventions, equity, placement in the least restrictive environment, inclusion with peers in regular settings, and adapting these settings to meet the needs of individual learners better” (p.9). Competencies in providing ‘differentiated instruction’ are also critical. Differentiated instruction encompasses “teaching that is adapted to take into account individual differences and needs of students, and the valuing and use of individual differences to promote opportunities for learning in the classroom” (van Kraayenoord, 1997, p3). It is unknown to what extent differentiated instruction is occurring in NZ schools beyond the lower primary school level. It is likely the NZ situation does not differ much from that in other countries. Research has shown a
scarcity of use of differentiated instruction in both US (Baker & Zigmond, 1990) and UK (Qualter, 1996) classrooms, despite the availability of such more appropriate methods.

In the current situation schools are more accountable and are likely to have a sharpened awareness that educational practices are not keeping up with the diverse needs faced by regular classroom teachers. This means they have to face the question as to how to deliver the new curriculum differently.

However, in practice, grassroots change may not occur unless it is facilitated and supported more systematically. This is because much of the change is recent and reflects new beliefs and skills in the effective implementation of inclusive practices – some of which require support to understand and implement effectively. Also, some of the changes are complex. For example, the move to more demanding content and process curricula is proving difficult, particularly in secondary schools, where organisational structures and traditional teaching beliefs and practices are less conducive to the development of inclusive practices. Further, it could also be argued that the multiple pressures for reform could readily lead to teacher overload and resistance.

1.3 Statement of the problem

All regular and special education teachers now need to be able to meet the needs of a diversity of learners at the level of the individual school and classroom (Sage & Burello, 1994). This requires them to be able to deliver the curriculum differently. They have to provide a new curriculum as well as a broad range of instructional experiences, to adapt to a wide range of individualised needs within the scope of the regular classroom structures and curriculum, and to create inclusive environments to meet the needs of all students. In addition, where there are students or groups needing further individualised assistance, regular and specialised teachers need to be able to work in a collaborative way within the regular classroom, curriculum and across school sectors.

This presents an enormous challenge to teachers. They already have considerable institutional demands, such as large classes, heavy curriculum requirements, and
minimal additional planning or instructional time. Further, the changes required are unfamiliar territory for the majority of teachers. Many have not been trained to use validated instructional practices with students with special needs (Deshler & Schumaker, 1993). While they have students with special needs merely located in their class and no support, teachers cannot demonstrate the performance outcomes that are required (Zigmond et al, 1995).

Because such inclusive beliefs and practices need to be integrated into regular use by teachers and schools on a large scale, this situation has massive educational implications.

To translate the fundamental reform and inclusive methods into effective practice (Cuban, 1996), a school-wide approach is required to teaching methods which exemplify the best successful and inclusive practices, and systematically integrate these into a school-wide approach.

A School-Wide Approach

The identification, development and dissemination of inclusive methods involves an interactive and dual approach: supporting teacher change in the use and incorporation of inclusive strategies, while collaboratively working with the school to facilitate and blend these with fundamental school-wide change. The objectives are to promote student outcomes and changes in teacher practices, alongside organisational change relevant to inclusive beliefs and practices. This interactive and dual focus means finding a strategy that can be explicitly directed at both teacher and school-wide change.

The Need for Inclusive Practices

With teaching practices as the major target for change, initially this requires a search for powerful multipurpose inclusive teaching methods. Generally these need to be able to address the diversity of cultural, literacy and special teaching needs in regular classrooms, extend instructional practices of NZ primary and secondary teachers, and facilitate current inclusive policy and organisational change. According to Fisher et al (1995), these practices must also be validated, that is, benefit most if not all students in a class, allow the integrity of the curriculum to be maintained, and be practical in terms of time and implementation.
2.1 Searching for Inclusive Practices

Prominent researchers have recently been searching for instructional strategies that are effective in regular classrooms with students with and without disabilities. The method and outcomes of three such searches that are relevant to selecting inclusive practices will be described and analysed.

Fisher et al (1995) completed a comprehensive literature review on practices that were both effective and inclusive. They confined their review to research studies that were conducted in general education classrooms

- in which there were students with learning disabilities, behaviour disorders or mild mental retardation,
- with no fewer than 15 students,
- led by one teacher, and
- implementing general education curricula.

The review was also restricted to research studies that employed an experimental design that controlled for extraneous variables, and reported academic data on the students with disabilities. Fisher et al (1995) considered effectiveness in terms of

- the outcomes for students with and without disabilities,
- levels of teacher and student satisfaction with the practice, and
- feasibility factors such as the amount of instructional time needed.

Conclusions were drawn regarding how well the practice fitted with the realities general education teachers face.

Fisher et al (1995) found 29 studies that met their criteria, involving 14 different inclusive practices. They identified six major categories of inclusive practice that were validated on the basis of their criteria:
• peer tutoring,
• cooperative learning,
• teaching devices,
• content enhancement,
• curriculum revision, and
• strategies instruction.

A second search for effective practices was completed by Forness et al (1997). Attempting to identify which interventions were powerful for students in special education, Forness et al (1997) completed a mega-analysis of already published meta-analyses on each of sixteen interventions. The meta-analyses were based on a numerical indicator of the relative effectiveness of the intervention averaged across all studies. This indicator is an ‘effect size’, which can provide information on the ‘practical significance’ or relative ‘power’ of an intervention (Thompson, 1996, 1999). It also allows comparison with other interventions, replicability analysis and integration of findings with the literature (Cohen, 1992; Thompson, 1996, 1999). Benchmarks for grouping effect sizes are set specific to the methodology used and the area of inquiry (Cohen, 1992), but are generally at .20 (small), .50 (medium) and .80 (large).

Forness et al (1997) identified seven interventions in the most effective category. These were:

• mnemonic strategies
• enhancing reading comprehension (eg. strategy instruction, visual representations, organisational cues),
• centre-based early intervention,
• formative evaluation,
• direct instruction,
• behaviour modification and
• cognitive behaviour modification.
They argued that this large effect size supports the use of these interventions, and justified any extra costs incurred through special services. The interventions in the medium effect range included:

- computer-assisted instruction,
- peer tutoring,
- reduced class size, and
- psychotropic and stimulant drugs.

Interventions with little evidence to endorse practice (with small or negative effect sizes) included modality training (or learning styles), social skills training, perceptual training, Feingold diet and special class placement. Note that to interpret these results, readers would need to go back to the original meta-analysis studies to clarify definitions, how each intervention has been operationalised, and criteria for selection of studies. Forness et al (1997) themselves raised cautions about their results. All meta-analyses with medium and small effect sizes, except social skills training, were dated, being conducted before 1987. Within each method, certain outcome measures may produce greater effect sizes than others. For example, stimulants produced larger effect sizes with behavioural than academic data, whereas psychotropic drugs produced a reverse pattern, with stronger academic than behavioural effects. Another factor identified was that some types of students may benefit from some of these practices, even when the overall effect size was negligible. However, of relevance to this current analysis is that Forness et al (1997) focussed on effectiveness of interventions specific to special education students. That is, they did not attempt to validate their potential as inclusive educational practices.

The third review of inclusive practices was completed by King-Sears (1997). Drawing from a broader theoretical and empirical base than Fisher et al (1995) and Forness et al (1997), King-Sears (1997) selected ten best academic practices for successful inclusive classrooms. The report is unclear on the method used as a basis for selection of best practices, but defined these methods as those “which have the greatest desired impact in affective, psychomotor and cognitive areas of academics for students with and without disabilities who are receiving most, if not all, of their differentiated, individualised, and appropriate learning, social, and instructional experiences together” (p. 2). The ten practices were:
- cooperative learning,
- strategy instruction,
- differentiated instruction,
- self-determination,
- explicit instruction,
- curriculum-based assessment,
- generalisation techniques,
- collaboration,
- proactive behaviour management, and
- peer supports.

Several of the inclusive methods identified by King-Sears are central to the best practice of regular teachers. For instance, 'explicit teaching' (Duffy et al, 1986; Rosenshine, 1987) is highlighted in the effective teaching literature as the dominant teaching practice used naturalistically by effective teachers to individualise whole class and group teaching. Note that explicit teaching has some commonalties with direct instruction (Gersten, Carnine & Woodward, 1987), which was identified as an effective practice in special education (Forness et al, 1997), and has dominated much of the contemporary research in special education. Explicit teaching comprises the flexible use of direct teaching of content, modelling of the skill or strategy, guided practice, successful independent practice, feedback, teaching for generalisation through meaningful connection and application of content with real life, and active learner involvement. Aspects of explicit teaching overlap with direct instruction. These include guided fading of teacher-directed activities to students' independence, adequate systematic practice with a range of examples, and cumulative review of learned concepts. However, direct instruction differs from explicit teaching in that it also incorporates an explicit step-by-step model, development of mastery at each step, and process corrections for student errors. A hallmark of direct instruction is that the teacher maintains active and directive control of the pace, sequence and content of the lesson.
A further best academic practice identified by King-Sears (1997) as central to effective inclusion and developed within regular education is ‘differentiated instruction’ (Braggett, 1984; Tomlinson, 1999). Differentiated instruction is adapted teaching that integrates three elements: (a) examining and modifying significant dimensions of the curriculum, such as content knowledge, learning processes and skills for self-regulated learning; (b) the provision of a variety of different teaching structures, such as peer tutoring and cooperative learning groups; and (c) the use of effective teaching practices, such as explicit teaching. In combination, this ensures instruction is relevant, flexible and responsive, and leads to successful and self-regulating students and learning communities. Van Kraayenoord (1997) argues that differentiated instruction is more than taking individual differences into account. It also involves principles that support valuing and using the diverse characteristics of students to promote learning, creating a community of learners, responding to students as learners, and developing continuity across the curriculum and between current and past learning at home, school and the community (Qualter, 1996; van Kraayenoord, 1997).

Of note is the overlap between the search outcomes, despite the different entry points, populations and methodologies. Strategy instruction was identified in all three studies, meeting Fisher et al’s (1995) stringent criteria and being sufficiently powerful to fit Forness et al’s (1997) criteria. Metacognitive and cognitive strategy instruction (Brown, Campione & Day, 1981; Dole, Duffy, Roehler, & Pearson, 1991; Rosenshine & Meister, 1994) was developed to teach students cognitive self-appraisal and self-management of strategies for enhancing performance. Specific cognitive strategies, such as question generation and summarisation, have been shown to help improve reading comprehension and other cognitive skills involved in writing (Scardamalia, Bereiter, & Steinbach, 1984), mathematics (Schoenfeld, 1985), science (Brown, 1997) and social studies (Scanlon, Deshler, & Schumaker, 1996; Scanlon, Schumaker, & Deshler, 1994). Further, in a meta-analysis of intervention research with students with learning disabilities, Swanson (1999) showed that the incorporation of small-group interactive instruction and strategy cueing into metacognitive instruction of reading comprehension can significantly improve effect sizes.
Cooperative learning (Johnson & Johnson, 1975, 1989; Slavin, 1983) was also identified by both Fisher et al (1995) and Forness et al (1997). This term is typically used to describe team-based learning approaches, which use structured events to enhance academic and social learning. Cooperative learning usually incorporates direct instruction, small-group instruction, and independent practice (Damon & Phelps, 1989). Note that with both strategy instruction and cooperative learning the teacher steps back and lessens control while the students gain more control over the teaching and learning process through acquiring self-regulatory skills and interactive learning with peers.

In addition, in two searches a similar method was identified - Forness et al (1997) selected direct instruction and King-Sears (1997) explicit teaching. Note that these authors were using different intervention categories that were not mutually exclusive. This definition issue is a significant constraint on reporting such meta and mega analyses.

A second point raised by comparing the search outcomes is that there appear to be few powerful and practical inclusive practices that have been developed, studied and validated to fit with the realities of regular teachers and their classrooms. This is illustrated in the low numbers of studies in Fisher et al’s (1995) search. Further, it is also evident in the lack of broader conceptual frameworks and cross-referencing by the researchers.

Third, the discrepancies between the search outcomes illustrate that not all instructional methods developed within regular or special education may be transportable across regular and special education sectors, let alone appropriate or effective in a different setting. In fact, some special education practices may be less compatible with the new paradigms in the general curriculum and inclusive classrooms.

A fourth point to note is that prominent researchers (King-Sears, 1997; Schulte et al, 1998; Swanson, 1999; Swanson & Saches-Lee, 2000; Swanson & Hoskyn, 2001) argue for combinations of methods, rather than single method approaches. In their review on inclusive interventions for students with mild academic disabilities, Schulte et al (1998) promote the combinations approach on the grounds that it would be more powerful with students who fail to master basic skills unless explicit
teaching of important skills occurs. They highlight that, if direct instruction is used, it be modified and melded with constructivist approaches, such as teacher-student and student-student dialogue and the use of complex authentic (or contextualised) learning tasks (Paris et al, 1992) – so that the student gains in control and independence. An alternative combination they identify is explicit teaching melded into an authentic context. There are a number of research-based instructional programmes that demonstrate a combination of best practices, such as explicit instruction, authentic (or meaningful, purposeful, integrated) activities, and differentiated instruction. Two of these are comprehensive literacy programmes: the Cooperative Integrated Reading and Composition (CIRC) programme (Stevens, Madden, Slavin & Farnish, 1987; Stevens & Slavin, 1995), and the Early Literacy Program (Englert et al, 1995). The CIRC met the criteria of Fisher et al, and was shown to be effective with both students with and without disabilities in terms of improving reading comprehension, language expression and language mechanics. Shulte et al (1998) note that combining approaches can be done sequentially (Bottge & Hasselbring, 1993) or in an embedded manner, as in Englert’s work in the Early Literacy Program. This is an integrated reading and written language curriculum for primary students in special education. In addition to skills-based instruction, Englert and colleagues used principles of social constructivism, such as meaningful, purposeful, and integrated activities, classroom dialogue, scaffolding, and self-regulated learning. Instructional activities included undisturbed silent reading, partner reading and writing, morning news, story comprehension, author’s centre, and mapping of story sequences. The academic gains of students were significant and even more impressive in the second year of the Program. Another study (Williams, 1990) which used a combination of interventions in problem solving and social skills domains demonstrated extremely large effect sizes (6.1). Other contributing factors to these results were that the students were at high school and used novel and personal materials during intervention.

Fifth, the comparison of searches also raises questions about their overall comprehensiveness. For instance, authentic contexts are not mentioned, even though Schulte et al (1998) argue for combinations of direct instruction or explicit instruction with authentic contexts and teacher-student and student-student dialogues. Incidental teaching (Hart & Risley, 1975, 1980) is another inclusive practice that
should be noted. This ecological and naturalistic method involves teachers and parents maximising naturally occurring reinforcers within naturally occurring settings to increase the likelihood of cognitive, language and social behaviours occurring.

Sixth, the searches do not highlight that some methods may be more valuable to educators than others because they are multipurpose and have preventative effects. Intensive early intervention, for example, can prevent the development of problems and ensure nearly all children are included in regular classes (Slavin, 1996). Similarly, interactive pedagogy may also prevent problems and have sociocultural and motivational as well as academic effects. From a special education viewpoint, Conway and Gow (1988) argue that group instruction techniques such as cooperative learning, peer tutoring and reciprocal teaching have a wide range of benefits. These include the provision of a context for learning communication, peer interaction and prosocial skills as well as how to work with peers of differing ability levels. Also, group instruction can provide an efficient teaching strategy where economics require group rather than individual teaching. Furthermore, if the composition of the group is selected to cater for the students with special needs, such instruction can provide a link between the special individualised and the regular class programme. Different strong arguments for the use of group instruction methods have been developed from a more inclusive and multicultural angle. The use of groups or pairs can decrease the power differentials in classrooms (Bishop & Glynn, 1999). They can reduce the asymmetry of power and knowledge (Palincsar & Klenk, 1992), and teaching practices that maintain this, such as teacher-directed "simple reciprocation" or question-answer-evaluation sequences. These imbalances may differentially effect students with sociocultural differences (Cazden, 1988).

A seventh factor is cultural compatibility, which was unmentioned in the three reviews of inclusive practices. It would be expected that, because inclusion can be subsumed under multicultural education, inclusive practices would also be culturally compatible (Tharp, 1989) and often culturally preferred practices. And, at least, these practices would not marginalise students or be culturally unsafe. However, particularly with researcher-developed and imported practices, this cannot be assumed without dialogue with teachers, parents and cultural advisors. Some practices may be particularly relevant to learning for students with sociocultural backgrounds that differ from the dominant classroom culture. For instance, Delpit
argued that students with different language backgrounds may not benefit from classroom instruction unless explicit teaching is provided. Other strategies, some of which were mentioned in the three reviews, may also promote more learning - and be culturally preferred. With Maori and Pacific Island students these include culturally familiar tasks, content affirming cultural knowledge and practices, group learning and fostering of collective responsibilities and connectedness (Glynn & Bishop, 1995; Macfarlane, 1998; Metge, 1984; Thomas, 1975), lengthened ‘wait time’ with more complex language and thinking activities (Cazden, 1988), and ethnically appropriate and aware staff (Cazden, 1988). Such culturally compatible and preferred practices are likely to foster greater academic engaged time (Au, 1980) by strengthening self-efficacy, motivation and affirming student’s own unique identity and background. They are also likely to reduce the negative effects of the ‘at risk situational context’ (Ivey & Broaddus, 2001) of many classrooms – which can differentially effect students who are unfamiliar with and feel separate from the dominant language, thinking and interaction patterns and tasks in classrooms (Alton-Lee, Nuthall, & Patrick, 1987; Cazden, 1988; Macfarlane, 1998).

An eighth consideration is that researchers have raised integrity issues with the implementation of some methods (Fisher et al, 1995; King-Sears, 1997). That is, many of these methods require systematic implementation of key elements to be effective. This may explain why metacognitive strategy instruction implemented by researchers has produced larger effect sizes than when implemented by regular teachers (Forness et al, 1997). If teachers adapt or omit too many components of the specific instructional approach, positive outcomes are jeopardised. For instance, cooperative learning of reading comprehension was not effective when direct instruction in reading comprehension was omitted (Fisher et al, 1995), nor with a shortened programme (Fisher et al, 1995). King-Sears suggests that teachers should personalise implementation but not delete critical elements that contribute to the power of the method.

A ninth point is the representativeness of the overall search results. Students with disabilities represented in the studies reviewed are unlikely to have been representative of the general population of students with disabilities (Fisher et al, 1995) in primary, let alone secondary schools. This raises the issue of the
generalisability of the findings with regard to the applicability of the reviewed practices to all students with different types of learning needs.

A final point to note is that the search by Fisher et al (1995) is confined to studies meeting a particularly stringent criterion: a reliance on one teacher (with no fewer than 15 students) to implement inclusive strategies. This assumption gives the mistaken impression that the regular teacher alone should be expected to meet all the needs of students with special needs. That is, special education (and the need for intensified and individualised education) is no longer needed if all regular teachers are trained and employ inclusive practices (King-Sears, 1995; Sobsey & Dreimanis, 1993). This assumption decontextualises inclusive practices in the classroom from a collaborative school-wide approach embedded in a national and regional system. A collaborative school-wide approach rather than independent teacher use of inclusive methods may be critical for success with (a) some more complex inclusive practices, (b) teachers learning a new practice, (c) some teachers who have difficulty with class-wide grouping and/or adopting and maintaining a new practice, (d) some students with specialised needs requiring more intensive or different assistance, (e) classrooms where cultural considerations imply co-teaching where groups with culturally appropriate staff would be more effective and culturally safe, and (f) some classrooms where class size, composition, management and other issues are constraints on effective teaching.

2.2 Guiding Questions

For this study, guiding questions were developed to identify the potential qualities of inclusive teaching practices for regular classrooms. They are based primarily on efficacy and practicality domains identified in the review of validated practices by Fisher et al (1995). To these additions and refinements have been added. These are that the inclusive practice should be conceptually robust, have cultural compatibility, be applicable across academic skill areas (Shulte et al, 1998) and be able to be adapted to and/or embedded into the curriculum. Further, a new domain is added on the basis that a continuum of collaboration between regular and special educators has a central role in effectiveness and feasibility – rather than the reliance on regular
teachers to independently implement inclusive methods, as espoused by Fisher et al (1995). The five Guiding Questions are:

1. Effectiveness
   
   Is the instructional practice well-researched, effective and conceptually robust?

2. Benefit most students
   
   Does the instructional practice benefit most if not all students (with and without disabilities) in heterogeneous (Fisher et al, 1995) and / or culturally diverse classrooms?

3. Compatibility with the curriculum
   
   Does the instructional practice allow the integrity of the general curriculum to be maintained (Fisher et al, 1995)?

   Is it applicable across academic skill areas (Shulte et al, 1998) - improving outcomes in key areas such as student achievement, especially literacy and numeracy (Zigmond, 1996), high order thinking skills, attitudes, social integration, attendance, and life adjustment (Ysseldyke et al, 1992)?

   Is it able to be adapted to or fully embedded into the curriculum?

4. Feasibility
   
   Is the instructional practice feasible ie. (a) practical in terms of the amount of instructional time needed (Fisher et al, 1995) and (b) satisfactory for regular teachers and students (Fisher et al, 1995)?

5. School-wide facilitation of inclusion
   
   Does the instructional practice develop, extend and improve inclusive pedagogy and collaborative processes at both regular class teacher and school-wide levels, thereby supporting current policy and organisational reform in practice?
CHAPTER THREE

Reciprocal Teaching

3.0 Introduction

The literature review on reciprocal teaching (RT) in this chapter first focuses on RT as a method of metacognitive instruction in reading comprehension - the dominant view in the literature. In the second section RT is analysed for its proposed potential as an inclusive teaching method. This culminates in a statement of the problem and the formulation of research questions relevant to the approach taken in two implementation studies.

3.1 Reciprocal Teaching as a Method of Metacognitive Instruction

Conceptual Foundations

Palincsar and Brown (Brown & Palincsar, 1982; Palincsar & Brown, 1982, 1984) designed reciprocal teaching (RT) to strengthen reading comprehension fostering and monitoring skills of poor readers. The ultimate goal was that they became active participants and self-regulating in gaining meaning from text and in learning (Palincsar & Brown, 1986). According to Rosenshine and Meister (1994) RT has two major features: (a) instruction and practice in four specific comprehension-fostering strategies applied to shared reading of authentic text, and (b) the use of group dialogue as a vehicle for learning.

Although RT reflects a blend of instructional concepts, it is predominantly viewed as an exemplar of metacognitive strategy instruction in academic learning (Pressley, Goodchild, Fleet, Zajchowski, & Evans, 1989), a fast-growing area of theory and research in the 1980s. RT has similarities with other research-based instructional programmes that emphasise metacognition and skills for self-regulated learning. Of significance is that researchers (Dole et al, 1991; Glaser, 1990; Pressley, Snyder, & Carigilia-Bull, 1991; Siegler, 1991; Stanovich & Cunningham, 1991) have described RT as one of the most prominent strategy instruction programmes developed in that decade.
Palincsar and Brown developed RT in response to several pedagogical issues. One issue was that there was little direct teaching of reading comprehension occurring in regular and special education settings (Durkin, 1979; McGill-Franzen & Allington, 1990, 1991; Ysseldyke, Thurlow, O’Sullivan, & Christenson, 1989). Further, if teachers did teach reading comprehension, it was usually from a traditional behavioural view. This view conceptualised reading as the acquisition of a sequence of discrete skills to be mastered. As a consequence, teachers instructed students with repeated drill and practice methods such as answering questions, a concentration on word rather than idea level and with less emphasis on age-appropriate and interesting texts (Allington, 1980, 1983; Le Fevre, Moore, & Wilkinson, 2002). The associated effects of the fragmentation of this curriculum for the individual low achiever (McGill-Franzen & Allington, 1990, 1991; Ysseldyke et al, 1989) escalated throughout the schooling years. Researchers now highlight how this ‘at-risk situational context’ (Ivey & Broaddus, 2001) did not promote the active and intentional self-regulated learning central to literacy and learning generally. Rather, these qualitative differences in instruction could exacerbate the problems for the low achievers - who became caught up in failure and in patterns of disengagement from academic activities and interactions (Stanovich, 1992). Compounding effects included that these students had less self-initiated practice with reading and other academic activities - and therefore less opportunity to spontaneously develop metacognitive strategies (Palincsar & Klenk, 1992) – including relatively sophisticated skills such as selecting the main idea, attending to important information in a passage, and connecting ideas from different parts of a story. Nor did they seek help or clarification when needed. A wider effect was that comprehension of reading material remained a prevalent and continuing problem for students in upper primary schools and high schools, and their teachers.

Palincsar and Brown designed RT on the basis of several premises, derived from cognitive and metacognitive theory about reading comprehension instruction:

Palincsar and Brown identified reading comprehension as a complex cognitive activity. That is, it may not be simply structured or have a simple rule base, and entails different types of expertise. According to Gagne, Yekovich and Yekovich (1993) these types of expertise are conceptual understanding, automated basic skills, and flexible use of cognitive strategies to decipher and extract meaning from text.
Palincsar and Brown recognised that such complex skills are learnt and therefore can be taught. Literacy skills such as reading comprehension are acquired by children at different rates as a function of the schooling they undergo (Moore & O'Driscoll, 1983; Schmidt & Jansen, 1981). Their acquisition is a gradual process. Over time they learn many features of literacy including orthographic (Clay, 1972; Day, Day, Spicola, & Griffen, 1981) and structural features of text (Stein & Glenn, 1979), and various comprehension-fostering strategies (Brown & Smiley, 1977).

Palincsar and Brown acknowledged that such complex skills are often difficult to teach explicitly, and require a shift in the teacher's role to mediator. Students need more and flexible cognitive support than when acquiring simple skills.

Palincsar and Brown recognised that researchers of metacognition have also shown that young and poor comprehenders differ from good comprehenders in terms of their strategy use (Paris, Wasik, & Van der Westhuizen, 1988). A distinguishing characteristic of good readers is their use of metacognitive skills in the reading process (Baker & Brown, 1984; Byrd & Gholson, 1985; Garner & Kraus, 1981-1982; Kurtz & Borkowski, 1987). Good comprehenders are highly metacognitive, active and motivated. They pick up the gist of what they read, and spontaneously use strategies including self-monitoring. Young and poor readers, on the other hand have been shown to lack metacognitive knowledge about the purposes of reading, inadequately apply strategies, fail to repair comprehension breakdowns, and are passive and less motivated to read. Although these deficits in less capable readers may not be the sole cause of their reading problems (Swanson, 1989; Wong, 1985), there is substantial evidence that these readers fail to spontaneously and flexibly apply effective strategies to monitor and construct meaning from text (Brown, Armbruster, & Baker, 1984; Brown & Campione, 1986; Brown & Smiley, 1978; Paris & Myers, 1981).

Palincsar and Brown drew on a growing body of literature in cognitive psychology which shows that these skills can be systematically taught, that significant gains in students' reading ability can be brought about through such metacognitive instruction, and that strategy use increases students' awareness of their own performance as they read (Brown et al, 1981; Dole et al, 1991). Metacognitive methods can help students understand the content of the text, strategies that aid in interpreting the text, and the nature of the reading process itself (Brown & Campione, 1986; Paris, Cross, &
Lipson, 1984; Pearson & Dole, 1987). Paris and his associates (Paris et al, 1984; Paris & Jacobs, 1984; Paris & Oka, 1986; Paris, Saarnio, & Cross, 1986) investigated the effects of "informed strategy training" on students' self-management skills in reading. This procedure entails training students in approaches to checking their comprehension, recognising problems, and using strategies to resolve these. An important aspect of this training is explaining the rationale behind and the usefulness of the strategies in which the students are being trained. These researchers have shown significant gains in reading performance, mediated by improvements in metacognition about reading strategies, across a wide variety of ages and reading skill levels associated with this instructional process (Cross & Paris, 1988). Further support for the positive impact of metacognitive instruction is that it has been shown to increase the amount of both reading and dialogue about reading (Guthrie, Schafer, Wang, & Afflerbach, 1993) alongside the acquisition of more content (Brown, Pressley, Van Meter, & Schuder, 1996) and improved self-efficacy and motivation about learning (Schunk & Rice, 1985).

Palincsar and Brown also considered that students who are not achieving are likely to have little understanding and reflection of their own abilities to learn intentionally. They may also be experiencing “well-recognised stumbling blocks to lasting learning: inert knowledge and passive learning” (Brown, 1997, p.399). Therefore it is critical to foster intentional, self-directed action and ‘situated cognition’ through ‘anchored instruction’ (Brown, Collins, & Duguid, 1989; Garner, 1990). Central to this is the creation of shared environments for students and adults with authentic tasks. In this context, the student can integrate and manage the complex and multicomponent procedures of metacognitive instruction – which require substantial practice opportunities for students to discover when and where the strategies work and where they may need to be adapted (Pressley & Wharton-McDonald, 1997).

Palincsar and Brown (1984) selected six specific cognitive strategies that they identified from those often used by expert readers. These were (a) understanding the purpose of reading; (b) activating relevant background knowledge; (c) allocating attention to relevant rather than irrelevant contents; (d) evaluating content for internal consistency and compatibility with prior knowledge; (e) monitoring comprehension as reading progresses; and (f) drawing and testing inferences. From these, four strategic activities were chosen because each of them has specific functions, and the
integrative use of them can facilitate students’ comprehension fostering and monitoring as a whole. *Clarifying* helps students to be alert to any breakdowns in comprehension and to take the necessary actions to restore meaning. *Questioning* requires students to identify the kind of information that is important enough to provide the substance for a question. The question itself is used as a device for self-test to ascertain that students can indeed answer their own question. *Summarising* helps students to review, identify and integrate the main points in the text. *Predicting* helps students to link their prior knowledge with the new knowledge they encounter in the text as they guess what will be coming up next. It gives students a purpose for reading; that is, to confirm or disconfirm their prediction.

Although Palincsar and Brown initially designed RT from experimental research on cognitive strategy instruction (Brown et al., 1981; Meichenbaum, 1977) and teacher effectiveness (Rosenshine & Berliner, 1978), the metacognitive and cognitive conceptual bases for RT were also embedded in a broader social-cognitive perspective. As an instructional package that helps students learn a set of comprehension fostering and monitoring strategies, RT reflects the integration of several metatheories. A cognitive and metacognitive theoretical base was embedded in instructional theory using Vygotskian, cooperative learning and behavioural concepts consistent with cognitive apprenticeship and socioconstructivist approaches (Brown & Campione, 1986; Vygotsky, 1978) to learning.

As the main investigators, Palincsar and Brown attributed the success of RT to three related theories of guided learning (Brown & Palincsar, 1989b) – well after they had developed RT (Rosenshine & Meister, 1994). These were expert scaffolding (Wood, Bruner & Ross, 1976) operating within the zone of proximal development (Vygotsky, 1978) and proleptic teaching or “teaching in anticipation of expected competence”. (Rogoff & Gardner, 1984). According to Vygotsky, instruction should lead development and occur in the child’s zone of proximal development - the area between the child’s levels of actual (independent) and potential (supported) development. That is, instruction needs to be “aimed not so much at the ripe but ripening functions” (Vygotsky, 1962).

RT also embodies Vygotsky’s (1978) contention that cognitive development occurs when concepts first learned overtly through social interactions (including with peers) become internalised and are made one’s own. Luria (1976) proposed that this occurs
in three phases: (a) the adult’s speech controls the child’s behaviour; (b) the child is directed by his / her own overt speech; and (c) this speech, and thus control, is internalised.

Both Rogoff and Gardner (1984) and Wood et al (1976) contributed ideas for expert modelling, expert support as the learner begins the task, and scaffolding the support to finally fade as the child develops competence. Scaffolding is a metaphor now used in education to describe ideal tutorial exchanges between a more expert, and a less expert person in a learning situation. Wood et al (1976) referred to scaffolding as the instructional process whereby an adult controls “those elements of the task that are initially beyond the learner’s capacity, thus permitting the learner to concentrate upon and complete only those elements that are within his range of competence” (p.90). Brown and Palincsar (1989b) note that the metaphor of a scaffold promotes “the idea of an adjustable and temporary support that can be removed when no longer necessary” (p. 411).

From both constructivist and socio-constructivist perspectives, verbalisation and verbal interaction enhance learning. When learners verbalise or ‘think aloud’ (Bereiter & Bird, 1985; Meichenbaum, 1977; Ward & Traweek, 1993) about what they are learning, the mechanism of cognitive rehearsal taking place facilitates understanding (Carmean & Weir, 1967; Davis, 1968; Gagne & Smith, 1962); and when learners give explanations or reorganise the learning material for clearer presentation, the mechanism of cognitive restructuring taking place consolidates what is being learned (Bargh & Schul, 1980). Brown and Campione (1996) note that the success of RT does not only lie in the procedures that are part of the surface activities of questioning, summarising, clarifying, and predicting, but in the quality of the teacher-and-student, and student-and-student verbal interactions during these activities. The essence of RT is that students can co-construct a joint understanding of a shared text through the reciprocal dialogue, because RT requires group members to think aloud about how to comprehend a text and fix up comprehension breakdowns. In doing so, the originally covert comprehension fostering and monitoring cognitive activities (of successful independent readers) become overt, and open to public consideration. The thinking aloud creates a window on the way other group members are processing the text, through which students are able to see, to
compare, to reflect on, and to refine their own cognitive and metacognitive strategies for reading comprehension.

Description
In a RT session, the teacher and students take turns in being the ‘teacher’ or leading the dialogue while focussing on defined segments of a shared text. The dialogue is structured by the ‘teacher’ selecting the passage length to be read silently, and then leading in the use of the four cognitive skills. The assigned ‘teacher’ notes or asks for points to be clarified from the text, generates a question on the content of the text segment to which members in the group respond, summarises the text segment in his/her own words, and predicts the content of upcoming text. The ‘teacher’ lead is rotated among group members to ensure each has a turn within each session.

The effectiveness of RT largely depends on specific instructional actions (or informed self-control training) integral to metacognitive strategy instruction. These effective actions include:

- the group dialogue with its ‘think aloud’ requirements for all group members;
- explicit teaching, modelling, practice and feedback of the cognitive strategies;
- teachers gradually reducing their scaffolding role until each student is ready to assume independent control of the strategies they are learning (Palincsar & Brown, 1984; Paris & Oka, 1986; Schuder, 1993);
- teachers being explicit about the purposes of RT and guiding students to increase their meta-awareness of the value of using the strategies to improve performance - so students are more likely to self-regulate and use the strategies long term and appropriately (Dole, Brown & Trathen, 1996);
- repeated practice and promotion of generalisation of the strategies to facilitate gradual adoption of reading strategies into the learners’ personal repertoire.

Contribution
Claiming that RT was a breakthrough methodologically, Rosenshine and Meister (1994) considered that the method has gained educational acceptance because of the way it packages and presents key instructional ideas. They highlighted five excellent
instructional ideas that Palincsar and Brown (1984) have contributed to the teaching of reading comprehension.

First, the introduction of the terms ‘comprehension-fostering’ and ‘comprehension monitoring’. This new emphasis involved a shift from teachers asking questions about a story and students answering comprehension questions on worksheets, to teachers actively teaching students through comprehension-fostering activities. For example, in RT students are supported in developing their own questions.

Second, reducing the number of comprehension strategies down to four specific ones. This move was in contrast to the numerous skills taught in workbooks and courses on strategy instruction and reading skills.

Third, the refinement and popularisation of the concept of scaffolding as a form of guided practice.

Fourth, the combining of reading comprehension practices with the use of authentic reading materials.

Fifth, the popularisation of students providing support for each other in reading groups.

**Efficacy studies**

RT was developed by researchers from specific instructional theory, and has been extensively tested for effectiveness. Early studies (Brown & Palincsar, 1989b; Palincsar & Brown, 1984; Palincsar, David, Winn, & Stevens, 1991; Palinscar & Klenk, 1991) feature specific research methodology and pull-out practices – with RT being implemented by researchers with reading groups withdrawn from the regular classroom. A second feature of the methodology of the early research by Palincsar and associates was that RT was targeted at students demonstrating reading comprehension deficits. These students were usually selected from primary and junior high schools on the basis of three criteria: (a) low scores on reading comprehension tests, (b) decoding skills were two or more years above their comprehension scores, and (c) students with disabilities were excluded. A third feature was that the intervention usually took approximately 20 days to complete. Fourth, progress was measured by both observable changes in the students’ participation in the discussions and by daily independent tests of their comprehension.
progress. Fifth, long-term maintenance, transfer, and generalisation were all measured with improvements on measures of reading comprehension.

A significant body of research, including Palincsar and Brown’s own work, has supported their early conclusion (Palincsar & Brown, 1984) that RT improves comprehension and enables the reader to monitor whether comprehension is occurring. This included that of independent researchers, such as Lysynchuk, Pressley, and Vye (1990), who carefully replicated their early studies. The replication by Lysynchuk et al used larger numbers of students, fewer training sessions, and a control condition comprising small groups exposed to the same materials and adult reading instructors. Lysynchuk et al report similar gains to those in Palincsar’s studies.

Rosenshine and Meister (1994) have completed the most comprehensive review of RT to date. They selected and reviewed 16 quantitative studies, including those of Palincsar and the replication of Lysynchuk et al (1990), plus 13 others. Their review attests to the effectiveness of the method – reporting an effect size of .32 when standardised tests were used to assess student comprehension performance. This is considered a small effect size (Cohen, 1992), showing that on average, students who received RT instruction scored at the 63rd percentile on standardised reading comprehension tests compared with students in the control conditions without RT instruction who scored at the 50th percentile. Note that Lysynchuk et al (1990) also obtained a medium effect size (.70). Medium effect sizes are considered typical (Sedlmeier & Gigerenzer, 1989) and are comparable to other studies on metacognitive instruction (Haller, Child, & Walberg, 1988). However, a large effect size (.88) was reported when experimenter-developed comprehension tests were used. This showed that on average, students receiving RT instruction attained higher reading comprehension achievement than did 81 percent of those students in the control group without RT instruction. These consistent and striking effects were obtained on cognitive process measures such as those tapping summarising and questioning skills. Only one study to date appears to have assessed and found significant improvement on all four prescribed strategies relative to a comparison condition. Hart and Speece (1998) obtained these results with at risk college students in a carefully designed study using ‘traditional RT’, the methodology consistent with Palincsar’s early studies.
Note that the discrepancies in outcomes between standardised and experimenter-developed tests have been noted in the mastery learning (Slavin, 1987) and reading comprehension instruction literature (Alfassi, 1998; Rosenshine & Meister, 1994). This phenomenon may be explained by different tests sampling different types of text design (Rosenshine & Meister, 1994) and therefore requiring differing cognitive strategies, some of which maybe more aligned with those taught in this particular method of reading comprehension instruction.

Two forms of introductory training adopted by Palincsar and Brown: (a) reciprocal teaching only; and (b) explicit-teaching-before-reciprocal-teaching, appeared to be similarly effective as indicated by the results (with either standardised tests or experimenter-developed tests of reading comprehension) of the Rosenshine and Meister (1994) meta-analysis. However, they did note a trend favouring explicit teaching before RT for the below average students. The two forms of RT differ in how and when the initial instruction in the cognitive strategies takes place (Rosenshine & Meister, 1994). In the first form, all modelling and instruction in how to develop and apply the four cognitive strategies takes place during the dialogue (Palincsar & Brown, 1984). In the second form, the four strategies are taught separately during three to six traditional lessons that are conducted before the dialogue begins (Brown & Palincsar, 1989b; Palincsar, Brown, & Martin, 1987). These extra lessons are included in order to introduce the students to the ‘language’ of RT by providing direct instruction in each strategy. However, the two approaches may be sufficiently different to produce different effects with different student populations, eg. students who have limited English language proficiency or who are struggling readers. Prior explicit strategy instruction may help in two ways. First, it serves to activate and to build up students’ existing knowledge of the reading process and reading strategies. Second, it introduces students to the ‘language’ of RT. This helps lessen the competing cognitive demands of text processing that requires high level thinking, and verbal interaction that requires high level language proficiency. With the provision of prior explicit strategy instruction, the procedural prompts given to students during the reciprocal dialogues may become easier to understand.
Comparative Studies

In several studies aimed to determine the efficiency of RT (Brown & Palincsar, 1987), RT was compared with explicit instruction involving extensive modelling of the four cognitive strategies. Although students in the explicit teaching condition made significant gains, they were exceeded by those in the RT condition. These findings supported the value of a high rate of teacher-student interaction in RT.

In two studies comparing RT with other research-based reading intervention approaches, RT was found to be as or more effective than other methods of reading instruction (Marston, Deno, Kim, Diment, & Rogers, 1995; Palincsar, David, Winn, & Stevens, 1991). More specifically, RT was found to be as effective as collaborative problem solving (Palincsar et al, 1991) and as a computer-assisted method (Marston et al, 1995), and more effective than direct instruction of comprehension strategies (Marston et al, 1995; Palincsar et al, 1991), effective teaching (Marston et al, 1995), and peer tutoring (Marston et al, 1995). Marston et al (1995) obtained this outcome despite demonstrating that students had significantly less engaged time with reading in the RT programme relative to the other approaches.

In a third well-designed research study with students in intact remedial classes in two high schools, Alfassi (1998) found RT superior to traditional skill methods on experimenter-designed tests. The traditional skill acquisition methods excluded strategy instruction to foster comprehension monitoring, but included basic skill training in strategies such as identifying main ideas, summarising, making inferences, and organising sequential ideas. Vocabulary building activities, workbook exercises, and opportunities to write summaries, respond to teacher generated questions, and organise written work, were also provided with teacher feedback and grading. Consistent with previous research, Alfassi’s study showed that neither method showed gains on standardised measures of reading. In their review, Rosenshine and Meister (1994) similarly found that RT had significantly better outcomes (an effect size of .40) than control groups using basal and basal with direct instruction approaches in 14 of their studies.
Implementation Studies

Initially developed by researchers as an instructional tool for remedial purposes to strengthen reading comprehension, RT has evolved and diversified in structure and use, shifting from a special education and laboratory base towards more naturalistic implementation in regular education settings.

This shift is evident in the way Palincsar and Brown have diversified the nature of the reading text used in their studies, towards more authentic tasks. Initially, students read unconnected passages. Then the task shifted to students reading coherent content (Brown et al., 1991; Brown & Palincsar, 1989a). A further development has been that RT was incorporated in another innovative learning program, the Fostering a Community of Learners (FCL) programme. In this programme an interactive classroom learning environment is created to support social groups in reading, discussing, and arguing about cohesive material students have prepared themselves (Brown & Campione, 1996).

There has also been a shift by researchers from working one-on-one with children in laboratory settings (Brown & Palincsar, 1982), to studying students pulled out for brief periods and working in resource rooms (Palincsar & Brown, 1984). A later move occurred to considering naturally occurring reading groups in the classroom (Brown & Palincsar, 1989b; Palincsar, Ransom & Derber, 1989), and thence a focus on reading comprehension groups that were fully integrated into science classrooms (Brown et al., 1994; Brown & Campione, 1990; Brown & Campione, 1996).

In addition, RT has been modified in different ways for primary and junior high school students with comprehension deficits (Miller, Miller, & Rosen, 1988; Palincsar et al, 1987). New Zealand research has occurred with Auckland primary and intermediate schools (Fung, Wilkinson, & Moore, 2002; Gilroy & Moore, 1988; Kelly, Moore, & Tuck, 1994; Le Fevre et al, 2002) and a high school (Westera, 1996; Westera & Moore, 1995).

In the last decade another shift has been evident from a researcher-managed approach in withdrawal settings to regular class teachers incorporating RT into their own classrooms. An increasing number of researchers were completing descriptive and experimental studies on work with or as regular class teachers in their own classrooms (Brown, 1997; Coley, DePinto, Craig, & Gardner, 1993; Kelly et al,
1994; Marks, et al, 1993; Palincsar, Ransom & Derber, 1989; Palincsar, Stevens & Gavelek, 1989). This involved researchers collaborating with teachers to explore implementation issues, such as identifying how teachers naturalistically incorporate this research method into their classroom (Coley et al, 1993; Marks, et al, 1993; Palincsar, Ransom, & Derber, 1989; Palincsar, Stevens, & Gavelek, 1989).

The increasingly extended and diversified implementation of RT was also evident in the way Brown (1997) used RT as a vehicle towards developing wider thinking and thinking communities in inner city schools. In addition, the more prolonged use of RT has been documented by at least one researcher. In a long term application of RT, Carter (1997) reported marked annual gains in reading scores by a cohort of students who first used the method in Grade 3. This occurred despite students in the region of this study usually experiencing a decline in such scores commencing in these early grades. For example, percentages of students meeting state standards in reading increased from 9.8% to 14.4% in the first year, continuing to improve markedly in the following year (to 28.8%). Apparently gains in maths, the other targeted curriculum area, were even more marked.

**Issues**

RT has accumulated remarkable research interest but also has its critics. One of the earliest criticisms came from Carver (1987), who questioned the underlying premise of RT – that reading comprehension be taught explicitly. Carver advocated for strategies being learned indirectly (and perhaps only) by more reading and study, that is, repeated opportunities for spontaneous applications of student’s own strategies. Carver considered the value of RT lay in it teaching students coping or study skills for handling difficult text.

Another prominent researcher, Pressley (Brown, Pressley, Van Meter, & Schuder, 1996; Pressley, 1998; Pressley et al, 1992; Pressley & Wharton-McDonald, 1997), recently developed a more extensive programme than RT. Called ‘transactional comprehension strategies instruction’, this method has similar instructional premises to RT, in that it involves explicit teaching and modelling of strategies in a scaffolded, coaching and think aloud approach with authentic texts. Transactional instruction differs from RT in that it can involve a wider range of strategies and has a more salient teacher role associated with more explicit teaching and extensive and ongoing
scaffolding. Further, because Pressley and associates were seeking to achieve more ambitious goals for students to become better comprehenders and more motivated, active and self-regulatory, they argued that this approach requires a long instructional time and extensive teacher training over at least one year, or several years (Brown et al, 1996).

One issue that Pressley raised was whether RT was too brief as an intervention. Pressley also highlighted concerns that the robust outcomes of RT were specific to experimenter-developed tests, and that only medium effect sizes were obtained on standardised tests. Consistent with this criticism, several researchers (Alfassi, 1998; Carter, 1997; Lysynchuk et al, 1990) have recommended the longer term use of the method to obtain better and more durable results. Suggestions include lengthening the use of RT to several months or a school year, and incorporating more recent research on reading comprehension instruction, such as the use of readers constructing images to improve memory and comprehension (Lysynchuk et al, 1990). Only the study by Carter (1997) appears to have documented the power of long term use of RT.

Pressley also questioned whether there was an adequate amount of explicit teaching at the beginning and throughout the sessions. Pressley suggested that the teacher’s role in RT should not be so quickly reduced, but stay salient to sustain more extensive and ongoing scaffolding (Pressley & Wharton-McDonald, 1997). Dole et al (1991) comment that the balance between indirect and explicit instruction is unknown, but in need of research. Note this may be a treatment integrity issue, and that very few studies on RT provide integrity data to establish if sufficient explicit teaching and scaffolding has occurred.

Further, Pressley raised concerns about the rigid sequence and its influence on flexibility within the discussion. In contrast, the transactional approach has no restrictions on order of strategy execution and fewer restrictions about student participation.

In their review, Rosenshine and Meister (1994) raised issues about the variability of the effects of RT. That is, that RT was not always effective. This was also evident in the mixed results obtained depending on whether standardised or experimenter-designed tests were used. Variability may reflect proximal but not a distal impact of
RT (Hart & Speece, 1998), the nature of the tests used, the appropriateness of texts used (Speece et al, 1997), the quality of the dialogue - very few studies provide treatment integrity data (Coley et al, 1993; Palincsar, 1986; Speece et al, 1997), emphases of the teacher (Palincsar, 1992), the frequency and intensity of sessions (Brown & Palincsar, 1989b), unknown differences in the training and its effects (Rosenshine & Meister, 1994) and the amount and length of support for teachers (Palincsar, 1992). Carver (1987) promoted another view. This was that ‘comprehension instruction’ teaches study skills to cope with difficult texts, and not reading comprehension.

Rosenshine and Meister also identified design issues that limited interpretation of findings. These included lack of assessment of the quality of implementation or treatment fidelity, including discussion of problems during instruction. Further they noted the limited description of participants. In this vein, like Klingner and Vaughn (1996), they raised the need for ‘marker variables’ (Keogh, 1987) to allow comparisons of findings across different samples. Note that the over riding concern of Rosenshine and Meister was that not enough had been documented on implementation. This issue was also raised more recently by Pressley and associates (Brown et al, 1996), who commented that researcher-validated interventions such as RT may not be effective once translated and transformed by teachers over a period of time. Again, this raises a possible treatment fidelity issue.

However, overall, the literature supports the efficacy of RT, and suggests that the more extensive and long term use of the method would improve outcomes further.

3.2 The Potential of Reciprocal Teaching as an Inclusive Practice

Although RT has been widely recommended as suited for use with students with special needs in mainstreamed (Conway & Gow, 1988) and inclusive settings (Klingner & Vaughn, 1996; Le Fevre et al, 2002; van Kraayenoord, 1997), this theme is underdeveloped in the literature. There are several likely reasons for this.

1. It is only recently that researchers have attempted to conceptualise the key components of inclusive practices (King-Sears, 1997) or to establish methods to identify and empirically validate them (Fisher et al, 1995).
2. There is a scarcity of empirical studies where regular teachers themselves implement the method (Rosenshine & Meister, 1994). Apparently only one recent study (Lederer, 2000) has attempted to contextualise the method within inclusive classrooms.

3. The wider value of RT beyond its use as a method of reading comprehension instruction is as yet underdeveloped. This may be because RT was developed primarily with reading groups in remedial and special education pull-out settings. Further, most efficacy studies tended to use Palincsar’s original methodology with researchers as implementers, and excluded students who were both low decoders and low comprehenders, and those with disabilities.

4. An unrealised feature of RT is its potential, as a means of metacognitive instruction, to support the growth of self-regulatory skills alongside other academic skills. Through RT, all students in inclusive classrooms may be able to participate more fully and independently in learning activities.

5. Increasing support for RT is emerging from research in both special and regular educational settings. From research in special education it has become evident that RT can be adapted for use with a much wider range of students than previously thought (Klingner & Vaughn, 1996). From research in regular education with the shift towards more regular classroom use by regular teachers, it has become clear that RT can be readily incorporated into the regular curriculum.

The current status and potential of RT as an inclusive method will now be addressed in more detail, structured by the five Guiding Questions developed in Chapter Two.

**Effectiveness of RT (Guiding Question 1)**

*Is the practice effective and conceptually robust?*

Empirically, there is evidence that RT is a well-researched and effective instructional method of metacognitive instruction in reading comprehension, and can significantly improve comprehension of age-level text by struggling readers (Rosenshine & Meister, 1994). RT is also conceptually robust as a form of metacognitive instruction in reading comprehension. Furthermore, RT can be seen as theoretically sound as an inclusive method. As a package, RT provides a blend of procedures arising from current instructional theories that are consistent with and reflect best inclusive
practices. Furthermore, RT combines two of the most effective inclusive practices identified by both Fisher et al (1995) and King-Sears (1997): metacognitive strategy instruction and cooperative learning (Cohen, 1994), with a third effective practice element, use of authentic contexts (Rosenshine & Meister, 1994).

Two such practices, cooperative learning and differentiated instruction, will be discussed in more detail to show that, implicitly, due to its roots in cooperative learning and socioconstructivism, RT has a wide capacity to cater for academic, social and cultural heterogeneity in inclusive classrooms.

**RT as cooperative learning**

RT has been described (Brown & Palincsar, 1986; Cohen, 1994) as generically similar to cooperative learning - with the exception that it is teacher-led (Cohen, 1994). This means that RT can be seen as an exemplar of a powerful combination of cooperative learning with explicit teaching of cognitive strategies and metacognitive awareness. With this combination, RT could potentially demonstrate wider effects, such as those evidenced by Stevens, Slavin and Farnish (1991) with a similar but longer term programme combining cooperative learning with direct instruction. This programme not only enhanced students' learning of reading comprehension strategies, but also resulted in greater academic achievement, more positive attitudes to school, improved self-esteem, and improved relations among different types of students. Such findings are consistent with Cohen's (1994) summary on cooperative learning, which has "gained increasing acceptance in classrooms ... as a strategy for producing learning gains, the development of higher order thinking, prosocial behaviour, interracial acceptance, and as a way to manage academic heterogeneity in classrooms..." (p 1).

Cohen identifies four main 'productive' outcome areas arising from structured groups used in interventions such as cooperative learning. The types of productivity are (a) academic knowledge and skills; (b) conceptual learning and higher order thinking; (c) equitable status interactions; and (d) fostering desired student interactions such as friendly, prosocial and inter-ethnic cooperation and acceptance and delegation of authority. In addition, Cohen recognised wider payoffs for teachers, classroom management and cultures.
It is likely that, due to the roots of RT in cooperative learning and its role as an introduction to group discussion techniques aimed at understanding and remembering text (Brown & Palincsar, 1989b), the method has untapped potential, and is likely to demonstrate outcomes in wider areas than reading comprehension alone.

Further, it has been argued that the participation structures of RT have inherent value. These arguments need to be weighed against Pressley’s concerns (mentioned earlier) about the rigidity of RT routines.

RT has a meta-script (Gallimore & Tharp, 1989) or general format and guidelines suggestive of a particular strategy but not so prescriptive that there is no room for responsive teaching (Palincsar, 1996). This semi-ritualised participation structure can be seen as both clear and user-friendly, especially for students who are younger and / or have difficulty accessing the curriculum. The participation structures of RT readily allow for observational learning – which may be more suitable for students who are at risk, withdrawn, and / or from ethnic groups that differ from the dominant culture (Brown & Palincsar, 1989b) and for teachers, who usually prefer learning by observation to learning by metaphors (Palincsar, 1992). Further, they may be culturally appropriate and compatible, and reduce the negative effects of the ‘at risk situational context’ (Ivey & Broaddus, 2001) that classrooms can be for these students unless explicit teaching, focussed discussion, and participation routines facilitate collaboration (Brown & Palincsar, 1989; Palincsar & Klenk, 1992).

The semi-ritualised structures of RT may also provide for more equitable interaction opportunities. Everyone can begin and participate at once and even the novice can begin participation early (Brown & Palincsar, 1989). Group participation at the outset is maximised by accepting any approximation of one or several of the strategies by each student, thereby engaging students quickly and providing them with an entrée into the discussions (Brown & Palincsar, 1989). With the group sharing the responsibility for thinking and facilitation, the anxiety of keeping the argument going single handedly is reduced (Brown & Palincsar, 1989b). In this non-threatening and cooperative climate, novices can practice emergent skills, take risks and immediately increase their academic learning time.

It has also been observed that the RT blueprints can reduce the asymmetry of power and knowledge (Palincsar & Klenk, 1992), and the teaching practices that maintain
This. These may differentially effect students with sociocultural differences (Cazden, 1988). By maintaining the RT routine, teachers may learn new ways of interacting without feeling threatened by losing too much control (Palincsar & Klenk, 1992). Simultaneously, for students, RT can facilitate self-regulated independent learning and consequent sustained engagement (Palincsar & Klenk, 1992).

Note that the metascript or routines of RT bear semblance to views on learning from a tikanga Maori perspective. These include shared authentic group tasks, interaction routines such as turn taking, prompting and repeating, and opportunities for tuakana/teina (older/younger sibling) connectedness and scaffolding, shared leadership and responsibility, and teacher/learner interchangeability (Tangaere, 1997).

It may well be that a shift into flexible use of the templates of RT can become critical - once students have acquired the strategies and can use them flexibly. Cohen raises the issue that too much structure may impede conceptually oriented interaction, particularly if it micromanages what members are to say and think. However, this caution needs to be balanced against Cohen’s summary that group effectiveness is fostered by certain types of task instructions, student preparation and teacher roles foster, such as a true group task on a problem with ill-structured solutions.

Over time the templates may continue to be apparent but not in rigid use. If the purposes of RT are regularly made explicit and scaffolded instruction has occurred, a shift towards more flexible use has been observed (Palincsar & Klenk, 1992), with groups being led by the content and discourse itself, and to principled use of strategies and dialogue. Brown (1997) comments that the participant structures of RT initially “trapped young learners into thinking aloud activities” (p. 411), observing that over time appreciating good questions and evaluating answers became second nature. However, it needs to be noted that Brown used the ‘minilearning community’ of RT to evolve, in a much lengthier project, classrooms that fostered collaborative and flexible learning and inquiry with deep disciplinary content.

RT may therefore also be used to initiate and consolidate students and teachers into different practices that can then be more flexibly facilitated within wider classroom curriculum and structures. This process may foster more equitable classroom participation structures alongside optimal productivity in Cohen’s four goal areas. Therefore RT looks a viable component for whole school professional development.
RT provides for differentiated instruction

Generally RT provides multiple opportunities for differentiated instruction due to its socioconstructivist roots and capacity for using a variety of scaffolding procedures within the context of a template or metascript supporting dialogue.

Scaffolding procedures shift the patterns of the dialogue towards student independence in using the four cognitive strategies. Throughout the instructional session, the adult teacher scaffolds guidance and feedback, so that it is tailored to the needs of the current discussion leader and each of the group members (Brown & Palincsar, 1989b). This involves the teacher creating a zone of proximal development for learners. Initially, the teacher takes major responsibility for leading the dialogue among the group. The teaching role involves demonstrating by thinking aloud the use of the four strategies on a segment of text, as well as explicit and direct instruction, explanations, descriptive praise and modelling of the four strategies. Then the students take turns to take over the teacher’s role to lead the discussion, while the teacher backgrounds somewhat, and guides, monitors, diagnoses and supports students’ participation. The teacher will use such techniques as prompting, praising, altering the demand on students, or providing extra scaffolding when necessary, in addition to giving feedback that helps students to reassess the meaning they construct from text (Palincsar & Klenk, 1991). Eventually, as the students become fluent and flexible in strategy use, the teacher moves back further into a facilitating and monitoring role. The group-learning social setting of RT provides learning experiences of being exposed to, or challenged by, alternative points of view, which leads novice readers to process the text more deeply and more meaningfully. Moreover, without simplifying the task, text comprehension becomes more manageable to novice readers as group members share the responsibility for meaning construction. This allows novices to contribute and learn from the contributions of other group members. Through internalising these social experiences, novice readers gradually adopt the reasoning and regulatory practice of the supportive other, and later on will be able to re-externalise these reasoning and regulatory practice when they read on their own. The teacher’s responsibility is, therefore, to maximise the use of the collaborative context in the reciprocal dialogue and to ensure the quality of the teacher-and-student and student-and-student verbal interaction. In summary, scaffolding ensures that there is a shift from teacher control to student control of the
four strategies. The students move from other-directed to self-directed stages of understanding as they assume most of the meaning making and thinking responsibilities, while the teacher gradually assumes a background role as a supportive and sympathetic audience. Strategy use develops from emergent to fluent consolidated use, and from other-directed ‘talk aloud’ to internalised self-regulatory use.

Scaffolding can also sequence learning towards more complex and flexible reasoning. In their report on how a decade of research has seen significant diversification of RT, Brown and Campione (1994) itemise how they changed the nature of the cognitive tasks. For instance, they shifted from learning activities focusing on the traditional four strategies to engaging students in more demanding activities, such as describing the gist of entire texts and putting new knowledge to use via analogical extension and problem-solving (Brown, Campione, Reeve, Ferrara, & Palincsar, 1991) and the development of complex explanation, argument, and discussion forms (Brown, 1991, 1997). Most recently, they have fostered the development of complex reasoning and thought experiments as a method of building new knowledge (Brown & Campione, 1996).

The format of the group session may be shifted from highly structured to more fluid discussions, and from brief to lengthier sessions.

Scaffolding can shift from readily handling an easy version of the strategies to refinement in strategy use (Brown & Palincsar, 1989b); and from highlighting critical features or solutions to less intrusive prompting.

Other domains of scaffolding include increasing the mix of materials and tasks from high interest to high instructional relevance; from instructional to more difficult reading levels; from short segments to longer passages; from expository to narrative text, and from reading aloud (or tape-assisted) to reading silently.

Scaffolding can occur through varying the nature, frequency, density and spacing of reinforcement and refinement of strategy use and practice. Ideally, this is done in an integrative manner across and within lessons (Dole et al, 1991) and is implemented in versatile ways such as (a) one to one tutorials; (b) small group sessions with specialists; (c) small groups with class teachers; (d) whole class sessions led by teachers; and (e) pairs and small groups led by trained tutors (Palincsar et al, 1987).
Other adaptations that can be made include varying the range, number and distribution of mini to macro lessons within the classroom programme. The nature and extent of planned generalisation across tasks, settings and types of dialogue can also be varied.

Scaffolding can be used to individualise instruction in the concurrent transfer of control of the group process from the teacher to students. This transfer is important because increased student participation through rapid facilitation (Palincsar, 1986; Palincsar, Stevens, & Gavelek, 1989) has been associated with increased student learning gains. Further, quality peer interaction can facilitate learning. Peers may be more likely to speak at a level the students understand, to challenge each other than to challenge the teacher, and to be less of a threat to participation than teacher-dominated groups (Damon, 1984). They may also “frequently (be) in a better position to assist one another in comprehension activity, since they are more likely to be experiencing the same kind of difficulty in comprehending the text than (are) teachers, for whom comprehension occurs with relative automaticity” (Palincsar & Brown, 1988, p57).

In addition, to maximise RT as an inclusive practice, scaffolding may also be used to foster equity and prosocial goals, skills and values. Through participating frequently and intensively in cooperative groups, students can learn to manage their own group discussions and to stay focussed on a shared text. Simultaneously students are internalising values and social skills required to initiate and regulate groups. They can also learn to maintain ground rules, take turns, praise, provide corrective feedback, facilitate, help each other, and ask for help when needed. For instance, even though researchers have questioned the efficacy of the clarifying strategy in terms of reading comprehension, it was observed that this activity legitimised students seeking help from each other – and was part of what students liked about RT (Rosenshine & Meister, 1994).

Overall, this means that RT can be used to actively and overtly incorporate all of the ten best practices identified by King-Sears (1997) – including collaboration, self-determination and proactive behaviour management (King-Sears, 1997). It needs to be noted that RT also incorporates a best practice that was unrecognised in the search for successful inclusive practices in Chapter Two – authentic tasks. In addition, because RT has a psychosocial and socio-constructivist framework, it is suggested
that the method may have cultural compatibility with core Maori values, as expressed in Te Whariki (Ministry of Education, Early Childhood Curriculum, 1993). The use of RT can provide opportunities for Mana tangata (development of self-esteem through contributing), Mana motuhake (development of sovereignty and a sense of belonging) and Mana reo (development of communication).

To realise the potential of RT as an inclusive method may require a more overt multi-focussed approach – with a cognitive and metacognitive focus alongside maximising its wider prosocial and equity capacity due to its cooperative learning attributes. There are several practical implications for implementation arising from this. One is that, although RT can be used effectively as a method of metacognitive instruction at whole class, group or pair level (Rosenshine & Meister, 1994), it would most effectively facilitate inclusion if used flexibly at all levels, but predominantly at the group and pair level. A second implication is that wider social and equity goals could be made overt, paralleling the traditional cognitive and metacognitive learning goals, and fitting with Maori preference for holistic teaching of social skills as well as intellectual skills and collective values.

**RT will benefit most students (Guiding Question 2)**

**Does the practice benefit most if not all students in heterogeneous classrooms?**

According to Rosenshine and Meister (1994), the value of traditional RT has been demonstrated with students aged seven years to adult. In the last decade, RT in pull-out programmes has also been shown to be effective with primary school students with specific types of special needs, such as students who have not yet achieved proficiency in a new language (Fung et al, 2002; Klingner & Vaughn, 1996); students with learning difficulties who use English as a second language (Klingner & Vaughn, 1996); and students with both low comprehension and low decoding (Brand-Gruwel, Aarnoutse, & van den Bos, 1998; Le Fevre et al, 2002). High achievers in fifth grade have also been shown to at least make gains on metacognitive measures (Palinscar et al, 1991).

Although many studies have shown that RT is effective with US children (Rosenshine & Meister, 1994), some studies have shown the success of the method with children from other cultures, such as with Dutch (Brand-Gruwel et al, 1998),
New Zealand (Gilroy & Moore, 1988; Kelly et al, 1994; Le Fevre et al, 2002) and Taiwanese (Fung et al, 2002) school children. Further, at least two studies have shown the effectiveness of RT with culturally diverse groups in remedial programmes. Gilroy and Moore (1988) used RT with groups of European, Maori and Pacific Island students with low comprehension and average decoding in Years 6 to 8; and Klingner and Vaughn (1996) with predominantly Hispanic students.

Reports have shown that RT has also proven to be effective when implemented by regular teachers with subgroups in regular primary classrooms (Kelly et al, 1994; Palincsar, 1986), including first grade teachers (Palincsar, 1986). Palincsar (1986) noted weaker effects when teachers rather than researchers implemented RT; with less ‘dramatic’ results occurring when the teachers were not volunteers.

It is unknown to what extent RT is effective with students with very low decoding and comprehension levels. Of relevance is Palincsar’s work with first grade teachers who taught an adapted form of RT (using reading aloud) as part of listening comprehension instruction with small subgroups of at-risk students. Palincsar (1992) noted that it was easier to obtain spontaneous exchanges with these younger students. Particularly noteworthy was that the teachers commented that the students they thought were at-risk were not that at-risk after all, and, on follow-up a year later there were fewer referrals to special education services.

Because investigators have predominantly remained focussed on reading comprehension issues, very few have provided sufficient baseline data on ‘marker variables’ (Klingner & Vaughn, 1996), or separated and analysed the results by variables such as initial decoding levels (Rosenshine & Meister, 1994). The absence of sufficient data to determine outcomes on decoding levels is a real gap in the literature when considering inclusion questions such as whether all or most students would benefit in inclusive classrooms. Klingner and Vaughn (1996) certainly identified that the initial reading level of students was the single most important factor in determining who would benefit from RT. Specifically, students with decoding levels below third grade were least likely to show improvement. The next group they identified was those with the lowest language proficiency. However, of the studies in which there were students who also had decoding difficulties (Brand-Gruwel et al, 1998; Klingner & Vaughn, 1996; Le Fevre et al, 2002; Palincsar & Brown, 1984), only that by Le Fevre et al (2002) with an adapted version of RT
provided outcome data on decoding levels. Le Fevre found evidence of growth on a decoding measure, although the results did not reach significance.

It is noteworthy that the efficacy and feasibility of implementing RT in inclusive primary classrooms has only recently been raised as a research need. An empirical study by Lederer (2000) appears to have made a start on this issue. Lederer taught RT during social studies to Grade 4, 5 and 6 students with and without disabilities. In comparison with three other inclusive classes (the control groups) who did not receive RT, both regular students and those with learning disabilities improved on experimenter-designed comprehension tests in social studies, and maintained gains 30 days after the completion of the programme. Lederer’s study is a partial and incomplete demonstration of RT as a fully inclusive practice. Lederer selected elementary classrooms that were already inclusive, and focussed on students with identified learning disabilities, with approximately 5 out of the 22 students in each class so identified. However, the procedure was not adapted for these students, nor did the regular teachers of the inclusive classrooms implement the procedure themselves.

Questions remain as to whether older students, such as those at high school level, would benefit from RT. Intervention research in such settings is sparse, and most is descriptive rather than evaluative. However, in two recent studies with older students at risk for academic failure in remedial classes (Alfassi, 1998; Hart & Speece, 1998), students in the traditional RT programme showed significant improvements in strategy use relative to students in alternative programmes. Alfassi worked with first year high school students whereas Hart and Speece worked with postsecondary level students. Both studies use a methodology that is consistent with that of Palincsar’s early studies. Alfassi selected students from first year high school students in mainstream regular education – if they demonstrated good decoding skills, but performed at least two years below their year level in reading comprehension (following Palincsar’s traditional criteria). Alfassi compared 53 students in five intact reading classes with 22 students in three control-group classes, and found RT superior to traditional skill methods on experimenter-developed but not standardised tests.

Alfassi’s study is naturalistic in that intact classrooms were used. These Alfassi reported as challenging natural settings for teachers because of the heterogeneity of
student needs. However, Alfassi’s study does not meet any of the criteria of Fisher et al (1995) for selection of inclusive classroom studies. Regular students were excluded, the remedial class size was less than 15, and there are no indications that high school teachers themselves implemented RT, or that the regular curriculum was used.

The review of Rosenshine and Meister (1994) is widely quoted on the use of RT with older students. Rosenshine and Meister found similar effect sizes irrespective of student age. However, their conclusions need to be considered with caution. Their review of 16 studies contained only two studies with high school and adult students. Furthermore, their findings were mixed. In one of these studies, significant improvements were obtained with adult poor readers, whereas in the other study there were no significant findings with a mixed group of students in a vocational college.

In summary, empirical research has shown RT can improve reading comprehension with a wide range of students with and without special teaching needs, including high school students in remedial classes and postsecondary students at risk for academic failure. However, implementation studies on the use of RT by regular teachers in inclusive and / or culturally diverse classrooms – let alone the use of RT in regular high school classrooms - appears largely undocumented. One study by Lederer (2000) examined the use of RT in a more inclusive context where primary school classrooms also contained students with learning disabilities.

**RT is compatible with the curriculum** (Guiding Question 3)

**Does the practice allow the integrity of the general curriculum to be maintained?**

**Is it able to be adapted to or fully embedded into the curriculum?**

With the shift in the use of RT into regular from special education, it has become apparent that this instructional method has a range of features that support its capacity to maintain and extend the integrity of the regular curriculum. For instance, RT is compatible with practice of regular teachers and is appropriate for current directions in curriculum and teaching practices. The recent shift towards incorporating the method into the regular curriculum (Brown, 1997; Brown & Campione, 1996; Palincsar, Ransom, & Derber, 1989), is largely due to its
consistency with the current emphasis on authentic reading materials (Rosenshine & Meister, 1994), authentic contexts and achievement (Paris et al, 1992), the use of group dialogues (Palincsar, et al, 1991) and the principles of social constructivism. The applicability of RT to different curriculum areas has been demonstrated in research on regular classroom instruction – in language and English (Kelly et al, 1994; Marks et al, 1993), science (Brown, 1997; Brown & Campione, 1990), social studies (Lederer, 2000; Miller et al, 1988; Palincsar & Brown, 1984) and mathematics (Carter, 1997).

Traditionally the research on RT has focussed on two of the four parallel goals for structured groups as identified by Cohen (1994), namely, (a) extending academic knowledge and skills through reading and discussing authentic text and (b) promoting conceptual learning and higher order thinking. Gains on the programme have been demonstrated on measures assessing domain area subject knowledge, the trained cognitive strategy skills - particularly summarising and generating questions, and in standardised tests of reading comprehension (Rosenshine & Meister, 1994). Some studies have monitored and found that these gains have maintained over time (Kelly et al, 1994; Rosenshine & Meister, 1994) and have generalised to other academic tasks (Kelly et al, 1994; Palincsar & Brown, 1984), recall of main ideas (Le Fevre et al, 2002), meta-awareness (Brand-Gruwel et al, 1998; Palincsar et al, 1991) and error detection during reading (Brand-Gruwel et al, 1998). In the study by Brand-Gruwel et al, the students, who were both poor comprehenders and poor decoders, made significant gains on listening tests. This outcome may have occurred because these Dutch researchers alternated reading and listening contexts across 20 RT sessions. Rosenshine and Meister suggested another assessment method that does not seem to have been used in the research. During the think aloud dialogue, the teacher can obtain and record data on each (or identified) student’s use of the four strategies and social skills to assess progress and learning needs.

Potentially RT can support more strongly the second goal identified by Cohen – facilitating the generalisation of learning a set of monitoring strategies specific to reading comprehension to a wider set necessary for independent learning (Glaser, 1990). The ultimate goal of metacognitive instruction is teaching for self-regulation and facilitating self-control. That is, students learn to use the cognitive and metacognitive knowledge and strategies flexibly, and are highly motivated do this
(Paris & Oka, 1986). However, there are wider motivational spin-offs due to the reciprocal relationship between cognition and motivation (Guthrie et al, 1996). Learning a strategy for reading can also increase students' reading self-efficacy – and their beliefs generally in their personal capabilities for successful performance.

The untapped potential of RT also lies in it being able to support Cohen's third and fourth goals: (c) equity and (d) prosocial skills. Outcomes in these two areas are important in promoting inclusion in culturally diverse classrooms as well as with students with learning difficulties who need to be more fully included in the regular classroom (Borkowski, 1992). Although some researchers have alluded to the wider benefits of the method, there appears to be no empirical data. Anecdotal information, however, suggests there may be effects on levels of constructive and sustained engagement (Palincsar & Klenk, 1992). For instance, high student engagement in the dialogues has been associated with higher gains by the students (Palincsar, 1986; Palincsar, Stevens, & Gavelek, 1989). Also, the teachers in the study by Le Fevre et al (2002) commented on increased participation, confidence and perseverance in groups and academic activities as well as improved peer support skills. Note that some of these students had attentional and behaviour problems. Similarly, Lederer (2000) noted improved cooperative skills. Teachers in this study said they were just as pleased with the social progress of students with learning disabilities as with their ability to use the strategies. They had observed that some students had increased engagement and 'relish (ed) their role as discussion leader' (p. 98) or playing 'teacher'. Similar reports on the motivational and engagement effects of RT have also been noted in several other studies (Miller et al, 1988; Speece, MacDonald, Kilsheimer & Krist, 1997). These anecdotal comments fit with improved outcomes on attitudes, motivation, a sense of playfulness (Palincsar & Klenk, 1992), and self-regulatory skills demonstrated in empirical studies using other forms of reading comprehension instruction (Paris & Oka, 1986; Payne & Manning, 1992).

A further capacity of RT is that it has been successfully embedded into the curriculum and adapted for subgroups of students with unique needs. Adaptations have been made for first grade academically-at-risk students (Brown & Palincsar, 1986; Palincsar & Brown, 1986); improving listening comprehension (Aarnoutse, 1997; Palincsar, 1986); teaching the hearing impaired pre-reading skills (Andrews,
and students for whom English is their second language (Fung et al., 2002; Klingner & Vaughn, 1996). In addition, case studies also show how RT was adapted by teachers to the curriculum with Grade 8 remedial and Grade 9 to 12 literature classes (Coley et al., 1993; Marks et al., 1993). Several studies have used grade level material with adaptations for students who needed it, such as for students with low decoding skills and behaviour problems (LeFevre et al., 2002) and for whom English was their second language (Klingner & Vaughn, 1996).

To support students with specific instructional needs, even more individualised adaptations may be necessary. Various forms of scaffolded support that can be provided have been discussed earlier. Note that students with special learning needs may benefit from avoiding cognitive overload when learning with RT — hence, explicit instruction may well be a critical component (Brand-Gruwel et al., 1998; Palincsar, Ransom, & Derber, 1989; Rosenshine & Meister, 1994). Students who are younger and/or with different sociocultural backgrounds to the dominant culture (Delpit, 1986, 1988; Fung et al., 2002) and those at risk for academic failure (Brand-Gruwel et al., 1998; Mather, 1992; Pressley & Rankin, 1994) are considered to be disadvantaged if explicit instruction is not provided. For the lowest achievers researchers have usually used heterogeneous groups to provide more expert peer models and foster group dialogue (LeFevre et al., 2002; Palincsar & Brown, 1984, 1986; Palincsar et al., 1987). They have also suggested more sessions (Brown & Palincsar, 1989b; Bruce & Chan, 1991; Palincsar & Brown, 1984, 1986). Further, instructional chaining (Cazden, Cox, Dickinson, Steinberg, & Stone, 1978; Palincsar, Ransom, & Derber, 1989) has been recommended. This involves one group or person experienced with RT teaching it to others (Bruce & Chan, 1991; Palincsar et al., 1987). Instructional chaining has been used successfully in such initiatives as the Kamehameha Early Education Program (Au, 1980). To accommodate linguistic differences RT has also been combined with cross-age tutoring or cooperative learning (Klingner & Vaughn, 1996), the use of students’ own language where needed for understanding (Klingner & Vaughn, 1996), and sessions alternating in two different languages to allow rapid internalisation of the strategies for comprehension of English text (Fung et al., 2002). Adaptions for students with both low comprehension and low decoding scores include using read aloud to teach listening comprehension (Palincsar & Klenk, 1992); transenvironmental programing (Bruce
and alternating listening and reading activities (Brand-Gruwel et al., 1998). With students who do not have the necessary skills to read independently, two forms of “cognitive bootstrapping” (Resnick, 1989) have been used: read aloud (Palincsar & Klenk, 1992) and tape-assisted (Le Fevre et al., 2002) methods. Read along has also been used with students who had decoding levels varying from first to fifth grade (Palincsar et al., 1991).

Adaptions may be critical to the success of RT with different student groups, but note that this could generate treatment fidelity problems. For instance, Le Fevre et al. (2002) completed a more detailed analysis of the performance of low decoders, who had a mean age of 9 years with a mean decoding level of 6.5 years. Finding they were unable to apply the four cognitive and metacognitive strategies during the conventional RT intervention when using materials in advance of their instructional levels, Le Fevre developed a tape-assisted method. With this adaption, these poor decoders improved in their use of cognitive and metacognitive strategies, and in comprehension. Le Fevre also observed incidently that the students enjoyed the access to age-appropriate texts and improved in confidence, attitudes to reading and other academic activities. Note that this experience would have been a contrast to the constant reading of materials for lower age groups, as well as to ongoing struggles with difficult text – as slow and inaccurate decoding may degrade the contextual information to such a degree that it becomes unuseable (Kibby, 1979). Le Fevre noted that some of these positive effects may also be attributed to the use of the tape-assisted method, which has been shown to have motivational value (Carbo, 1978; Reitsma, 1988). Tape-assisted RT can be seen as an example of ‘cognitive bootstrapping’ (Resnick, 1989), whereby students who do not yet have the necessary skills to read independently may be provided with the opportunity to learn from and about them. It is noteworthy that students with adequate decoding skills showed no adverse effects of being in heterogenous groups with such low decoders. Further, they also improved in comprehension. This study underlines both the importance of adapting the method for students with special instructional needs, and the potential of the method for all students in heterogeneous primary classrooms.

Arguably, RT should be fully incorporated into the regular curriculum and teaching practices. This would ensure the more prolonged training, better generalisation and more diversified use of the method by both teachers and students. This is important
because to date there is little evidence of continued use (maintenance) or flexible transfer of these strategies (Brown, 1997). It may take more than initial training and a few ad hoc lessons for teachers to help students with comprehension difficulties to build understandings about the global nature of strategic reading and to use the strategies flexibly (Brand-Gruwel et al, 1998; Brown, 1997; Dole et al, 1991; Klingner & Vaughn, 1996; Pressley et al, 1992). Integration into the curriculum would facilitate efficiencies. It would allow for both explicit instruction and the transfer and generalisation of learning without time-consuming and elaborate methods used for a few identified subgroups of students only. Examples of the methods developed from a targeted rather than an integrated curriculum perspective include peer tutoring training (Palincsar et al, 1987) and transenvironmental programming between withdrawal and regular classrooms (Bruce & Chan, 1991). Researchers (Kelly et al, 1994; Palincsar & Brown, 1984) in this area have shown that adequate decoders were able to generalise the cognitive strategies to other classroom settings. However, with low decoders, Le Fevre et al (2002) found transfer effects on a recall task, but no evidence that these strategies were generalised to classroom settings. Further, Le Fevre showed small decreases at 10 weeks, although the students in this study maintained significantly higher levels than that achieved prior to the intervention. With a similar population, Brand-Gruwel et al (1998) showed that gains were not maintained after three months with such students. Researchers have highlighted that these students may take longer to achieve mastery and internalisation of the strategies (Brand-Gruwel et al, 1998; Bruce & Chan, 1991) – deemed by Bruce and Chan as prerequisites for desired unprompted generalisation. Because of this, Brand-Gruwel et al advocated that prolonged and integrated training may be necessary for students with low entry skills, whereas Le Fevre suggested booster sessions. Note that most published studies including those referred to here (Brand-Gruwel et al, 1998; Bruce & Chan, 1991; Le Fevre et al, 2002) implemented RT by withdrawing students from the regular classroom, thereby increasing the likelihood of maintenance and transfer problems with students who are likely to have inert knowledge and passivity patterns.

Although research by Alfassi (1998) and Lysynchuk et al (1990) supports the importance of extended use of the method, one study (Carter, 1997) showed that a long term wide application of RT has impressive and robust benefits in both reading
and mathematics. Even more diversified benefits of full incorporation into the curriculum are evident in Brown’s (1997) community-of-learners approach with inner city classrooms. In this approach, content area instruction was integrated with literacy instruction using authentic texts. However, Brown’s overall goal was to design and evolve classrooms into active thinking communities that support meaningful engagement with literacy. To achieve this goal, Brown used RT as a first step towards redefining the curriculum and modifying the participation structures and climate of these classrooms. Brown also employed adults in benchmark lessons and cross-age teaching, seeking to give students responsibility and purpose, and reinforce collaborative structures throughout the community (Bruner, 1972).

In summary, the literature supports the contention that RT is a multipurpose teaching method which is compatible with and can be embedded in, strengthen and be adapted to the regular curriculum. Importantly, RT can also provide access to the curriculum through flexible adaptations for those with special requirements. Further, Carter’s study in particular shows that the full and sustained integration of RT into the regular curriculum could provide major long term benefits to heterogeneous classrooms, enabling teachers to more fully include all their students.

**Feasibility of RT (Guiding Question 4)**

*Is the practice practical in terms of the amount of instructional time needed, and satisfactory for regular teachers and students?*

Rosenshine and Meister (1994) stressed that not enough was known about implementation and associated feasibility issues. This still seems to be the case. There is a scarcity of information focussed directly on teachers and students, such as surveys of teacher or student satisfaction with RT. Anecdotal comments by a few researchers remain our main source of information.

Even Lederer’s study (2000) contributes limited information on feasibility as the regular teachers did not implement RT themselves – their role being restricted to management issues only. Although contextualised in inclusive classrooms and within the social studies curriculum, Lederer implemented RT on a whole class basis – with only occasional assistance from a teacher aide with the youngest students in one of the classes (Grade 4). Note too that class sizes were small – a maximum of 22
students were divided into five heterogeneous groups. Similar to Carter (1997), Lederer recorded a mixed reception to RT. Lederer commented that although the teachers were pleased with the progress of students, they had reservations about the sustained time required for RT. Further, Lederer reported that not all felt comfortable with the method nor would use it. However, the teachers in Lederer’s study do not appear to have been trained in the method. There is clearly a gap in the literature on the efficacy and feasibility of class-wide implementation of traditional RT by regular teachers.

There is also a scarcity of information about the feasibility of RT in high schools (Alfassi, 1998). With the exception of Alfassi’s study on the use of RT in a remedial programme by the researcher, there do not appear to be any studies at the high school level. Alfassi found the method successful and viable, commenting also that the larger group size made the use of RT more economical than demonstrated in previous studies. It can still be concluded, as we did seven years ago (Westera, 1996; Westera & Moore, 1995), that there is an absence of empirical work in high schools, let alone studies that address wider issues beyond remedial programmes or which have not involved considerable input in the form of researcher time. Consequently, we have little information regarding the feasibility of implementing RT with limited resources, and in a way that is responsive to overall school needs, and to the needs of regular teachers and their classes. Nor do we yet have clear guidelines regarding how best to effectively implement RT in such settings (Harris & Pressley, 1991).

Further, student perspectives have rarely been documented in the literature. An exception is the study by Le Fevre et al (2002), in which all students (N=18) were interviewed. Both poor and adequate decoders, aged 8 to 10 years, noted improvements in their reading, and an overwhelming comment was they liked the method and enjoyed the passages. In Le Fevre’s groups there were several students with behaviour problems. Hart and Speece (1998) also obtained anecdotal data from feedback interviews with their postsecondary students (N=9). Nearly all students in the RT group identified RT as the most important aspect of the course, and made comments such as that RT enabled them “to approach reading in a more motivated and effective way”; “helped me with my other classes”; and “I now feel I understand what I read” (p.677).
Speculations about the benefits of RT for both teacher and student must include its ease of use. The procedure focuses on only a small number of strategies, which are readily taught. It involves intensive practice and is usually group-based. Because RT also has an identifiable instructional routine with a metascript, teachers and students easily learn and use the method independently through observation and participation (Carter, 1997; Klingner & Vaughn, 1996; Palincsar et al., 1987; Palincsar et al., 1991). RT contrasts with other metacognitive methods such as Collaborative Problem Solving (Palincsar et al., 1991) and Transactional Comprehension Strategies Instruction, because it has such a clear metascript. This provides ideal instructional chaining opportunities. That is, peers and/or instructors, who have had prior experience with the procedure, can model, dialogue and teach others the purpose, metascript and other facets of RT.

In addition, it is speculated that regular teachers familiar with the method would find that the predictable turn taking in dialogue and leadership could support rather than threaten classroom control systems. Further, researchers have noted that the method can be flexibly adapted for individuals, groups or classes. For instance, Kelly et al. (1994) found that RT could be used with a subgroup without significantly altering organisational arrangements with the rest of the Year 6 and 7 composite class. Particularly relevant for regular teachers is that heterogeneous groups readily accommodate diversity. Heterogeneous groups can provide multiple opportunities for children to participate at different levels during instruction (Palincsar et al., 1991). Researchers have also shown that heterogeneous groups can benefit from including both low and average achievers (Cohen, 1994). These authors have noted the ‘power of less capable students to drive the more capable students’ (Palincsar, 1992, p.12) - and its motivating effects for both parties (Palincsar et al., 1987). With RT, gains for both more and less able students in heterogeneous groups (Kelly et al., 1994; Le Fevre et al., 2002; Palincsar & Brown, 1986) and in the tutor / tutee pair (Palincsar et al., 1987) have also been demonstrated. Of particular relevance for the lowest achievers is the finding that they can benefit from the stimulation of gaining access to class-level texts (Brand-Gruwel et al., 1998; Kelly et al., 1994; Klingner & Vaughn, 1996; Le Fevre et al., 2002) and group dialogue with similar-aged peers, thereby integrating them with valuable peer models in cognitive, language and prosocial skills (Le Fevre et al., 2002; Palincsar & Brown, 1984). A further spin-off noted is the heightened
motivation within both tutors (Palincsar et al, 1987) and the weakest students (Le Fevre et al, 2002).

For teachers there may also be benefits in using groups rather than always needing to work 1:1 with their special needs students, and in simultaneously achieving academic and prosocial outcomes. Further efficiency would occur when students and teachers become familiar with RT. Because students can work in peer groups without the teacher being constantly present, the teacher is released to move from group to group facilitating progress (Klingner & Vaughn, 1996). However, these positive factors may need to be weighed against the concentrated attention demanded from teachers during the initial introductory phase. While training students in the method, teachers would need to simultaneously focus on the meaning of the reading materials and the dialogue, to scaffold for the individuals and the group, and to manage the group. This multi-tasking may lead to mental overload when students and group dynamics are challenging, or teachers are not flexible in moving between sequential and parallel processing.

Although RT may have attractions for teachers, it is speculated that there are implementation requirements that are relevant to RT being effective and instructionally viable within an inclusive classroom. To design an effective programme, planners and / or teachers themselves need sufficient prior understanding of and experience with RT so they understand the theoretical and instructional merit of all key elements. In the preliminary planning stage, they may need to consider how the overall programme would fit with school systems, practices and needs, as well as with the National Curriculum Framework. Further, anticipatory planning would include assessment of strengths and needs of students, establishing how RT will fit with the class programme, designing appropriate materials and adaptations for some individual needs, and setting up resources and support. Planning decisions may also need to be made about elements such as the form of the RT procedure, student and group characteristics, and the nature of individualised adaptations for students with different teaching needs, timetabling, instructional format, reading materials, nature of text segment discussed, resources and equipment, assessment, group rules, quality of interactions, and the role of each person involved.

Feasibility factors in organisational planning may well need to go beyond a focus on initial implementation to the development of the institutionalisation phase. Ongoing
support and monitoring may be needed to maintain the focus, quality, intensity and duration required for teachers – and the students who most need it.

In summary, there is even less information on feasibility factors with RT when implemented in regular classrooms than there is on RT implementation in inclusive classrooms. Nor is there information about how regular teachers and students perceive RT. However, to ensure the programme is successful, preliminary and longer term planning is required at an informed level.

**RT and school-wide facilitation of inclusion (Guiding Question 5)**

*Does the practice develop, extend and improve inclusive pedagogy and processes at both regular class teacher and collaborative school-wide levels, thereby supporting current policy and organisational reform in practice?*

RT has been viewed as a suitable vehicle for staff development in in-depth metacognitive instruction at pre-service (Mosenthal, Schwartz and Maclisaac (1992) and in-service levels (Carter, 1997; Westera, 1996). Westera (1996) provided grounds for applying RT and similar metacognitive methods not only at a teacher level but also in a school-wide approach. One reason for a school-wide application was that many more students than originally thought would benefit from this now firmly established and effective method. A second reason was that RT has potential as a strategic prevention and early intervention approach for addressing the widespread and demanding needs teachers are facing. As discussed in Chapter One, school management and class teachers all need to take responsibility and adapt their own behaviour to effectively address pervasive literacy and other learning needs of students – as well as addressing the increasing diversity of students and issues of school alienation.

RT can also contribute as a vehicle for staff development (Mosenthal et al, 1992; Pressley et al, 1989; Westera, 1996) in effective instructional methods that have at least dual pedagogical value: strengthening both literacy and higher order thinking skills.

In implementing RT, a strategic comprehensive and effective dissemination approach at school-wide level may be warranted in order to ensure sustained change (Klingner, Arguelles, Hughes & Vaughn, 2001) at student, teacher and school levels. It is
argued that ad hoc perfunctory dissemination of RT, as with similar methods such as cooperative learning and metacognitive instruction, may be counterproductive.

There are several key considerations for effective dissemination within schools, where administrators wish to take responsibility for quality training and ongoing support.

A strategic plan must respond to the individual needs of the school. For example, Carter (1997) implemented RT within a school-wide approach with three urban multicultural primary schools, using a graduated approach to introduce and integrate the method into the regular teaching practices of teachers. This approach was deemed necessary because of complexities such as “poverty, rigid school structures, lack of training, few resources and supportive systems, deeply entrenched resistance to change, low teacher morale, low student achievement, abysmal test scores and low graduation rates” (p. 64). Carter first trained teams of 10 professionals and paraprofessionals in each school to provide short-term interventions, teaching RT to pull-out groups of the most challenging students. In the next step Carter deployed the teams to plan, developed resources for staff development and the RT programme, implement RT and providing intensive classroom support for identified students plus all the Grade 3 population in two subject areas (English and Mathematics). In addition, every Grade 3 teacher was provided with video materials on research-based literacy instruction at the elementary level. This was supported systematically by the regular use of RT to facilitate dialogue between teachers. Carter commented that this transition to regular teacher ownership was not as smooth as envisioned. Despite the in-class teaming and support, teachers expressed concerns about the process and time it took. A further training step consolidating staff and student skills in RT was attained within a six week French course for the Grade 3 classes. Staff development also occurred through providing knowledge and feedback from the experience and evaluations gained. On the basis of this longitudinal study, Carter advocated that the programme should become “a staple of classroom teachers” and that “teachers continue to collaborate and consult research for solutions to the problems of low student achievement” (p. 68). Note that Palincsar used less hierarchical and more collaborative dialogical approaches to dissemination – with instructional chaining (Palincsar, Ransom & Derber, 1989). These may be more suited to ad hoc and informal professional networking of knowledge between the reading or special needs
specialist and/or researcher — and less applicable when more concerted efforts are needed. However, such dissemination procedures may risk 'training generational loss'.

A quality training plan is also essential to effective dissemination. One important aspect of training is the explanation of both the rationale and the usefulness of the strategies in which the students are being trained (Cross & Paris, 1988; Pressley et al, 1989). Mosenthal et al (1992) and Pressley et al (1989) argue that staff using RT require an understanding of related cognitive and instructional theories as well as practice in the metascript and monitoring (Palincsar, 1986; Palincsar, Ransom & Derber, 1989). Further, Palincsar (1992) argues that teachers also need to co-construct the use of RT together and be supported in planning and implementation - or they are less likely to continue to implement RT without support.

Mosenthal et al (1992) state that RT demands 'more than mentioning' in terms of staff education and dissemination. In addition to teachers attaining sufficient understanding about RT so they can implement it in an effective manner, there also need to be mechanisms that foster and ensure quality control or treatment integrity of implementation and dialogue by students, teachers and in-class assistants. Quality control may be provided through opportunities for regular dialogue with colleagues and teachers who are role models, and in-class observation and monitoring. Monitoring to foster treatment integrity especially with new methods such as metacognitive instruction is critical. With RT the quality of the dialogue is central to success. Integrity may be effected if peers give inaccurate information or do not ensure equitable group control of the dialogue (Palincsar et al, 1987), or teachers and aides continue to dominate the dialogue and not facilitate high peer engagement (Palincsar et al, 1991). Note that Rosenshine and Meister's review found that RT is not always effective. While teachers may follow the RT routines, their students may not necessarily achieve gains.

With many teachers and schools, RT may also need an infrastructure to support training, planning, sustained use and adaptation as required, while maintaining integrity. Particularly where there are difficult-to-manage classes or students with special needs, staff may require more planning help and in-class assistance to adapt the procedure to their teaching context. Ongoing support structures can be provided through 'facilitators' (Le Fvre & Richardson, 2000), 'coaches' in schools (Joyce &
Showers, 1987) and 'instructional chaining', or the involvement of available support from specialist teachers such as Resource Teachers of Learning and Behaviour (Thomson et al, 2000).

Marks et al (1993) and Palincsar (1992) raise the concern that teachers frequently adapted or abandoned conventional RT, noting the need for support for teachers to adapt the programme for ongoing viable use. Research by cognitive theorists on similar concerns with reading comprehension instruction (Gersten, Vaughn, Deshler, & Schiller, 1997; Pressley & El-Dinary, 1997; Richardson et al, 1991) have also identified other factors pertinent to teachers adopting well-researched practices, using them for more than a year or two, and adapting them to fit with their beliefs and practice. One factor is that teachers are most likely to adopt practices that are most compatible with their teaching philosophy. When teachers have underlying beliefs (Richardson et al, 1991) or teaching styles (Palincsar, Stevens, & Gavelek, 1989) which are not compatible with this approach, RT may be ineffective. This is more likely to be relevant to high school staff, who may not be familiar with this strategy instruction approach nor with the increased sharing of control and knowledge with students through group facilitating and 'scaffolding' skills.

There are also strong arguments for the school-wide application of RT beyond those pertinent to metacognitive instruction (Westera, 1996). These relate to the potential of RT as a vehicle towards more inclusive practices at a school-wide level. Surprisingly, the latter theme is undeveloped in the literature.

When RT is viewed as having a major inclusive role, school-specific development and institutionalisation may well be critical to guaranteeing that individualised adaptations and sustained use of the method will occur for teachers and students who need it. School-wide planning would ensure successful outcomes for teachers and students requiring the most complex or time-consuming adaptations, in-class support, smaller classes and teacher release. In addition, formal processes need to ensure the programme is sustained whenever there are changes in staff and students – thereby avoiding ad hoc fragmented systems for these students and their teachers.

When considering that implementation of these methods is no longer the sole domain of the remedial or special needs teachers, or regular class teachers doing it alone, these requirements are likely to have implications for management. There would be
variability between schools and staff as to which aspects would be most efficiently managed at school, department or syndicate level, and which by the classroom teacher. The merging of expertise, staffing and resourcing of regular and special teachers in a collaborative process may provide efficiencies, maximising the roles of both regular and specialist teachers.

3.3 Statement of the Problem

RT was developed as a method of metacognitive instruction in reading comprehension and as such is well researched and effective. However, it is contended that the potential of RT as an inclusive method has been largely underdeveloped in the literature. By examining the status of the literature on RT within the framework of the five Guiding Questions established to validate inclusive practices, it has become clear that Guiding Questions 1 and 3 have been largely answered in the literature review. RT has demonstrated efficacy as a method of metacognitive instruction and may well be a strong example of inclusive practices because it has the potential to combine most if not all of the best inclusive practices (Question 1). Also, researchers have shown that RT is compatible with and can be incorporated into the regular curriculum, and can be adapted in many ways to cater for individual needs (Question 3).

However, answers to the other three Guiding Questions (2, 4, and 5) are underdeveloped in the literature. The potential contribution of RT as an inclusive practice at the inclusive classroom (Question 2) and school-wide level (Question 5) is largely unexplored. There appears to be only one empirical study (Lederer, 2000) on the use of RT in inclusive classrooms. As a result there is little information on feasibility issues at inclusive classroom and school-wide levels (Questions 4 and 5).

Consequently, the current research aimed to shed light particularly on three of the five Guiding Questions.
3.4 Research questions

The purpose of this research was to validate or test the effectiveness and feasibility of RT as an inclusive education approach. Focusing on three of the five Guiding Questions pertinent to validating instructional methods as inclusive practices may do this: Benefit most students (Guiding Question 2), Feasibility (Guiding Question 4) and School-wide facilitation of inclusion (Guiding Question 5).

3.5 The Two Implementation Studies

In this research project RT was introduced into a high school (Study One) and a primary school (Study Two).

The collaborative (King-Sears, 1997; Vaughn & Schumm, 1995) school-wide approach (Cuban, 1996) taken in these studies fitted because equity and inclusion issues were foremost concerns. Both schools were multicultural and drew from a predominantly lower socio-economic urban population. Both schools were caught up in the recent and continuing movement towards inclusive education in NZ.

Study One examined the potential of RT as a vehicle for facilitating school-wide inclusive practices (Guiding Question 5).

Both studies examined the benefits of RT for most students (Guiding Question 2) and its feasibility (Guiding Question 4) in heterogeneous classes.
CHAPTER FOUR

STUDY ONE

RECIPROCAL TEACHING AS AN INCLUSIVE PRACTICE AT HIGH SCHOOL

4.1 Background

Study One developed from a needs-based approach in response to national reform, demands for more inclusive educational practices, and field needs. NZ schools were in the early stages of implementing major national policy changes in school policy, self-government and curriculum. Further, more inclusive practices were being highlighted by the development of Support Teams (Moore et al, 1992) that were being located within large schools or clusters of schools. This climate of fundamental change heightened each school’s awareness of their responsibility to assess and resolve equity issues by moving towards more inclusive beliefs and practices. It also provided many schools with the means to address significant problems with new approaches and resources. For example, strategic plans documented equity goals in the school charter, and how these were being met by school staff, departments, and resourcing.

As an educational psychologist servicing three large high schools and their contributing schools, the author became aware of widespread literacy problems. A school-wide analysis of academic and pastoral needs of new Year 9 students in one of these high schools revealed that the literacy problem was largely specific to reading comprehension. This is consistent with national data showing that poor performance in reading comprehension remains a large scale problem in our high schools. For example, Nicholson and Gallienne (1995) obtained a mean percentile of 20.22 on the Progressive Achievement Test (PAT) Reading Comprehension (Reid & Elley, 1991) with Year 9 students in six low socio-economic New Zealand high schools. This problem is not specific to New Zealand. Results from the National Assessment of Educational Progress (Mullis, Owens, & Phillips, 1990) indicate that even the best
American students have difficulty reading below the surface meaning of texts, and that "more students appear to be gaining basic skills, yet fewer are demonstrating a grasp of higher-level application of these skills" (p.10). Because adequate reading comprehension is central to success in most academic subjects, it becomes an equity issue if large numbers of students cannot access the curriculum due to low reading comprehension and/or language and cultural backgrounds that differ from the dominant teaching culture.

In a search for methods to address this problem from the extensive literature on the assessment and teaching of reading comprehension, the author became aware of reciprocal teaching (RT) as a method that was largely untested in regular high schools but could provide a potential solution to addressing widespread reading comprehension issues, while facilitating more inclusive practices by staff and schools.

A collaborative school-wide approach was selected to maximise the new self-governing systems of high schools, the drive for inclusive change and the concurrent awareness of significant problems. A systemic problem analysis was used because it is more likely to achieve a long-term fit of a programme with a school's needs. An outside consultant such as the school psychologist can facilitate and promote this process, if s/he has the skills to use a collaborative and school-wide approach. Systemic problem analysis and ongoing monitoring and evaluation are integral to this role. This ensures scaffolding occurs to promote ownership (Gersten, Vaughn, Deshler, & Schiller, 1997) and a close fit of training with the needs of students, teachers and their classrooms. With appropriate technical knowledge on instructional effectiveness, the psychologist can also ensure adequate monitoring processes occur to adjust training carefully to the teacher, school and classroom, and to avoid behavioural drift (Moore et al, 1992; Pressley et al, 1989) and associated decreased effectiveness.

This chapter examines the viability of a school-wide application of RT to address reading comprehension problems (Westera, 1996; Westera & Moore, 1995) and to facilitate more inclusive practices in a West Auckland high school. High school teachers implemented a RT programme with support personnel in their own regular classrooms. The purpose of this study was to examine:
• the effects of the RT programme on poor readers' reading comprehension in regular Year 9 high school classrooms (benefit most students - Guiding Question 2);

• the feasibility of implementing RT by high school teachers in regular classrooms (feasibility – Guiding Question 4); and

• the potential benefits of implementing RT in a school-wide approach (school-wide facilitation of inclusion – Guiding Question 5).

This implementation study will be described in three parts: the school-wide approach, the RT programme, and results and discussion. This is followed by drawing implications for each of the five Guiding Questions developed to validate a teaching practice as inclusive, and for further research and practice.

4.2 A School-wide Approach

Consultation, Assessment and Analysis

The learning and pastoral needs of new students (n=740) in three West Auckland high schools were identified and analysed. One major academic problem identified in the entry information on new Year 9 students (aged 12 to 13 years) was poor reading comprehension skills. On the Progressive Achievement Test (PAT) in Reading Comprehension (Reid & Elley, 1991), 42 to 45 per cent of these students scored below the 20th percentile. It was assumed that a large proportion of these students would have difficulty coping academically at high school with such low reading comprehension levels. This situation raises equity issues which schools are required to assess and address. Access to the curriculum is jeopardised when students cannot understand textbooks, tests, notes and other written materials, where these are dominant teaching methods.

In one of these high schools, individualised assessment of the lowest Year 9 achievers was completed on the Neale Analysis of Reading Ability (Neale, 1989). Of the 300 Year 9 students, decoding was a problem for less than 1%; reading comprehension levels two to four years below age equivalent level were an identified concern for about 20%; and English was a second language for about 10%. About 20% of the Year 9 students had Maori and Pacific Island ethnicity.
The Head of English, the Staff Development coordinator, the Learning Support Team (including the reading teacher, the special needs teacher and teacher aide), and the psychologist (the researcher) formed a planning group because this major reading comprehension problem was unmet by programmes already in place. The Planning Group decided further assessment and a different approach was essential.

The Planning Group identified five dimensions relevant to ameliorating the problem.

1. **School ownership of the problem.** The school was bound by new equity policies but had not identified this area as a concern or priority in any formal way.

2. **Strategic service delivery.** The school lacked a strategic school-wide approach to this multilevel and large scale issue. A pull-out system for small numbers of students with inclusion and literacy needs was not integrated with subject department systems nor the systems for students with individualised educational programmes (IEPs).

3. **Teacher and departmental perspectives and education.** The vast majority of high school teachers appeared not to consider that reading difficulties were their concern. Further, almost all teachers lacked awareness and skill in assessing and catering for different reading needs, and in reading comprehension or strategy instruction. They usually operated from a traditional approach, including ‘pitch to the middle’. With the drive for curriculum change, some teachers had attended ‘language across the curriculum’ and cooperative learning courses.

4. **Programming and resourcing within departments.** Reading was not a priority activity in any of the four core subjects at the time, nor were resources targeted to support it beyond library time. Further, departments had not assessed the appropriateness of their texts and resources for students with low literacy levels.

5. **Support staff roles.** A major concern was that the Learning Support Team was not adequately addressing these needs with the relevant departments. For example, the reading teacher, who was primary school trained with a background in Reading Recovery and individualised programming, would withdraw limited numbers of students or use peer tutoring methods. This approach raised concerns about efficacy as well as developmental, gender and cultural appropriateness. The identified need for systematic teaching of reading comprehension strategies to large numbers of students was unmet. Further, Polynesian boys avoided attending her withdrawal
room because they felt embarrassed about leaving class, the public location of her office and being alone with a teacher. Collaboration between learning support and subject departments was also underdeveloped. Contact was largely confined to minimal liaison.

With this information the Planning Group decided that a comprehensive approach to reading comprehension, focused strategically at the early high school level, was essential. All five dimensions identified were considered integral to any intervention planning to achieve long term outcomes for the targeted students and the whole school. A central focus would be teacher education and support in the use of reading comprehension fostering and monitoring strategies.

RT as developed by Palincsar and Brown (1984) was selected as the instructional strategy for several reasons. It matched the identified needs for teaching of reading comprehension and metacognitive skills. Second, the method had become accepted as a firmly established and effective procedure (Rosenshine & Meister, 1994) in NZ primary schools as well as in the United States at junior high school level in pull-out (Lysynchuk, Pressley, & Vye, 1990) systems. Third, features of this instructional method, such as its collaborative and self-regulatory approach with peer dialogue and support, were considered as likely to be particularly suited developmentally to adolescents who are passive learners in class and largely dominated by their peer culture. Fourth, the interactive group focus of RT was viewed as potentially having strong cultural compatibility for Polynesian adolescents. Finally, because of its group approach, RT could provide for larger numbers of students than previous individual tutoring and peer methods.

Training and adapted use of RT were seen as a way to introduce high school staff to a range of inclusive practices, such as developing and adapting curriculum resources to fit with literacy and other needs and working collaboratively with in-class assistance.

Consultation Outcomes

All dimensions identified in the multilevel assessment were addressed in this study.

1. Facilitating school ownership. School and staff awareness of these issues was sharpened by ongoing consultation by the Planning Group. Teachers were informed at a staff meeting on the school data about the results of the survey of the pastoral and
learning needs of the new students. In particular, this focused on the issue of the vast scale of the reading comprehension problem, and implications for staff. The English Department staff obtained further information on the inclusion and literacy needs of their students. An information brochure and updates on developments were regularly sent to all staff. The school administrators, the Staff Development Committee and Heads of Departments were consulted as to the need and the viability of support in resources, syllabus and staffing. It was considered essential that the programme had ongoing commitment of Heads of Departments, the Learning Support Team for in-class support, and of the Staff Development committee for staff training, support and in-class monitoring, and resourcing, if it were to continue. The English Department took a formal proposal to senior management to build the programme into its Strategic Plan under the Equity Goal 4B: “to enhance learning by ensuring that the school’s policies and practices seek to achieve equitable outcomes for ... all students irrespective of their ethnic, cultural ... backgrounds and of their ability or disability”.

2. Developing a strategic plan. An overall plan was developed with key staff, with a strategic early intervention approach. This focused on new Year 9 students, because this approach was considered efficient and preventative, and the group and individualised strategies of RT were considered compatible with these students’ recent experience in primary classrooms. Reading and special needs teachers individually assessed all Year 9 students who scored below the 20th percentile on the PAT Reading Comprehension. From these assessment results a few students were targeted for separate individualised programmes focused on decoding and / or writing, and large numbers were identified with low reading comprehension levels - and potentially benefiting from a RT programme. The RT programme was targeted at subgroups of low comprehenders in regular Year 9 classes, and not the whole class, because (a) the needs analysis resulted in a focus on selected student groups that most needed RT; (b) there was no available research on the efficacy and feasibility of RT with high school teachers as a whole class approach; (c) there was no data showing that traditional RT was appropriate for high comprehenders in the adolescent age group; and (d) a decision was made to start with a small manageable plan for teachers and support staff new to RT. Training in RT procedures was therefore primarily provided for all Year 9 English and Social Studies teachers, and
Learning Support staff. However, all staff were invited to participate. Those who took up this offer included teachers skilled at functional programming for older students with inclusion and literacy needs.

3. Facilitating and educating teachers and departments. An information session was provided for interested staff. Training was held for staff from a wide range of areas that wished to use the method in class. Staff could choose whether or not to continue with the programme. Those who continued requested further support sessions. The English Department challenged other departments to own the issues and become involved, and the psychologist (the researcher) visited other departmental meetings to discuss the programme and its implications. Eventually the English Department made a solid department level commitment to the programme, formally building the programme into annual planning. They required all staff involved with Year 9 students to be trained in the principles and procedures of RT. Other departments developed alternative approaches to supporting inclusion, such as employing primary teachers skilled at multi-level teaching, and developing collaborative teaching models (O’Brien & Bullock, 1989).

4. Developing programming and resourcing within departments. Departments and support staff took an early responsibility for resource and programme development within and between departments. In addition, Learning Support staff prioritised the RT programme over other commitments and/or ways of working.

5. Extending support staff roles. Support staff retained former roles in student screening, assessment, monitoring and resourcing. However, they also developed a strong in-class teacher support and monitoring role. A collaborative decision between support staff, the teachers and the Heads of Departments was made to prioritise teachers working with a group within their own class. This fitted with the 'inclusion' values of support staff, and teachers themselves expressing eagerness to learn new ways of teaching.
4.3 The Reciprocal Teaching Programme

Method

Participants and setting. All the Year 9 students in the school completed the PAT in Reading Comprehension, Form A (Reid & Elley, 1991). The lowest scoring 46 students from seven classes were selected to participate in the RT study. On average these pupils were more than two age equivalent years behind in their tested reading comprehension. The experimental programme comprised 35 of these children in five classes taught by four regular class teachers who volunteered to participate (one teacher had two classes). The remaining 11 students located in two other classes made up the no treatment control condition.

Sessions and grouping. RT sessions were incorporated into the regular English and Social Studies programmes in each of the five classes. Over five weeks the teachers ran 30 minute sessions with their targeted student groups, for two to four times per week depending on timetabling considerations. Some student groups received RT in both English and Social Studies classes. Consequently, four groups, comprising 20 students located in three classes, received between 12 and 16 RT sessions (extended programme). Another four groups, totalling 15 students, from two classes had six or eight RT sessions (short programme). The composition of the no treatment control students and those in the short and extended programmes were similar with respect to gender and ethnicity, as shown in Table 1. Overall, sixty six percent were male and about thirty percent of the selected students had Maori and Pacific Island ethnicity.

Design. We employed a quasiexperimental nonequivalent between groups design (extended programme, short programme and control groups) with pre/post measures (raw scores) of within subject difference. The posttest measures of reading comprehension served as the dependent variable with pretest scores being treated as a covariate in our evaluation of this procedure for training teachers to employ the RT process in their own classes. Capitalising on the fact that a subset of the intervention group received twice as many RT sessions as did the others, data from these two sets of students were treated separately.
Table 1. Characteristics of the Control, Short Programme, and Extended Programme

<table>
<thead>
<tr>
<th>Programme</th>
<th>n</th>
<th>% male</th>
<th>% European</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>11</td>
<td>64</td>
<td>72</td>
</tr>
<tr>
<td>Short</td>
<td>15</td>
<td>73</td>
<td>80</td>
</tr>
<tr>
<td>Extended</td>
<td>20</td>
<td>60</td>
<td>65</td>
</tr>
<tr>
<td>Total</td>
<td>46</td>
<td>66</td>
<td>72</td>
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**Measures.** The PAT Reading Comprehension (Reid & Elley, 1991) was used in this study. This is a group-administered standardized test containing 11 short passages each with five multiple choice questions. Reasons for using the PAT were that it was standardised on NZ children, it is familiar to them because it is regularly used in NZ schools, and it can provide comparative information with NZ studies such as that by Kelly et al (1994) and Nicholson and Gallienne (1995). The stability coefficient between Forms A and B (Part 7, for Year 9 students) is .88. Internal consistency coefficients of reliability (KR20) for Forms A and B (Part 7) are .93 and .94 respectively.

Form A was used at pretest. Students were retested on a parallel form (Form B) of the PAT Reading Comprehension instrument at mid year. The students in the extended programme were tested again in a follow up at the end of the year (Form A) to obtain a measure of the maintenance of treatment effects. The results of these assessments are presented in Table A1, Appendix A.

Staff were surveyed at the end of the programme with an open-ended written questionnaire. The content of the questionnaire is included in Appendix A2.
**Instructional support.** This included:

- an in-class assistant (aide or support teacher), who facilitated the regular programme with the rest of the class. In classes with more than one RT group, the in-class assistant also ran a group. There were 3 to 6 students per group.

- resources developed and provided by each department - that were selected at the 11-13 reading age equivalent level, of high interest to teenagers, including Polynesian students, and could be readily integrated into the curriculum. This allowed the lesson to be taught on the same subject but in two structures: the groups versus the rest of the class. Texts for the RT subgroups were carefully selected so they could be used in the group as well as for the whole class project. Initially they comprised a mix of expository and narrative books and articles from the New Zealand School Journal Catalogues (Department of Education, 1986; Ministry of Education, 1994) and other sources. The school also bought sets of 6 to 8 copies of narrative books of high interest and cultural relevance for Maori and Pacific Island students. Teachers from the English and Social Studies departments developed units and bought resources for Year 9 teachers. These units facilitated the use of RT as an integral part of a teaching module. The English department developed a "Hooked on Books Unit" with an incentive system, and the Social Studies department developed an "International Passport" assignment on the South Pacific, with related resources.

- a red cue card in large print, outlining the four strategies and procedural routines. See a copy in Appendix C. This was shared by each RT group to prompt students until they reached fluency, and facilitated immediate turn taking by all students.

- proactive management strategies by using key words such as 'huddling' and 'one metre voices' – to control noise levels, maximise participation, and promote a supportive, enjoyable and cooperative climate.

- explicit written guidelines on how to introduce RT to the group, regulate the difficulty of the task by teacher modelling, and increase student responsibility during the dialogues by gradually diminishing prompts and models, increasing the complexity of the material, and putting all the components and steps together (Rosenshine & Meister, 1994). See Appendix C.
Staff Training. The four participating teachers and two support staff within the school received approximately three hours of training before the RT groups began. Training included an introduction to theory on reading comprehension problems and relevant instructional theory, such as:

- evidence that comprehension strategies and metacognitive awareness are seldom taught, but can be taught;
- RT as a method of metacognitive instruction in reading comprehension;
- key elements of RT, such as metacognitive strategies, explicit teaching, thinking aloud, dialogue, peer support, the zone of proximal development, scaffolding, systematic repeated practice to ensure fluency, and teaching to generalisation.

The teachers were also introduced to understanding and checking text difficulty and interest levels in class, and the effects of difficulty levels of texts on students' comprehension, learning and motivation. Teachers were asked to complete a reading task at a difficult level for them to comprehend. This was followed by dialogue about cognitive strategies, motivation, metacognition and cycles of success versus learned helplessness.

A detailed description of the training programme is documented in Appendix C. The manual and other resources provided staff with background reading and examples of dialogues, directions and coloured cue cards on the strategies, the introduction, the daily format of the RT sessions, and step by step scaffolding. The teachers observed a role-play in which instructional methods were modelled and explained, cue cards and huddles were used, and players assumed roles of students such as those with a decoding, comprehension or attentional problems. Teachers then joined in, rehearsed the routines and were given feedback on their use of the four comprehension fostering strategies and instructional process which together constitute RT, with initial direct instruction of strategies (Lysynchuk et al, 1990), and silent reading and specific routines (Palincsar & Brown, 1986; Lysynchuk et al, 1990). In their own time teachers also observed a teacher experienced with the method either in class or on video.
Teachers together planned how to get started, develop lessons and resources, and coordinate the programme. Two further meetings occurred prior to and during implementation of the programme. Staff requested further rehearsal of the strategies and scaffolding. They were also assisted with specific implementation issues. These included

- introducing RT and its purpose sensitively to the selected subgroup and their class peers without stigma for the subgroup;
- starting with explicit teaching of the four strategies in introductory sessions (see manual in Appendix C) – and easier materials, shorter paragraphs, and reinforcing full participation and approximations;
- developing and maintaining ground rules with each group, such as each student in each RT session having a turn at being ‘teacher’ and making an attempt at each of the four strategies, one person talking at a time, waiting silently until others had finished reading before starting questioning and clarifying, aroha and respect for others;
- identifying reading resources of relevance, appropriate interest and difficulty level;
- timetabling and the use of an in-class assistant;
- planning for and adapting lessons and resources to support parallel class activities; and
- encouraging and setting explicit transfer tasks to enhance the likelihood of student understanding and use of the strategies in other learning contexts.

One of the support staff and the outside consultant provided at least one informal in-class observation to each class. This comprised observation, monitoring and feedback, and provided opportunities to address any difficulties early, and to ensure the staff were scaffolding appropriately and promoting transfer of control to the students.
4.4 Results and Discussion

Reading comprehension of students

Pre- and posttest PAT Reading Comprehension mean scores and standard deviations for the two programmes (extended, short) and control condition are presented in Table 2. A preliminary single classification analysis of variance confirmed that the differences in mean scores did not reach statistical significance for the three groups (extended, short and control) prior to intervention, $F (2, 43) = 1.605, p > .05$. An analysis of covariance was performed on the posttest scores treating the pretest as a covariate. The adjusted posttest means for the control, short programme, and extended programme (13.41, 10.52, and 16.95 respectively) showed statistically significant differences $F (2,41) = 5.44, p < .01$. Post hoc pairwise comparisons between the groups using the average effective error (Winer, 1971, p. 779) and the harmonic mean to estimate the average cell size, yielded a statistically significant difference between the extended programme and both the control, $F (1, 41) = 4.06, p = .05$, and the short programme $F (1,41) = 8.72, p < .01$. The corrected means for the control and short programme did not differ significantly. Of the 20 students who participated in the extended programme, 17 were available for follow up testing at the end of the year. Their PAT comprehension mean score at this time was 14.82 (SD = 3.37). A single factor repeated measures ANOVA performed on the pre-, post-programme, and follow up test scores for this programme again showed a significant difference overall, $F (2, 16) = 31.36, p < .0001$. Pair-wise comparisons employing Fisher LSD revealed that the pre-programme mean scores differed significantly from both the post-programme and follow up means, but the difference between the post-programme and follow up results did not reach statistical significance. Thus comprehension gains made by these students during the RT programme can be seen to have maintained six months later.

Further, a large effect (1.1) was obtained by the extended programme. Kelly et al (1994) similarly obtained a large effect (1.3) on this standardised PAT measure with NZ students who were at least two years younger. Note that effect size was calculated using the ‘within group effect size’ formula (Olejnik & Algina, 2000) with the descriptive statistics specific to the extended programme. The mean post-test score was subtracted from the mean pre-test score on the dependent variable measure,
and this number was divided by the square root of sum of the squared standard deviations of the pre-test and post-test scores. Benchmarks (Cohen, 1992) for effect sizes have been set at .20 (small), .50 (medium) and .80 (large).

Table 2. PAT Reading Comprehension Mean Scores (and Standard Deviations) Before and After Reciprocal Teaching, and at Follow Up, for Control, Short Programme and Extended Programme Groups

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<thead>
<tr>
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<th>Comprehension mean (standard deviation)</th>
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<tr>
<td></td>
<td>$n$</td>
</tr>
<tr>
<td>Control</td>
<td>11</td>
</tr>
<tr>
<td>Short</td>
<td>15</td>
</tr>
<tr>
<td>Extended</td>
<td>20</td>
</tr>
<tr>
<td>Extended</td>
<td>17</td>
</tr>
</tbody>
</table>

Thus the students who received between 12 and 16 RT sessions were the only group to show significant gains in reading comprehension scores. The large effect size obtained underlines that the gains made were of practical significance. Students gained on average more than one age-equivalent year in tested reading comprehension over this eight-week period, with an average shift from the 7th to the 21st percentile on the PAT results. Ninety five percent of students in the extended programme showed gains in reading comprehension scores, compared with 47% of those in the short programme and 45% of the control group.

The significant gains in comprehension observed with the 20 students who were exposed to between 12 and 16 RT sessions in this study replicate a pattern observed in pull-out programmes with primary school (Brown & Palincsar, 1982; Gilroy & Moore, 1988; Kelly et al, 1994; Lysynchuk et al, 1990), junior high school (Brown & Palincsar, 1982; Lysynchuk et al, 1990; Palincsar & Brown, 1984, 1988) and first year high school students (Alfassi, 1998) providing further evidence of the robustness
of the experimental findings and the generalizability of RT as an intervention procedure across a range of children experiencing failure to comprehend text.

That the group of students who received between six and eight instructional sessions made no apparent gains in assessed reading comprehension performance is also of interest. One can only speculate as to the reason for the difference in outcome between the students in the extended and short programmes, but one obvious possible explanation relates to the number of RT sessions provided for the two groups. These students may have required more than six or eight practice sessions to benefit from the RT programme. Alternatively of course the observed differences may have arisen from other factors such as possible unidentified differences between these groups of students, such as the larger variability of the short programme students (see Table 2), the ethnicity balance in the small groups, or in qualitative differences in the integrity with which the teachers in both groups implemented the programme.

Implementation integrity with respect to a minimum number of sessions was first raised by Brown and Palincsar (1982) in their original study - in which they ran the RT groups for about twenty 30-minute sessions. This procedural detail has been maintained in other research studies (Gilroy & Moore, 1988; Kelly et al, 1994; Lysynchuk et al, 1990). Subsequently, Miller et al (1988) provided participants in their systematic replication of a modified RT programme with 16 one-hour sessions. All of these studies reported significant gains in reading comprehension. Furthermore, Brown and Palincsar (1982), Gilroy and Moore (1988), Palincsar and Brown (1984), Lysynchuk et al (1990) and Alfassi (1998) each reported notable gains in their daily comprehension tests after between 12 and 15 days. Although Lysnychuk et al suggests an asymptote may be reached by the end of the thirteenth session, they caution this would not acknowledge individual variability. Note that Hart and Speece (1998), in their study with postsecondary at-risk students, found that by lesson six these older students were independently managing the strategies and dialogue.

Interestingly, Palinscar et al. (1987) suggested a variant of the programme, in which they employed peers as tutors, that the more modest effect they observed might have been because the participants were provided with only 10 days instruction. These findings, together with the results of the present study, may suggest that students require multiple and spaced practice of RT procedures if they are to make durable
gains in reading comprehension, and that a minimum number of such sessions is somewhere in excess of eight.

This raises significant implementation integrity and equity factors. Gains could only be expected for Year 9 low comprehenders if they had received sufficient intensive systematic instruction in RT. That is, unless these students were provided with sufficient additional instruction, performance level differences between these students and their peers would continue to escalate throughout secondary schooling ie. the "Matthew Effect" - "the rich get richer, the poor get poorer" (Stanovich, 1986).

Staff survey

High school teachers' comments on the survey after the completion of the first year of the programme are reported in Table A2, Appendix A.

Overall, the main themes that emerged included that teachers valued the increased self-directed learning and more confident and open attitudes by the less able students. They also noted the special relationships they had developed with these students, and the wider understanding they had gained about their strengths and difficulties. Further, teachers valued organising the class to focus on reading, and the collaboration with other teachers.

Difficulties noted included setting up groups, management of groups, and maintaining a separate group activity while supervising the whole class. Another concern was the time commitment of a month if the programme was not being run in two parallel subjects, and a perceived conflict with their regular programme.

Over half the teachers surveyed requested more support, training in class and curriculum adaptations, and observations of student groups. The informal in-class observations reflected some of these concerns, and also the difficulty some teachers had in switching from an explicit teaching role to a more facilitatory style needed for successful 'scaffolding'.

Teachers also suggested the careful early introduction of the programme to avoid stigmatising students and management problems, to gain full class support, and to ensure an integrated programme was delivered.

Advocacy for a stronger collaborative school-wide approach was evident in teacher comments, such as the need for (a) requiring commitment from all Year 9 English
and social studies teachers; maintaining in-class support for all classes, including more in-class assistants where there are more students with low reading comprehension; (b) bringing staff together for more resource development, training, and cross-subject discussion, planning and integration into the whole class programme; (c) annual orientation and training for new staff at the beginning of the school year; and (d) stressing feedback on the research benefits of the programme, particularly with new staff and administrators controlling staff development time and in-class resources.

School-wide outcomes and maintenance

In this field study the RT programme was successfully introduced to a high school, with regular teachers implementing the programme in their own classrooms. In addition, longer-term outcome information demonstrated that the RT programme and associated substantial school-wide change was maintained for four years. That is, the RT programme reached an 'institutionalised' phase. Surprisingly, this occurred despite the complexity of high schools as organisations and regular staff turnovers. Factors which are likely to have contributed to school-wide institutionalisation of the RT programme included:

- A strong core of commitment, protection and efficient collaborative management of the RT programme by the Planning Team (English Department and the Learning Support), as documented in a strategic annual plan;

- Funding and time allocation for (a) new Year 9 subject teachers to access training (from Staff Development funds) and support and monitoring; (b) for in-class assistance for a minimum number of 12 RT sessions per Year 9 class (from regular and discretionary special needs staffing and funding); and (c) for individualised assessment as required;

- Collaborative screening, assessment and adaptation of programmes by Learning Support and English teachers to identify and address special learning needs, including low reading comprehension;

- Structured integration of RT into the timetable and the regular curriculum (with teaching modules and resources) by two departments and the Learning Support Team in the first half of each year;
• The predictable in-class planning and support structure, which ensured a collaborative prioritisation of the programme – and was deemed critical to class management by subject teachers, including highly experienced teachers;
• Collaborative programme evaluation resulting in re-integration of the programme into the annual strategic plan;
• Annual training of all teachers new to Year 9 English and Social Studies classes in the first week of the school term;
• Access to appropriate expertise – to maintain integrity in training and implementation.

This school-wide institutionalisation was maintained until several of the identified dimensions collapsed. The collapse occurred despite both the presentations of annual data supporting student progress and the advocacy of English and Guidance and Learning Support departments.

The eventual demise of the programme can be attributed to at least two factors, commitment and resourcing. Firstly, a new principal had less understanding of and commitment to the programme. Second, programme resourcing was lost due to a loss of discretionary special needs funding associated with changes in funding criteria and competing interests within the school.

A concurrent shift occurred in staff roles and programme location towards a parallel system. A few subject teachers with different priorities delegated all roles to Learning Support. Over these years this drift from teacher-owned and in-class programmes towards more reliance on Learning Support Team staff and withdrawal groups became more pervasive. Environmental constraints were a contributing factor here. For instance, conditions not conducive to quiet groupwork were inflexible seating (in laboratories and art rooms), and crowding in some classrooms. Further, some of the learning support staff preferred quieter working environments because they had difficulties hearing the group dialogue, and some teachers had management problems. In combination these factors reinforced withdrawal rather than in-class systems.

Simultaneously, the use of external expertise was reduced. After the first year, the psychologist's role was restricted to being approached for training and facilitating
continuity and problem solving when there were major changes in staffing or resourcing. After two years, as a consequence of the shrinkage of the public service sector, the role of the school psychologist changed to a more reactive rather than proactive mode of services. A tier of prevention and early intervention – and quality control and advocacy - had been lost.

To prevent drift and/or loss of the programme (the institutionalised phase) and its effectiveness required stronger commitment in policy and resources at senior administrative levels, ongoing collaborative ownership and review of the programme between regular and support teachers, and protection of resourcing and programme integrity (quality control) through policy, and/or external regulatory agency.

4.5 Implications for the Potential of RT as an Inclusive Practice

The implications of this study for the potential of RT as an inclusive practice will now be considered in terms of the five Guiding Questions developed in Chapter Two.

**RT is effective and benefits most students in heterogeneous classrooms (Guiding Questions 1 and 2)**

The findings of this study showed that RT can be effective with high school students with low reading comprehension levels, and are consistent with those of Alfassi (1998), who also had a similar population of students.

However, as the RT programme remained effective in the more challenging naturalistic context of regular high school teachers employing the method in their own heterogeneous classrooms, the findings extend those of Alfassi’s (1998) high school study, which was specific to remedial pull-out reading programmes. Further, the findings imply that RT can be successfully implemented in culturally diverse classrooms in high school. This was clear because two European and one Pacific Island teacher were working with their own students, including students of Maori and Pacific Island ethnicity. Anecdotal comments also indicate the method promoted more active engagement by the lowest achievers in regular classroom activities. For instance, several teachers gave examples of how one or two of their RT students were now attending school more regularly, and how others were spontaneously asking for ‘clarification’ in the whole class context – no minor feat in a high school classroom, where peer norms often do not condone asking for help. Importantly, the current
study also underlined the importance of treatment integrity. RT was only effective if student had a minimum number of about 12 RT sessions.

Note that the potential of RT as an inclusive method was not fully explored, because the focus was on targeted subgroups in regular classes, and not all students in these classes. Questions still remain as to whether other high school students in Year 9 or higher years would benefit from RT. Anecdotal and observational information indicated that traditional extended RT may be applicable with a whole class approach for certain classes and levels. For instance, in this high school many students in Year 9 and 10 mixed ability English and social studies classes may benefit. This was indicated by the high percentage of low PAT scores in these classes, suggesting that a subgroup only approach would be inadequate, as the majority of students could benefit from learning the metacognitive strategies, and improved literacy and language programmes. Other classes where such needs are prevalent may also benefit. For example, one teacher who received the training in the current study used the method at a whole-class level with her Year 11 students in functional language classes, and said she was impressed with gains evident in examination performance of these students.

In summary, the findings of the current study, when combined with those of Alfassi (1998) and Hart and Speece (1998), support the efficacy of traditional extended RT (with at least 12 sessions) for high school students with low reading comprehension of all ages and cultural backgrounds. However, the absence of studies in high school classrooms which have adequate experimental design (Alfassi, 1998; Westera & Moore, 1994) means there is still insufficient information to support the widespread use of traditional extended RT from targeted subgroups and classes, to a whole class approach, with, for example, all Year 9 students. That is, it leaves open questions such as under what conditions to use a whole class approach.

**Compatibility with the curriculum (Guiding Question 3)**

This study demonstrated that RT was compatible with the curricula across academic areas because two Heads of Departments and their teachers readily built RT into their teaching modules. In addition, wider inclusive benefits accrued. For example, teachers, departments and Learning Support staff were challenged to collaboratively develop and acquire more appropriate and culturally compatible resources and adapt
programmes, because they needed to go beyond a ‘pitch to the middle’ approach to acknowledge the students who had wider and / or culturally different literacy, interests and other needs.

Note that the longer term use of RT through fuller incorporation into the curriculum and teaching practices was not studied. To shift the programme from targeted subgroups to a whole class approach would require a careful assessment of who else in high school would benefit, benefits for high school teachers themselves, and how teachers could adapt the programme to integrate it into wider classroom use. For example, modified forms of RT may have wider applicability in a whole class approach, such as that documented in a case study (Coley et al, 1993; Marks et al, 1993) for Year 9 to 12 literature courses with high achievers. Note that the focus of this case study was not on outcomes for low reading comprehenders - no efficacy data was documented - but the flexible use of the strategies and structures of RT to extend teaching practices.

Feasibility (Guiding Question 4)

When considering feasibility and benefits of implementing RT, a range of factors need to be put into the equation. That RT was a feasible to implement is clear from the positive short term and long term outcomes of the school-wide approach used to train metacognitive skills in reading comprehension. As these results were obtained with a background of only approximately three hours prior instruction, and without additional research-associated resourcing, they are particularly encouraging. Note that because large effect sizes were obtained in the current study, a careful implementation plan with close quality control seems warranted.

When considering resourcing implications, there is a marked difference between the type and amount required for the introductory and the institutionalised phases of implementation.

This study demonstrated that the introduction of RT as a school-wide approach requires an initial input in terms of school-wide consultation, training, screening and assessment, curriculum development, teacher release, and support time by administrators, trainer/s, teachers and support staff. The importance of effective initial consultation and needs analysis in the complex high school organisation cannot be overemphasised. The RT programme had to be dovetailed into existing
classrooms and curriculum. The results imply adequate training, curriculum development, quality control and support for the programme are needed to obtain benefits for students and teachers. Time commitment by administrators and staff for dialogue required for a collaborative approach was central to the ongoing success of this programme. Further, not only initial, but also follow through assistance is critical to support staff into learning a new approach, as well as for programme adherence, and ongoing staff satisfaction with and use of RT. This is clear from the staff survey, which showed teachers encountered a range of difficulties when taking on new teaching practices, such as classroom management practices around groupwork and the use of in-class support. Observations showed this was most marked for teachers who were inexperienced and/or negative towards groupwork and associated management problems, or missed some of the training and support sessions. Several teachers also requested assistance to adapt curriculum resources and units, and learn more about RT and associated strategies.

After this introductory phase, critical components to the institutionalisation of the RT programme have been outlined in the 4.3 Results and Discussion. Given a planned, predictable and manageable coordination and programme delivery and evaluation between departments and in-class assistance by support staff where needed, new staff and others would still need similar informed assistance, although overall this would involved less teacher release hours than in the introductory year.

At another planning level, teachers and support staff would need to be able to commit a significant amount of class and subject time to RT. Clearly the data from the RT programme outcomes highlight that students are likely to require a possible minimum number of sessions – which implies adequate resourcing to allow 12 or more sessions per classroom with in-class support. Given the economic and temporal constraints under which schools operate, information concerning the minimum number of sessions a teacher should anticipate running in order to obtain benefits from RT may be important for teachers or school administrators when considering the feasibility of introducing the programme as a systematic intervention in an already loaded high school curriculum. Tensions on this factor can be reduced if RT is initially well setup to be compatible with the curriculum, timetables, room environments and activities of the classes involved. This also implies teacher commitment and time to preliminary preparation in coordination with departments and learning support staff.
Third, the role and input of support staff in an in-class or parallel model of service needs to be considered. In this study, the restructuring of the role of support staff from 1:1 withdrawal practices to in-class assistants was clearly a more efficient and equitable approach, involving access to extended programmes for many more students, less movement by students across the school, less stigma for these students, and diversified extension of support staff. Alternative models, such as a whole class approach with a remedial focus, similar to that of Alfassi, may also obtain student progress, while providing more pragmatic efficiencies if teachers with relevant expertise are accessed by these students. However, this needs to be weighed against the relative value of regular and support staff learning jointly to understand and use more inclusive practices. This would provide a broader set of outcomes than reading comprehension gains for a selected group of students alone. In particular, RT could extend high school teachers into more interactive and culturally appropriate group strategies - with their potential for facilitating inclusion and wider outcomes for students, classes and teachers. To achieve such outcomes, longer term support would be required for many staff to more fully embed RT processes into the wider programme.

Although no direct measures of satisfaction were taken with teachers and students, the findings from this study showed that RT was valued by many teachers. Implicit support for this comes from the fact that high school teachers themselves could employ the RT procedures to achieve gains in student performance. Further evidence of the value placed on RT was that the method was integrated into the regular curriculum for Year 9 students and used repeatedly for four years. The acceptability of RT for high school teachers was particularly highlighted in the way several teachers extended its use to other classes. A Pacific Island teacher was impressed with the cultural appropriateness of the method, and eagerly developed a whole-class approach with all her Year 9 and 10 regular classes. Another teacher used the method at a whole-class level with her Year 11 students in functional language classes. This teacher attributed the unusually successful end-of-year national examination results of these students to RT.

A final note is that, although no data are available on students’ perspectives on RT, teachers who had successful outcomes commented that the students were receptive to and enjoyed RT, and using familiar school journals. The method would allow a
welcome continuity with their instructional history (Freppon, 1995) in primary schools - where closer connections with the teacher, high interest and age-appropriate texts, and shared groupwork were usually the norm. Such reported positive attitudes also indicated that teachers had taken seriously the need to carefully manage avoiding any stigma by targeting student subgroups.

RT and school-wide facilitation of inclusion (Guiding Question 5)

The current study illustrates that RT can be used as a vehicle for introducing and facilitating school-wide inclusive practices. The ad hoc approaches such as the pull-out parallel programme for one student-at-a-time with the reading teacher was replaced by subject teachers developing and adapting RT to fit with the regular curriculum in two subjects, and running a group programme in their own classrooms, with in-class assistance.

The challenge to embed RT into the regular Year 9 English and social studies curriculum and teaching practices in a school-wide early intervention approach resulted in many positive outcomes towards more inclusive practices.

At school-wide level these included (a) a new collaborative planning team representing two departments and the learning support team, and linked with staff development and senior management teams; (b) a school-wide early intervention approach to reading comprehension in high school – through departmental, learning support and individual teacher commitment - and evidenced in the early intervention screening approach and annual strategic plans; (c) a shift in the roles of support and remedial staff from a parallel to an integrated curriculum and teaching structure, with the regular teacher becoming pivotal to managing and adapting the programme into the regular curriculum; and (d) a wider collaborative teaching approach for the same classes across subject departments and with in-class assistance.

At teacher level, inclusive practices learnt by subject and learning support staff, if they did not already practice them, included (a) understanding, checking and managing literacy levels, interests and other individual needs, and the appropriateness of methods and resources for the lowest readers in their classes; (b) developing teaching units, assessments, methods, and resources to fit with literacy and other needs within subject departments; (c) understanding and being able to employ RT, reading comprehension instruction, metacognitive skill training, explicit teaching,
thinking aloud, dialogue, peer support, the zone of proximal development, scaffolding, systematic repeated practice to ensure fluency, and teaching to generalisation; (d) fostering a more supportive learning environment for students with learning difficulties (Palincsar & Klenk, 1992) by proactive preparation and introduction of RT and group / class behaviour guidelines to facilitate interest, learning and avoid behaviour problems and stigma of selected groups, and the early development of a close relationship and understanding of these students; (e) setting up and facilitating cooperative learning type groups – and the associated role change from teacher domination to more active student participation; and (f) developing and using multi-level teaching.

In summary, this research study demonstrated that the RT programme may provide benefits at several levels. It appeared that low reading comprehenders in Year 9 heterogeneous classes made gains in reading comprehension concurrent with teacher and organisational change toward more inclusive practices.

Although the study leaves open the question as to whether the programme benefits most if not all students in heterogeneous classrooms (Guiding Question 2), subgroups of low comprehenders, including students who were Maori and Pacific Islanders, appeared to have made gains if provided with at least twelve sessions when taught by regular teachers in their own classrooms.

This study also supports the feasibility of the method for high school teachers (Guiding Question 4) and that RT can facilitate school-wide inclusive practices (Guiding Question 5). It is apparent that the programme is vulnerable to loss of power - if students are provided with less than 12 sessions, and if under-sustained in terms of commitment and resourcing, at a school-wide level. Importantly, Study One contributes to our understanding of the potential of RT as a vehicle towards more inclusive practices, illustrating that RT can be used and maintained in a high school as a means of early intervention to address widespread reading problems and facilitate more inclusionary practices between regular teachers and special needs staff incorporated at a school-wide level.

4.6 Implications for further research and practice in high schools

The current study showed the potential of RT as a vehicle for school-wide approach to widespread literacy problem and promoting inclusive strategies, including early
intervention. However, further research, particularly on the benefits of RT for all students and feasibility factors (Guiding Questions 2 and 4), is required before strengthening and widening the applicability of RT in high school regular classrooms. The generalisability of the current findings also has to be further tested. For example, it is unknown to what extent the teachers in this high school were representative of NZ school teachers in terms of their openness to learning and implementing RT in their own classrooms. In addition, because of the central place reading comprehension skills have for academic progress, and the size of the problem facing many high schools, further comparative research evaluating the relative efficacy of reciprocal teaching and other intervention strategies (Brown, 1992) in different subject areas at the high school level may also prove beneficial.

To validate the potential of RT as an inclusive practice, further research studies could refine methodology. One of these would be observation and evaluation of the instructional dialogue, as this is critical to the integrity of the procedure. Second, a wider range of measures beyond reading comprehension, such as decoding, high order thinking, prosocial skills, attitude and school attendance, would provide more data to assist decision-making by administrators and teachers about the wider utility of RT. Third, the perspectives of high school students need to be considered, particularly as this method was developed for younger students and those with low reading comprehension. Student voices in any evaluation would assist in developing and refining RT for this adolescent population and their teachers. Fourth, follow-up data on how the teachers incorporated this method into practice after the initial introductory year would assist decision making regarding the amount and type of training and subsequent support required to maintain effectiveness, ensure generalisation, and assess and address other treatment integrity, efficacy, feasibility and generalisability considerations.

Further research exploring the wider benefits of RT for high school teachers, such as adaptations of the method to effectively teach higher order thinking skills, would be relevant for this population. In addition, alternative models of working in high schools, such as in-class versus parallel remedial classes, and their efficiency, effectiveness, and acceptability with different types of students and teachers, would provide a more informed base for future school-wide planning.
CHAPTER FIVE

STUDY TWO

VALIDATING RECIPROCAL TEACHING AS AN INCLUSIVE PRACTICE

5.1 Background

Starting earlier

A major impetus for Study Two was the vast reading comprehension problem uncovered in Study One. This highlighted the need for a wide systematic early intervention approach not only in the first year of high school, but also well before students enter high school. That is, reciprocal teaching (RT) and similar well-developed metacognitive and pro-social programmes should be introduced with younger students when they are developmentally ready and before the escalation and compounding effects of low literacy problems, such as underachievement, decreasing engagement from learning and school alienation. The earlier introduction of preventative and inclusive methods of instruction, such as RT, thus is an equity issue.

There is a widespread assumption that the development of comprehension skills is a key activity in the upper elementary grades (Pressley, 1998), which are equivalent to the NZ middle primary school. This practice can be supported on the grounds of developmental, early intervention and instructional theory. Most children acquire high order thinking skills, such as comprehension strategies, in the primary school years (Pressley & Harris, 1990). However, research has shown that many children do not comprehend what they read. Further, the effects of this increase with age. For instance, students with learning disabilities have been shown to be similar to nonidentified peers on assessments of cognitive ability at age 7 and 8, but not by the time they were 11 or 12 (Palincsar & Klenk, 1992). Further, despite well-researched and documented reasons for teachers to instruct in the use of comprehension and self-regulatory strategies (Smith & Elley, 1994; Pressley & Wharton-McDonald, 1997), it has been repeatedly shown that teaching to consolidate these skills (Durkin, 1979) is
not happening consistently in US Upper Elementary (Pressley & Wharton-McDonald, 1997) or NZ Middle School (Smith & Elley, 1994) classrooms.

In the US this issue is part of a broader at-risk situational context. According to Ivey and Broaddus (2001), the main issue in middle schools in the US is the mismatch for all children between what they need and the instruction they receive. Features of the at-risk situational contexts identified include not considering developmental and personal differences between children, adequate time and access to personally engaging materials, and reconciling school with out-of-school activities and interests. The effects of schools not being responsive can foster negative attitudes and disengagement from academic activities such as reading. Because older children are past the early novelty stage of learning to read, and are more likely to compare themselves with others and attribute failure to ability rather than effort, the effects of declines in academic motivation and achievement may escalate, create and compound other problems. The negative effects have been noted, for example, in a large-scale survey which demonstrated that students' motivations to read decline precipitously in current US instructional environments (McKenna, Kear & Elsworth, 1995).

On the basis of these issues, early intervention during the middle school years with metacognitive instruction would prevent some of the escalation of disengagement from academic tasks and schooling generally.

**The middle primary school in NZ**

Although the US situation is not directly applicable to NZ schooling (Smith & Elley, 1994), it is argued that RT has potential to be compatible with, balance and strengthen the NZ curriculum and teaching practices.

RT appears highly compatible with the NZ primary school curriculum, and teacher beliefs and practices. NZ primary teachers, particularly in the junior school, widely use predicting, activating prior knowledge, checking for meaning and retelling when students are first learning to read (Clay, 1990; Smith & Elley, 1994). They are therefore familiar with the underlying concepts of comprehension fostering and monitoring (Smith & Elley, 1994). Further, the fit of RT with Vygotskian principles and the emphasis on group dialogue is also consistent with NZ primary teachers' practices. In addition, RT is also compatible with effective practices used extensively by NZ primary school teachers, such as their whole language beliefs and practices.
(Smith & Elley, 1994) with its use of authentic high-interest activities, as well as shared reading (Smith & Elley, 1994), silent reading (Smith & Elley, 1994), reading aloud (Smith & Elley, 1994), guided reading and the flexible and carefully managed use of grouping (Wilkinson & Townsend, 2000).

The introduction of RT may also fill possible gaps in and/or strengthen the primary curriculum and teacher beliefs and practices. For instance, although little is known about what reading comprehension instruction occurs in NZ schools, there appears to be a need to develop a more systematic and consolidated approach to reading comprehension. And this is despite the fact that our primary schools are well-known for their natural language approach, particularly in the junior school – where teachers maintain a focus on meaning, and practise guided silent reading, peer tutoring, shared reading, reading aloud, and independent reading (Wagemaker, 1993). There appears to be a shift away from a fully integrated approach, and fewer opportunities for supported reading, after the first three years of schooling. Further, there does not appear to be a deliberate plan to develop other metacognitive skills suitable for older or weak readers beyond the junior school, despite the increasing importance of these in the developing reader’s repertoire (Clay, 1990; Henson, 1991). The main information source for this is a survey by Henson (1991). On the basis of interviewing 77 teachers and 60 reading specialists, and 25 classroom observations, Henson (1991) found that, in the New Zealand middle and upper primary school, reading instruction was scheduled for a defined period of the day, with individual and group activities, with only a minority of teachers offering a fully integrated language programme. Henson summarised that although all teachers reported a significant amount of independent reading, the major weakness identified was the lack of guidance and direction in relation to developing competence in essential skills, particularly information-gathering skills.

Equity issues are repercussions of this situation. In particular, the mainstream curriculum must become less and less accessible to students who have not become independent readers and learners in the first three years of schooling in NZ (Marriott & Elley, 1984). As these students progress through school, they are likely to become increasingly disadvantaged. Presumably, students not from the dominant school culture, the lowest achievers, and those with special needs would also be effected, as
was evident in the differentially poorer outcomes for these subgroups in the IEA study (Wagemaker, 1993).

Henson (1991) and others have called for initiatives in instructional practice to aid and extend both the able readers and those with difficulties in the middle school. Note that for some time New Zealand researchers have highlighted the importance of integrating more systematically into the curriculum the training in skills that have been demonstrated to improve reading comprehension. These include letter-sound rules, decoding fluency and text design (Dymock & Nicholson, 1999). Some New Zealand middle school teachers, responding to the perceived need to more directly address reading comprehension and the dilemma of balancing the needs of low achievers with those of their independent readers, are introducing this skill training and different forms of strategy instruction, such as RT, to their classrooms (Smith & Elley, 1994). Combining the more explicit and systematic teaching of skills such as comprehension fostering and monitoring strategies with the authentic learning tasks that NZ primary teachers regularly embed in their whole language programme may improve outcomes for the lower achievers – as demonstrated in recent theoretical and empirical developments (King-Sears, 1997; Schulte et al, 1998; Swanson, 1999; Swanson & Saches-Lee, 2000; Swanson & Hoskyn, 2001).

The inclusive context

The NZ primary school in this research (Study Two) was at a later phase of implementation of inclusion at school-wide level than the high school in Study One. The school was already well developed in inclusive policy, structures, curriculum, and teaching beliefs and practices. Because the NZ SE2000 policy uses a predominantly needs-based approach, and the school was multicultural, staff expected to provide for a continuum of needs within their classes, and were aware of the reading and language comprehension needs of their students.

At the time of the study school staff were open to acquiring, applying and finetuning methods such as RT into a strategic approach focussed on improving school-wide literacy and inclusive practices. Senior staff had consulted with all staff about integrating RT into a school-wide inclusive approach.
The request for extending the use of RT to a school-wide inclusive approach occurred after the school had been running RT in a pull-out programme for remedial purposes with middle primary school students. Staff had observed measurable gains with the programme for many of the lowest readers in the middle school. However, senior staff and middle school teachers had expressed concern that the programme was run as a withdrawal programme by a teacher aide. The middle school teachers were keen to use the method in a more inclusive way. That is, they wanted to incorporate RT into their regular curriculum and teaching practices, and shift the role of the teacher aide to providing in-class support.

**Validating RT as an inclusive practice**

The purpose of Study Two was to validate RT as an inclusive practice, by investigating the effect of the addition of RT to regular Year 5 and 6 inclusive classrooms in a New Zealand urban multicultural primary school.

It was hypothesised that the intervention would improve the outcomes for both regular students and the lowest comprehenders, including those with special needs - in attitudes to reading, reading comprehension and metacognitive awareness about reading; and that the lowest comprehenders would also improve in decoding (benefit most students - Guiding Question 2).

The feasibility of implementing RT by regular teachers in inclusive classrooms was also addressed by considering teacher and student perspectives on the method (feasibility - Guiding Question 4).

Study Two can be seen as validating RT as an inclusive method within the framework of the Guiding Questions, as well as extending and refining methodologically the study by Lederer (2000). The regular education classrooms fit Fisher et al’s (1995) criteria for inclusive classrooms, as they (a) include students with learning disabilities, behaviour disorders and/or mild mental retardation, (b) comprise no fewer than 15 students, (c) are led by one teacher, and (d) are implementing general education curricula.

Several features of this study are consistent with Study One and enhance the ecological validity pertinent to inclusion – and its implementation at school-wide as well as classroom level.
First, the implementation was part of a collaborative school-wide approach to literacy, inclusion and diversity, in the context of adapting to recent NZ school policy developments towards inclusion and self-government. RT was therefore introduced to and integrated into the regular classrooms and their curriculum through collaboration and education at school-wide as well as at a team level of teachers and aides. The context of school-wide collaboration and readiness contrasted with Fisher’s implicit conceptualisation of inclusive practices as being independently managed by regular teachers.

Second, the classrooms selected had a wide range of students with diverse special needs. This reflected the continuum of special needs experienced in schools with non-categorical inclusion policies, and contrasts with Lederer’s study which was specific to students with learning disabilities and excluded students who could not decode regular classroom texts.

Third, regular teachers and teacher aides implemented RT themselves – whereas it is unclear who implemented RT in Lederer’s study.

Fourth, the method was implemented as part of the regular curriculum for all students, with adaptations made to facilitate inclusion of identified low decoders and students with special needs. In this way the method differs from Lederer’s study, which used the same approach for all students.

Further, to fit with Fisher et al’s interpretation of effectiveness, outcomes for students with and without disabilities, levels of teacher and student satisfaction with the practice, the amount of instructional time needed, and the perspectives of the participants, were also surveyed. This provided information about the benefits, relevance, appropriateness and responsiveness of RT to the needs of teachers, as well as all students - high, medium and low comprehenders, special needs students, and students from other ethnic and language backgrounds. Conclusions were drawn regarding how well the practice fitted with the realities general education teachers face.

Design refinements developed for Study Two responded to methodological issues raised from Study One and other research studies pertinent to this study.

The design was improved by the provision of more descriptive characteristics or ‘marker variables’ on the students, as recommended by Klingner and Vaughn (1996)
and Rosenshine and Meister (1994). Further, a wider range of standardised measures were used - because of their presumed relevance for extending the use of this instructional method to inclusive settings with all children, and the interpretability of the findings. Measures were taken not only of reading comprehension, but also attitudes to reading, decoding and metacognitive awareness.

A further design refinement was that baseline measures were used to set up randomly selected but equivalent groups of students within experimental and comparison conditions in each of four classrooms. The equivalent groups were used in a repeated measures design, with a lagged introduction of RT to half the class in the first part of the year, and the other half in the second part of the year. This allowed for the data on the initial control groups to be collapsed and provide a large experimental group. Programme adherence was also assessed to counter issues with its neglect in earlier studies reviewed by Rosenshine and Meister (1994) and in more recent studies such as that of Lederer (2000).

5.2 Method

Prior to commencement, permission to conduct this study was granted by the University of Auckland Human Subjects Ethics Committee, the school principal, teachers and parents.

Participants and Setting

Four regular teachers and their classes (N=137) in the middle school participated in this study. The students had a mean age of 9 years 6 months and were in Year 5 and Year 6 mixed ability classes (n=103). Their characteristics are presented in Table 3. Excluded from the data in this study were students who had less than 6 months exposure to English (n=2), those who left during the programme (n=12) and the better comprehenders in one class (n=20) who did not participate because of time constraints on the study.

The students had a wide range of ethnic backgrounds. Overall, 15 different languages were represented, and eight students had between 6 and 24 months of exposure to English.

A high proportion of students had low scores on the Progressive Achievement Tests (PAT) Reading Comprehension (Reid & Elley, 1991), with 41% (n=43) scoring
Table 3 Characteristics of Students in Group One and Two at Pretest

<table>
<thead>
<tr>
<th></th>
<th>no. of students</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>total</td>
</tr>
<tr>
<td>Year 5</td>
<td>54</td>
</tr>
<tr>
<td>Year 6</td>
<td>49</td>
</tr>
<tr>
<td>male</td>
<td>57</td>
</tr>
<tr>
<td>female</td>
<td>46</td>
</tr>
<tr>
<td><strong>ethnicity</strong></td>
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</tr>
<tr>
<td>European</td>
<td>22</td>
</tr>
<tr>
<td>Maori</td>
<td>11</td>
</tr>
<tr>
<td>Pacific Island</td>
<td>34</td>
</tr>
<tr>
<td>Asian (Chinese, Filipino, Indian, Malay)</td>
<td>30</td>
</tr>
<tr>
<td>other (Iranian, Macedonian, Serbian)</td>
<td>6</td>
</tr>
<tr>
<td><strong>language at home</strong></td>
<td></td>
</tr>
<tr>
<td>English dominant</td>
<td>40</td>
</tr>
<tr>
<td>English not dominant</td>
<td>63</td>
</tr>
<tr>
<td><strong>Reading Comprehension (PAT) level</strong></td>
<td></td>
</tr>
<tr>
<td>high - over 67th percentile</td>
<td>21</td>
</tr>
<tr>
<td>mid - between 34th and 66th percentile</td>
<td>29</td>
</tr>
<tr>
<td>low - 33rd and less percentile</td>
<td>53</td>
</tr>
<tr>
<td><strong>language needs</strong></td>
<td></td>
</tr>
<tr>
<td>6 to 18 months exposure to English</td>
<td>7</td>
</tr>
<tr>
<td>low receptive vocabulary (Peabody)</td>
<td>7</td>
</tr>
<tr>
<td>2 to 8 age equivalent band</td>
<td></td>
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<tr>
<td><strong>Identified Special Needs</strong></td>
<td></td>
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<tr>
<td></td>
<td>4</td>
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<tr>
<td><strong>Neale assessments</strong></td>
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<tr>
<td>lowest comprehenders individually assessed</td>
<td>41</td>
</tr>
<tr>
<td>prior experience with RT</td>
<td>24</td>
</tr>
<tr>
<td>lowest accuracy</td>
<td></td>
</tr>
<tr>
<td>♦ 6 to 7 age equivalent band</td>
<td>8</td>
</tr>
<tr>
<td>♦ 7-1 to 8 age equivalent band</td>
<td>13</td>
</tr>
<tr>
<td>comprehension lower than accuracy</td>
<td></td>
</tr>
<tr>
<td>♦ by 2 age equivalent years</td>
<td>2</td>
</tr>
<tr>
<td>♦ by 1 to 1-9 age equivalent years</td>
<td>4</td>
</tr>
</tbody>
</table>
below the 20th age percentile on New Zealand norms. This profile is comparable to that obtained with the three West Auckland high schools in Study One. These lowest comprehenders included 24 students who had completed 20 sessions of RT in the withdrawal groups run by a teacher aide during the previous year, and another four students identified and resourced for special needs. The special needs students each had Individual Educational Plans (IEPs) to ensure their participation in the regular programme, inclusion in the lowest reading groups, and support by a teacher aide or a buddy where appropriate.

The four teachers of these classes each had over three years of teaching practice. Of the teachers and three teacher aides/parents, who participated as group leaders, three were from non-English backgrounds.

The context

This primary school was committed to a whole language philosophy and practice integrated throughout the junior and middle school. The whole language programme in the middle school was largely planned at syndicate level, with a focus on developing collaboratively a literature-rich environment; selecting authentic activities, resources and themes. The main integrated language time occurred daily for one and a half hours at a designated time. In addition, all teachers routinely used sustained silent reading (Widdowson et al, 1999) for 15 to 20 minutes after lunch, and read stories aloud with the whole class, with prior and subsequent discussion. Teachers relied on self-directed independent reading and process writing; shared and guided reading, and individualised conferencing. They flexibly used grouping and frequently regrouped, with group composition being based on topic and/or interest, and/or reading levels, and/or individual students needs. Teachers assessed progress on each student monthly with running records. They reported that they monitored the lowest reading groups most closely. Resources at a comprehensive range of reading levels, such as class sets of School Journals and trade books, were in use in all the classes.

Grouping

Three intact classes were each divided into six groups. In the fourth class only the lowest comprehenders (n=11) participated and were divided into two groups. Half of
the groups in each class (Group One), comprising 10 groups, commenced RT in the first half of the year. The remaining students, comprising the other 10 groups (Group Two), commenced RT in the second half of the year.

For purposes of group composition and analysis, the students were divided into High, Medium and Low reading comprehension levels based on student performance on the PAT Reading Comprehension, Form A (Reid & Elley, 1991). Cut-offs were at the 67th and 33rd percentiles scores as per Paris and Oka (1986). This provided descriptive information and three dominant groupings of students for purposes of analysis and establishing teaching needs within the non-categorical continuum of needs approach under the SE2000 policy.

Groups in each class within Groups One and Two were matched on PAT reading comprehension level (High, Medium, Low) and their prior experience with RT. Distributing low comprehenders experienced with RT evenly over the different class groups allowed for instructional chaining. Compatibility with other group members as judged by the teacher was another factor considered for group composition.

The characteristics of students in Groups One and Two are presented in Table 3. The smaller number of students with low comprehension levels in Group Two than Group One was due to differential student attrition. Two teachers decided to adopt a mixed grouping, while the other two teachers selected homogeneous grouping, because they had more students with extreme PAT Reading Comprehension scores. Each group was led by their teacher or teacher aide, with one third of the groups in three classes being taken by their class teacher. In the fourth class the teacher took both the groups. Note that in each class, the same teacher and aides introduced the programme in both Groups One and Two.

**Design**

We employed a between groups design with pre/post measures (raw scores) of within-subjects difference. The lagged introduction of RT on a multiple baseline paradigm (Neuman & McCormick, 2000) provided the opportunity to complete initial analyses of the effects of the intervention with Group One at a point prior to the introduction of RT with Group Two. This also enabled analysis against a no treatment comparison group (Group Two), which commenced the intervention in the second half of the year. Further, the pre and post intervention data of Groups One
and Two could be collapsed to provide a larger treatment group and allowed comparison with Group Two who would initially form the No Treatment comparison group.

Comparisons between groups were carried out for conditions of intervention (Treatment, No Treatment comparison) for all students and separately for the lowest comprehenders (the 41 students who scored below the 20th percentile on the PAT Reading Comprehension).

To ascertain the degree of programme adherence, in-class observation and feedback, dialogue with the teaching team, recording of the RT sessions, and descriptive analyses of the dialogue quality were also made.

**Measures**

A range of pre- and post-test measures were completed one to two weeks before and two to three weeks after the programme for Groups One and Two. In addition, Group Two completed an additional pre-test when Group One completed its pre-test. This allowed Group Two to function as a No Treatment comparison. All marking and data inputting was completed by a teacher aide, and checked by a technical assistant independent of the study. The students were divided into two overlapping groupings for purposes of testing and analyses: all students and the lowest comprehenders.

**All students.** With the exception of special needs students (n= 4) and those absent at the time of testing, all students were assessed on the PAT Reading Comprehension at the beginning of the school year, and at both pre- and post-test on (a) the Tests of Reading Comprehension (TORCH, Mossenson, Hill, & Masters, 1990), (b) the Index of Reading Awareness (IRA, Paris & Jacobs, 1984), and (c) the Elementary Reading Attitude Survey (ERAS, McKenna & Kear, 1990). Characteristics of the ERAS, IRA and TORCH are outlined in Appendix B.

**Lowest Comprehenders.** The Lowest Comprehenders were individually assessed by either the author or the research assistant with the Neale Analysis of Reading Ability (Neale, Revised Australian Edition, 1989). The Neale is a standardised test which provides both reading comprehension and accuracy scores on the basis of students reading aloud prose passages and answering comprehension questions on
Forms 1 and 2 are two parallel forms comprising six graded passages forming a continuous reading scale. Stability coefficients between Forms 1 and 2 are .95 and .98 for comprehension and accuracy respectively. Internal consistency coefficients of reliability (KR20) for Forms 1 and 2 are .90 and .89 respectively for comprehension and .81 and .83 respectively for accuracy. Reasons for selecting this individualised test were that most of these students were not independent readers and therefore class-administered tests such as the PAT and TORCH would not provide a suitable testing context or reliable data, and because the Neale would provide more data relevant for teaching and research purposes, such as profiles on each student on both accuracy and comprehension. The profiles allowed comparison with RT studies using similar marker variables (Klingner & Vaughn, 1996), and with NZ studies that have used the same measure, such as that of Le Fevre et al (2002).

Half of the Lowest Comprehenders were randomly selected to complete Form A at pre-test, and the alternate Form B at post-test, while for the other half of students this sequence of forms was reversed.

Students who had 6 to 18 months of exposure to English (n=7) also completed an additional assessment of receptive language: the Peabody Picture Vocabulary Test - Revised (Dunn & Dunn, 1981) at pre-test. Five of these students scored at or below 7 years 6 months, and were subsequently re-tested at post-test.

**Student self report.** After the intervention, the students evaluated the programme through questionnaires. The two yes / no questions were “I liked the stories we read together very much /.../ not at all”; “I would like to do RT again very much /.../ not at all”. The four 5 point Likert scale items were “because of RT, how I feel about friends is much worse / ... / much better”; “because of RT, how I feel about school is much worse / ... / much better”; “I liked the stories we read together very much / .../ not at all; “I would like to do RT again very much / .../ not at all“. These questions were selected to explore the students' wider perspectives and satisfaction with the strategies and the RT programme.

**Teacher interviews.** Teachers completed a structured interview before the programme to establish their methods of teaching reading comprehension and prior experience with RT. After the intervention, in a further individual interview, they were asked about their perspectives on the procedure's strengths and weaknesses, and
implications for future use. The results of these interviews were shared in the wider Year 4 and 5 group, to allow formative collaborative dialogue about further emerging themes.

**Instructional Procedure**

**Sessions.** RT sessions were incorporated into the regular reading/language programme at a defined period each day in each of the four classes. While half the class was engaged with RT, the remainder continued with their usual programme, typically involving guided, shared and/or independent reading. Each group received a total of 16 RT sessions over 4 weeks. The sessions took from 25 to 35 minutes each.

**Instructional support.** This was provided in seven ways.

1. Besides the regular teacher, two in-class assistants (aide or parent support) each also ran a RT group.

2. Curriculum resources were developed by selecting grade-appropriate non-fiction articles classified at the 8 1/2 to 10 year reading age in the New Zealand School Journals Catalogue (1975-1992). Consideration was also given to the range of interests and cultural backgrounds of the students, and article length. The articles varied in length from 350 to 400 words and were photocopied for use in RT sessions.

3. Cue cards were laminated, coloured, in large print and illustrated with cartoons to aid in learning and understanding the cognitive strategies. Each group throughout training and intervention sessions used them. A red one outlined the procedural routines, and providing a prompt until the students reached fluency. A blue and a green cue card were used at the end of sessions to remind students about the value of RT, and to prompt its use across settings and tasks.

4. Proactive management strategies included developing the same group rules for both class and groups simultaneously to support groups, teachers and aides. An additional proactive strategy was the use of key words such as ‘huddling’ and ‘one metre voices’ – to control noise levels, maximise participation, and promote a supportive, enjoyable and cooperative climate.
5. Instructional chaining was used to maximise the benefits of having 24 low comprehenders who had prior experience with RT in a pull-out programme. They assumed an expert role – being (a) used in demonstration groups to demonstrate the procedure as part of the introductory session for each half class and (b) distributed so that each heterogeneous group comprised 1 or 2 experienced students.

6. Different types of grouping were also used to support special needs. Homogeneous grouping occurred for some high and low comprehenders. This allowed high comprehenders in one class to use different non-fiction articles aimed to extend their knowledge and interest areas. In addition, two of the four teachers elected to work with the lowest and most difficult students in their classrooms, whether in homogeneous or mixed groups, to avoid this being done by teacher aides. It was decided to rely on teacher decisions about group composition because NZ teachers are known for their professional competence in this area (Wilkinson & Townsend, 2000).

7. Additional individualised assistance was provided in three ways to fit with student and staffing needs. (a) Reading aloud was used for two homogeneous groups of low decoders, including several students new to English. (b) A tape-assisted procedure (Le Fevre et al, 2002) was used where low decoders and students new to English were in heterogeneous groups \((n=3)\). In this procedure the student listened to an audiotaped version of the passage while simultaneously following the article in print. This involved prior training in the use of tape recorders, and setting up a peer to assist in tape recorder use where necessary. (c) A repeated practice procedure provided further support for two of the special needs students in heterogeneous groups. This involved the teacher aide withdrawing these two students prior to participating in the RT sessions, so that they would rehearse both RT and the reading passage in a small group before inclusion in larger groups. This procedure markedly enhanced their confidence and participation in the RT sessions.
**Staff training.** In a staff meeting, all school staff received feedback on the outcomes of the literacy survey in the middle school, as well as a brief introduction to RT, with some initial practice and discussion on the method. The four middle school teachers and three aides also received approximately two hours of training before the RT groups began. None of these teachers and only one of the aides had previously used the procedures in small remedial groups.

Staff received similar training to that described in Study One, excluding the training in assessing text difficulty level. Instead, more depth in training was possible on the nature of reading comprehension instruction and its implications. Further, for this study wait time or pause time (Cazden, 1988; McNaughton & Glynn, 1981) was added to the traditional training, because of its established association with higher order dialogue and importance for European teachers of Maori and Pacific Island students (Cazden, 1988) and of students with special needs (Valcante, Roberson, Reid, & Wolking, 1989).

In their own time staff and parent volunteers also observed (either in class or on video) a teacher experienced with the procedure running a RT lesson. Following the initial training, teachers received planning support individually and in syndicate meetings. Topics covered in these meetings included (a) identifying individualised needs of students, (b) selecting students and appropriate groups, (c) identifying and developing relevant reading resources at appropriate interest and difficulty level, (d) strategies for promoting generalisation of questioning, clarifying, summarising, and predicting, in other class lessons throughout the day; and (e) coordinating across classes and with aides on assessment and programmes.

Each half class and attached staff were initially introduced to the procedure by a teaching session built around observing an experienced RT group of low comprehenders role-play the procedure, and highlighting the three cue cards about the procedure, its value, and use. The students observing were seated in a circle around the demonstration group, and were provided with the same resources so they could actively participate in the entire lesson and in the RT routines.

To check programme adherence and provide feedback, instructors were also observed at least twice in class. Feedback was provided to (a) improve scaffolding of the strategies; (b) ensure all children had a turn in each session with each strategy; (c)
increase participation by quieter and more difficult children; (d) maintain lesson momentum; (e) check sufficient wait time was occurring; (f) address any management concerns by teacher aides; and (g) ensure a focus on meaning and interest was maintained.

Programme adherence

The quality of the dialogue was documented to ascertain the degree to which the programme was implemented as designed. All sessions were audiotaped, to control for the novelty effect so that the students would not act differently during recordings. Measures were taken of both student and instructor behaviours.

Sampling from the audiotape recordings was done at three levels. First, on the basis of extent of gain in scores on the Neale reading comprehension, the groups were divided into high and low gain groups. Second, on the basis of type of group, 12 out of 20 groups were selected to include two of the highest and lowest gain groups from each of the four teacher-led mixed groups, the four teacher-led low comprehenders’ groups, and four (from the 12) teacher aide-led mixed groups. Third, on the basis of phase of intervention (beginning, middle and end), three sessions were randomly selected from the middle of each phase of the intervention for each of these 12 groups. From these 36 selected sessions, both student and instructor behaviours were assessed.

Student behaviours. Each student’s use of the cognitive and metacognitive strategies of questioning, clarifying, summarising and predicting in the selected sessions was recorded.

Student strategy use and participation rates were based on averaging scores for student behaviours per selected session in each intervention phase in both the high and low gain groups of the three different group types. The mean use of each strategy per session was based on the frequency of use of each strategy by each student. Further, student participation rates per session were calculated by dividing the number of different students contributing per strategy, by the total number of students in the session and converting this to a percentage.
Instructor behaviours. Patterns in the instructors' dialogue were quantified in accordance with procedures used previously (Kelly et al., 1994; Le Fevre et al., 2002). In addition, the level of support by instructors at both word and idea level was also quantified (Palincsar, 1986, Palincsar, Stevens & Gavelek, 1989, Rosenshine & Meister, 1994). Patterns were classified into the following five instructor behaviours:

- modelling and elaborating: provision of an explicit example of one of the four strategies or a reminder of the process, relevance and use of a strategy by the instructor. The process of recording these data included specifying which of the four metacognitive strategies was modelled and elaborated.

- praise and responsive feedback: instructor-initiated praise or feedback regarding student contributions and use of strategies (e.g. a positive comment following a specific reading behaviour by a student or a suggestion of how to develop a specific contribution to dialogue).

- organisational comments: statements by the instructor regarding behaviour and events, which were not directly related to the RT procedure (e.g. a comment regarding inappropriate behaviour or request to get materials).

- word level support: the instructor provided labels or complete sentences. Records were also made of any focus on decoding skills in the instructional discourse.

- idea level support: the instructor made statements focused on meaning when using the strategies or while discussing the passage, rephrasing, and elaborating on others' responses.

Immediate repetition of the same comments was not counted as a separate instance of the behaviour.

Instructor support for strategy use was based on averaging scores for instructor behaviours per selected session in each intervention phase in both the high and low gain groups of the three different group types. The mean use of each support strategy per session was based on the frequency of use of each support strategy by each instructor. The rate of idea versus word level focus was calculated by dividing the number of idea level questions (and clarifications) by the total number of questions (and clarifications), and multiplying by 100.
Reliability assessment

A recorder independent of the study, who was unaware of the intervention phase from which the 36 selected tapes were sampled, was trained and then categorised all comments on the basis of the above classification. To check the reliability of this marker’s judgements, 12 tapes, selected to include at least one from each instructor, were also categorised by the researcher. Inter-rater reliability was calculated by dividing the number of comments on which the two markers agreed that the comment correctly fitted that category, by the total number of comments, and multiplying by 100. This analysis revealed a mean of 85.4% agreement between markers, with a range of 78% to 96%.

5.3 Results

Programme adherence

The results of the analysis of the audiotaped dialogues of 36 RT sessions are presented in Tables A3 and A4 (Appendix A).

Student behaviours. In Table A3, student strategy use and participation rates are summarised. Programme adherence, as indicated by regular strategy use by students, is clearly evident. There is a pattern of stable high participation rates and regular use of the full range of strategies by students throughout the intervention phases. Further, a higher rate of summarising and predicting strategies differentiated the high from the low gain groups.

Instructor behaviours. In Table A4, instructor support for strategy use is summarised. Programme adherence with regard to instructor focus on idea level rather than the word level (Rosenshine & Meister, 1994) is evident for both high and low gain groups. In Table A4, this is exemplified in two ways. First, word-level comments occurred predominately with clarifying and rarely with questioning. Second, further analysis showed that any clarifying was focused on the elaboration of meaning, and not on strategies for decoding.

Another element of programme adherence by instructors, scaffolding, is not clearly evident in the analysis of the dialogue in Table A4. That is, instructors did not appear to decrease modelling and elaborating of strategy use or organisational interactions.
Pre-intervention performance

Groups One and Two. A preliminary single classification ANOVA confirmed that at pre-test there was no statistically significant difference between Groups One and Two on the mean scores of five dependent variable measures: the Elementary Reading Attitudes Survey (ERAS), the Tests of Reading Comprehension (TORCH), the Index of Reading Awareness (IRA), the Neale Analysis of Reading Ability Comprehension and the Neale Analysis of Reading Ability Accuracy.

Consequently, pre- and post-test data on the main dependent variable measures for Groups One and Two were collapsed into one Treatment condition. These data, and that of the No Treatment comparison, are presented in Table 4.

Reading comprehension level. Further ANOVAs using the collapsed pre-test data on all Group One and Two students were completed on the three dependent variable measures obtained on all students for the between-subject factor of reading comprehension level (High, Medium, Low).

There was no statistically significant difference at pre-test on the measure of reading attitudes (ERAS), for comprehension level, $F(2,77) = 2.80, p<.067$.

On the TORCH, the results of the one-way ANOVA revealed statistically significant differences for comprehension level, $F(2,98)=19.76, p<.0001$. Post-hoc analyses using the Newman-Keuls with significance levels set at .05 (Winer, 1971) yielded statistically significant differences between the High ($M=46.24, SD=9.78$), Medium ($M=35.04, SD=11.17$) and Low ($M=29.17, SD=13.07$) comprehenders.

On the Index of Reading Awareness (IRA) the results of the ANOVA also revealed statistically significant differences for comprehension level, $F(2,93) = 10.33, p<.001$. Post-hoc analyses (Newman-Keuls) revealed statistically significant differences between High ($M=29.8, SD=3.02$), Medium ($M=26.6, SD=4.73$), and Low comprehenders ($M =24.3, SD=6.06$).

These pre-test results on the TORCH and IRA were consistent with the allocation of the students into High, Medium and Low comprehension levels on the basis of the initial PAT Reading Comprehension data.
Table 4  Means (M) and Standard Deviations (SD) for the dependent measures before and after RT for Treatment and No Treatment comparison

<table>
<thead>
<tr>
<th></th>
<th>Treatment</th>
<th>No Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>pre</td>
<td>post</td>
</tr>
<tr>
<td>raw scores</td>
<td>n</td>
<td>M (SD)</td>
</tr>
<tr>
<td>All students</td>
<td>103</td>
<td></td>
</tr>
<tr>
<td>Attitude (ERAS)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>academic</td>
<td>30.1 (5.3)</td>
<td>30.1 (6.5)</td>
</tr>
<tr>
<td>recreational</td>
<td>30.4 (5.3)</td>
<td>30.8 (5.9)</td>
</tr>
<tr>
<td>total</td>
<td>60.7 (9.3)</td>
<td>61.0 (10.4)</td>
</tr>
<tr>
<td>Comprehension (TORCH)</td>
<td>34.2 (13.5)</td>
<td>34.7 (12.7)</td>
</tr>
<tr>
<td>Awareness (IRA)</td>
<td>26.2 (5.6)</td>
<td>27.3 (5.8)</td>
</tr>
<tr>
<td>Lowest Comprehenders</td>
<td>42</td>
<td></td>
</tr>
<tr>
<td>Accuracy (Neale)</td>
<td>38.4 (14.6)</td>
<td>47.2 (17.8)</td>
</tr>
<tr>
<td>Comprehension (Neale)</td>
<td>14.1 (5.5)</td>
<td>19.1 (7.0)</td>
</tr>
</tbody>
</table>

**Intervention effects on main dependent variables**

A two-way analyses of variance with one between-subjects (Treatment, No Treatment) and one within subjects factor (pre-test, post-test) was applied to answer questions regarding treatment outcomes. This procedure was used on the scores of three dependent variable measures (ERAS, TORCH, IRA) for all students and of two dependent variable measures (Neale Accuracy and Comprehension) for the lowest comprehenders (students who scored below the 20th percentile on the PAT Reading Comprehension at pre-test).

In addition effect sizes were calculated with the same formula as used in Study One, to allow comparisons with this and other NZ studies. These results and some descriptive data, are summarised below in three testing groupings: all students who received group-administered tests, the Lowest Comprehenders, and subgroups of the Lowest Comprehenders.
All students. The results of the ANOVAs on the group-administered attitudes (ERAS) measure and on the group-administered reading comprehension (TORCH) measure revealed no statistically significant main effect for condition.

The results of the ANOVA on the group-administered reading awareness (IRA) measure revealed a statistically significant main effect for condition, $F(1,96) = 4.73$, $p<.05$. This result reveals significant gains for the Treatment condition only.

Lowest Comprehenders. The results of a one way ANOVA on the Neale Accuracy measure revealed a statistically significant effect for condition, $F(1,41)=55.78$, $p<.001$. The mean gain in accuracy for the Treatment condition students was 9 months ($SEM=5$) and for the No Treatment comparison was 0 months. Similarly, the results of the ANOVA on the Neale Comprehension measure revealed a main effect for condition, $F(1,40)=41.98$, $p<.001$. The mean gain in comprehension for the Treatment condition students was 14 months ($SEM=8$), and for the No Treatment comparison students was 2 months.

For accuracy on this standardised test there was a medium effect size for the Lowest Comprehenders (0.5), including for the subgroup with prior experience with RT (0.6). On the same test Le Fevre also obtained a medium effect (0.7) with poor decoders, but a negligible effect with average decoders (0.1).

For comprehension there was a large effect size with the Lowest Comprehenders (0.8), including the subgroup with prior experience with RT (.96). Similarly, on the same test Le Fevre obtained a large effect size with low (1.2) and with average (2.2) decoders.

Subgroups of the Lowest Comprehenders. The Lowest Comprehenders were further subgrouped to allow for comparisons with prior research such as that of Klingner and Vaughn (1996). Subgroupings used were students with limited English (6 to 18 months of exposure to the English language); the four Special Needs students with IEPs; the low decoders (with Neale Accuracy levels that were less than 7 years 4 months); and those with a discrepancy of one year or more between Neale reading accuracy and comprehension age scores. The latter was further subdivided on the basis of a lower decoding and higher comprehension profile (Klingner & Vaughn, 1996) and an adequate decoding and lower comprehension profile (Palincsar’s target group).
A summary of the results on dependent variable measures of these individual students in their subgroupings is presented in Tables 5 and 6.

In Table 5 it can be seen that students with limited English \((n=7)\) averaged gains of more than one standard error of measurement (SEM) on the Peabody Receptive Vocabulary measure \((M=10, \text{SEM}=7)\) as well as on both Neale Accuracy \((M=8\) months, \(\text{SEM}=5)\) and Comprehension \((M=13\) months, \(\text{SEM}=8)\) measures.

From Table 6 it can be seen that, of the four students with Special Needs, one made gains of more than one SEM on both the Neale Reading Comprehension and Accuracy measures, and two others made gains of more than one SEM on the Accuracy measure only.

### Table 5

<table>
<thead>
<tr>
<th>Exposure to English in months</th>
<th>vocabulary receptive***</th>
<th>reading accuracy*</th>
<th>reading comprehension**</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>2-2</td>
<td>6-0</td>
<td>5-6</td>
</tr>
<tr>
<td>6</td>
<td>5-2</td>
<td>12-2</td>
<td>9-5</td>
</tr>
<tr>
<td>6</td>
<td>5-8</td>
<td>8-3</td>
<td>7-7</td>
</tr>
<tr>
<td>8</td>
<td>7-10</td>
<td>8-10</td>
<td>8-4</td>
</tr>
<tr>
<td>9</td>
<td>7.6</td>
<td>8-8</td>
<td>8-9</td>
</tr>
<tr>
<td>12</td>
<td>3-9</td>
<td>7-1</td>
<td>6-5</td>
</tr>
<tr>
<td>18</td>
<td>6-3</td>
<td>7-1</td>
<td>7-5</td>
</tr>
<tr>
<td>mean gain</td>
<td>10</td>
<td>8</td>
<td>13</td>
</tr>
<tr>
<td>% with **** gains</td>
<td>75%</td>
<td>57%</td>
<td>43%</td>
</tr>
</tbody>
</table>

*SEM is the Standard Error of Measurement on the norms provided. *SEM=5; **SEM=8; ***SEM=7.

**** refers to gains equal to or greater than one SEM.

Age equivalent levels are reported in years and months. For example, 7-8 represents 7 years 8 months.
Table 6  Reading age at pretest and gains (in months) on Accuracy and Comprehension (Neale) of subgroups of the Lowest Comprehenders (n=23)

<table>
<thead>
<tr>
<th>student</th>
<th>difference between accuracy and comprehension</th>
<th>accuracy*</th>
<th>comprehension**</th>
</tr>
</thead>
<tbody>
<tr>
<td>identified Special Needs</td>
<td>5-11</td>
<td>9</td>
<td>6-2</td>
</tr>
<tr>
<td></td>
<td>6-0</td>
<td>0</td>
<td>7-7</td>
</tr>
<tr>
<td></td>
<td>6-8</td>
<td>11</td>
<td>7-1</td>
</tr>
<tr>
<td></td>
<td>6-11</td>
<td>5</td>
<td>7-4</td>
</tr>
<tr>
<td>mean gain (months)</td>
<td></td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>% with **** gains</td>
<td></td>
<td>75%</td>
<td>25%</td>
</tr>
<tr>
<td>lowest decoders without identified special needs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NESB</td>
<td>6-0</td>
<td>14</td>
<td>5-6</td>
</tr>
<tr>
<td>prior RT</td>
<td>6-2</td>
<td>17</td>
<td>7-5</td>
</tr>
<tr>
<td>NESB</td>
<td>6-8</td>
<td>17</td>
<td>7-1</td>
</tr>
<tr>
<td></td>
<td>6-11</td>
<td>4</td>
<td>8-9</td>
</tr>
<tr>
<td>NESB</td>
<td>7-1</td>
<td>7</td>
<td>6-5</td>
</tr>
<tr>
<td>NESB</td>
<td>7-1</td>
<td>3</td>
<td>7-5</td>
</tr>
<tr>
<td>prior RT</td>
<td>7-3</td>
<td>-4</td>
<td>9-3</td>
</tr>
<tr>
<td>mean gain (months)</td>
<td></td>
<td>7-5</td>
<td>4</td>
</tr>
<tr>
<td>% with **** gains</td>
<td></td>
<td>57%</td>
<td>43%</td>
</tr>
<tr>
<td>lower accuracy / higher comprehension</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 years in NZ, NESB, prior RT</td>
<td>2</td>
<td>8-3</td>
<td>5</td>
</tr>
<tr>
<td>prior RT</td>
<td>2</td>
<td>7-3</td>
<td>-4</td>
</tr>
<tr>
<td></td>
<td>22</td>
<td>6-11</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>22</td>
<td>8-8</td>
<td>4</td>
</tr>
<tr>
<td>prior RT, low decoder</td>
<td>15</td>
<td>6-2</td>
<td>17</td>
</tr>
<tr>
<td>mean gain (months)</td>
<td></td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>% with **** gains</td>
<td></td>
<td>50%</td>
<td>50%</td>
</tr>
<tr>
<td>adequate accuracy / lower comprehension</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8 months in NZ, NESB, new school</td>
<td>3</td>
<td>12-2</td>
<td>4</td>
</tr>
<tr>
<td>NESB</td>
<td>2</td>
<td>11-1</td>
<td>15</td>
</tr>
<tr>
<td>new school</td>
<td>18</td>
<td>8-11</td>
<td>19</td>
</tr>
<tr>
<td>new school, NESB</td>
<td>18</td>
<td>8-7</td>
<td>12</td>
</tr>
<tr>
<td>NESB</td>
<td>1</td>
<td>9-6</td>
<td>14</td>
</tr>
<tr>
<td>NESB, prior RT</td>
<td>1</td>
<td>10-4</td>
<td>7</td>
</tr>
<tr>
<td>mean gain (months)</td>
<td></td>
<td>12</td>
<td>23</td>
</tr>
<tr>
<td>% with **** gains</td>
<td></td>
<td>83%</td>
<td>100%</td>
</tr>
</tbody>
</table>

NESB: students with non-English speaking backgrounds

SEM is the Standard Error of Measurement on the norms provided.  *SEM =5;  **SEM=8;
**** refers to gains equal to or greater than one SEM.

Age equivalent levels are reported in years and months. For example, 7-8 represents 7 years 8 months.
Students who were the lowest decoders averaged gains of more than one SEM \((M=7.5\text{ months, } SEM=5)\) on the Neale Accuracy measure. Students with the low decoding and higher comprehension profile also averaged gains of more than one SEM on this measure \((M=6\text{ months, } SEM=5)\). However, neither of these two groups averaged gains of more than one SEM on the Neale Reading Comprehension (low decoders: \(n=11, M=4\text{ months, } SEM=8\); low decoding/higher comprehension: \(n=6, M=6\text{ months; } SEM=8\)).

Students who initially were shown to have a profile of adequate decoding and lower comprehension scores \((n=6)\), as per Palincsar’s studies, averaged gains of more than one SEM on both Neale Accuracy \((M=12\text{ months; } SEM=5)\) and Reading Comprehension \((M=23\text{ months; } SEM=8)\) measures.

**Student self reports**

Group 1 and 2 students completed the questionnaires at post-test. The data from these was collapsed and analysed by one-way ANOVAs with each item on the basis of five key characteristics of the students (see Table 3): year level (5, 6), gender, ethnicity (European, Polynesian, Asian/other), language at home (English, non-English) and reading comprehension levels (high, medium, low). Results that are descriptive and / or reached statistical significance \((p<.05)\) will be covered in this anecdotal report on some of the main themes reflecting the perceptions of students in this heterogeneous sample.

The vast majority of all students (83%), irrespective of comprehension levels, reported they believed their reading had improved. It is noteworthy that this included the High comprehenders (82%). The only main effects on this question were for ethnicity and language. The Asian students differed significantly from European and Maori and Pacific Island groupings \((F (2,89) = 3.69, p<.05)\). Similarly, students with less than 2 years exposure to English differed significantly from students with English or mixed language backgrounds \((F (1,90) = 3.62, p<.06)\). In both cases, improvements in reading were most noted by students who were Indian or Chinese (98%), and those who had less than two years’ exposure to English (93%).

Overall, 90% of students reported that the strategies were useful to learn. Again it is noteworthy that this included 92% of the high comprehenders.
Significant differences occurred for the High comprehenders on two questions. The ANOVA and post-hoc analyses (Newman-Keuls) revealed that, in comparison with the Average and Low comprehenders' groups, they liked the reading materials least, F(2,90)=4.16, p<.05, and they also least wished to do RT again, F(2,91)=3.56, p<.05. Similarly there were significant differences for Year level. In comparison with Year 5 students, Year 4 students showed a stronger liking for the stories read, F(1,91)=4.24, p<.05, and for repeating RT, F(1,92)=5.24, p<.05.

Significant differences occurred for gender, showing that, in comparison with boys, girls reported they felt better about school since the programme, F(1,92)=8.06, p<.01, and about doing RT again, F(1,92)=7.47, p<.01.

There were also significant differences for language background. These revealed that, in comparison with students with English backgrounds, those with non-English language backgrounds provided the highest ratings for wishing to repeat the programme, F(1,92)=7.24, p<.01, valuing the reading resources, F(1,91)=12.69, p<.001), and feeling better about friends, F(1,90)=12.81, p<.001, and school, F(1,92)=13.18, p<.001, as a consequence of the programme.

**Teacher perspectives**

Teachers were interviewed after the intervention, individually and then as a group. Their perceptions of the value of RT for the students and themselves as teachers are reported in Table A5.

The four teachers considered the procedure worth using for all except the highest comprehenders in homogeneous groups. They also raised the issue about organising and monitoring the rest of the class, especially some difficult children, and commented that monitoring became easier once the RT groups and the parallel programme with the rest of the class were stabilised. Other concerns were that, within the groups, they could easily start to rely on the most vocal children, and students could become detached if the texts were too easy.
5.4 Discussion

The present study examined the efficacy and feasibility of regular teachers incorporating RT into the more challenging context of Year 5 and 6 inclusive classrooms with a continuum of teaching needs.

The results generally answer Guiding Question 2, as the intervention improved the outcomes for the majority of students and those with special needs on several measures. With intervention a wide range of students improved in metacognitive awareness about reading, and believed their reading had improved and that the four strategies were useful to learn. Of major importance is that the lowest comprehenders, including a subgroup who had prior experience with RT, made improvements of practical significance not only on reading comprehension, but also on decoding skills.

In terms of feasibility (Guiding Question 4), this study showed that RT was acceptable and valued by both students and regular teachers.

The key findings in relation to validating RT as an inclusive practice are discussed in terms of the five Guiding Questions that were developed in Chapter Two - to provide coherence with the overall thesis. Further, other findings of interest, and implications of the study, will also be discussed.

RT is effective and benefits most students in heterogeneous classrooms (Guiding Questions 1 and 2)

All students. On the four measures taken with all students, two showed that the majority of students benefited from RT - the metacognitive awareness measure (IRA) and students' self reports. The total group of students significantly improved in metacognitive awareness about strategies, and a vast majority also reported they believed their reading had improved (83%) and that the four strategies were useful to learn (90%).

The two other measures failed to detect change. The statistically nonsignificant change on the cloze-based comprehension measure (TORCH) is a similar result to that frequently reported by researchers of metacognitive instruction on standardised group-administered measures of reading comprehension (Alfassi, 1998; Rosenshine & Meister, 1994; Slavin, 1987). Note that Rosenshine and Meister (1994) call for
more research on this phenomenon. The failure of the present study to find significant effects on the TORCH contrasts with the statistically significant effects obtained on two other standardised measures, the PAT and the Neale, in the current studies as well as in previous NZ research (Kelly, Moore, & Tuck, 1994; Le Fevre et al, 2002). This contrast may have occurred because these measures both involve selecting key ideas at paragraph level, thereby supporting the likelihood that the effects of RT may occur mainly at a macro level. In support of this position, Le Fevre et al (2002) found that students recalled a statistically significant greater proportion of the most important (versus least important) idea units in a story at posttest than pretest. In contrast, the TORCH, with its cloze exercises, may involve processing primarily at the level of sentential constraints and, as such, may measure comprehension predominantly at the sentence level. In Study Two the use of the TORCH also raised other issues, such as the lack of familiarity of young NZ students, particularly the many from other cultural backgrounds, with Australian stories, cloze activities and independent reading in an unsupported testing context.

Students’ attitudes to reading, as measured by the ERAS, were also unaffected by the intervention. The already high positive attitudes of the current sample relative to US age norms (McKenna et al, 1995) on the same measure, the ERAS, may provide an explanation for the absence of intervention effects on reading attitude. The lack of change in attitudes contrasts with a US study (Payne & Manning, 1992), in which improved attitudes occurred alongside improved reading comprehension and reading awareness after 8 months of group-based metacognitive skills training with basal readers.

**Lowest Comprehenders.** The sizeable number of lowest comprehenders also made significant gains on both reading comprehension and decoding skills. The largest effect sizes were on the comprehension measure – consistent with most research findings on RT. Importantly, the medium decoding effect is consistent with that obtained by Le Fevre with poor decoders (and no effect with average decoders). Further, the large effect size on comprehension was lower than that of Le Fevre et al – consistent with the premise that weaker effects occur when these interventions are implemented by teachers rather than researchers (Talbott, Lloyd, & Tankersley, 1994). Note that both Le Fevre et al’s (2002) study and this study used similar adaptations for these students as well as the same test, the Neale Analysis of Reading
Ability, which measures reading accuracy and comprehension in context, thereby providing the student contextual cues to resolve decoding ambiguities. Furthermore, the effect size in this study was lower than that obtained by the high school teachers. This finding may reflect the use of different measures, but is also consistent with previous research on reading comprehension intervention, which has shown greater effects sizes with older students (Talbott, Lloyd, & Tankersley, 1994).

A subgroup with previous experience of RT also improved, despite the prior RT intervention. This finding is consistent with previous research (Klingner & Vaughn, 1996), in which continuing student improvement occurred when cross-age tutoring and co-operative learning groups using the four strategies followed the introductory phase of RT.

**Subgroups of the Lowest Comprehenders.** The data on all five subgroups identified with special needs amongst the lowest comprehenders, was further analysed. Of interest is that only two subgroups demonstrated improved reading comprehension, whereas all five made gains in decoding.

The strongest effects on both decoding and comprehension occurred with students with adequate decoding and lower comprehension - for whom RT had originally been developed by Palincsar and Brown. Similar significant effects, but somewhat lower, were obtained by the recent immigrants. Noteworthy is that for both groups comprehension showed the strongest gains, but gains also occurred in decoding. The wider impact of RT on decoding for these subgroups does not appear to have been documented in previous studies – nor does the finding that the students new to English concurrently improved in receptive vocabulary. However, the results for the new immigrants may also be influenced by a confounding variable, the catalytic effect for learning created through recent immersion in English literacy and language environments.

Another finding was that over half of the students in each of the other three groups (students with special needs, with the lowest decoding, and with low decoding and higher comprehension profiles) demonstrated significant gains specific to decoding. Note that three of these students (who were not new to English) did achieve strong gains in comprehension as well.
These results demonstrated a wider impact of RT than would have been predicted on the basis of previous research in this area – which has focussed on reading comprehension. Further, the study showed that other students than those targeted by Palincsar can profit from RT. In particular, the lowest decoders, for whom the value of the RT has been questioned (Klingner & Vaughn, 1996) may benefit in different ways than anticipated, as demonstrated in the nature of outcome measures traditionally selected for use in research on metacognitive instruction. Note that Klingner and Vaughn (1996) did not provide adaptations and observed the least gains with these students, whereas in the current study inclusive practices were used. That is, students were supported with individualised adaptations of the procedure designed to provide access to the texts and to increase engagement and group participation.

Compatibility with curriculum (Guiding Question 3)

RT was easily integrated into the integrated morning language programme and adapted as appropriate for individual students. One teacher commented that it would not be fully embedded and adapted to other curriculum areas until the second time the teachers used it alone or with support. At this time they would be able to think wider than the immediate planning and implementation when first used.

Feasibility (Guiding Question 4)

Both students and teachers in the current study reported that they valued and benefited from the addition of RT to the class programme.

Students. The efficacy and feasibility of RT with different subgroups of students, reflecting the heterogeneity of the classrooms, will be discussed first.

Students with diverse language backgrounds expressed the highest appreciation of the procedure and the stories read, and gave the highest ratings concerning the social (or inclusive) effects of the intervention. Anecdotal information also lends credence to the value of the procedure for students new to the country. Group and class participation increased markedly for one refugee student. After several sessions she improved from replying in monosyllables with the teacher only, to spontaneous participation in the group dialogue. Because the group process ensured each student routinely used the strategies, starting with simple ones such as questioning and clarifying, the students with diverse language backgrounds could no longer stay silent. They took risks, such as checking word meanings, without feeling different.
It was evident that RT could enhance socio-emotional functioning for these students, involving as it does, many of the instructional characteristics essential for language minority students (Anderson & Roit, 1996), including opportunity for flexible language engagement in a conversational context through shared reading and dialogue.

Another group who benefited were the Special Needs students. They became valued members of the mixed groups, as their participation and confidence in the group increased. This was more likely if they had read the article and rehearsed some of the strategies with another student or the teacher aide before the group sessions. Further, other students vied to be their buddy until they were proficient at using headsets with the tape recorder. One special needs student showed quite remarkable gains. With intervention, her Neale accuracy score shifted upwards by 7 months, and her comprehension score shifted upwards by 17 months. Simultaneously her dependent behaviour patterns changed. She increased in confidence in reading and in her participation in the group. Her teacher also reported that this changed pattern had extended to more initiations, risk-taking and asking for clarification when unsure – also in other subjects, namely, maths and writing.

Even the majority of the high comprehenders reported they found the strategies valuable and made gains in metacognitive awareness. This finding is consistent with that of Palincsar et al (1991). However, some high comprehenders expressed initial concerns about loss of their autonomy in choice of resources and activities. At the end of the programme, high comprehenders were significantly less eager than others to do RT again. This raises issues (Dole, Brown, & Trathen, 1996) about the value of cognitive strategy instruction for high comprehenders, and about their motivation to use strategies that are externally imposed, rather than self-generated. Wade, Trathen, and Schraw (1990) have shown that higher achieving students comprehend more when they use strategies that are their own. It may be that repeated practice methods, such as RT, have little value for these students beyond heightening their meta-awareness through the initial training sessions. However, presumably they may gain benefits if adaptations were made to RT, such as their formally assuming a tutoring role in groups or pairs after training.

**Teachers.** The four teachers were unanimous in wanting to build the procedures and concepts more fully into their own instructional repertoire and into the integrated
language programmes, under less supported conditions in the following year. They appointed one of their syndicate teachers to manage this process and include RT in her job description ensuring any new staff were trained and mentored into the use of RT, continuing the integration into the curriculum process for all Year 5 and 6 students and coordinating with special needs and reading specialist staff re identified students and access to teacher aides.

The RT programme fitted easily into the syndicate level management system for staffing, timetabling, programming and resourcing in this middle primary school. Teachers had to synchronise timetables within the syndicate to share the teacher aides, taperecorders or 'walkman' and sufficient multiple copies of reading resources for each group member. Further, they needed to coordinate with special needs staff if they had special needs students in their class. Note that this syndicate level development occurred in the context of school-wide support.

RT and school-wide facilitation of inclusion (Guiding Question 5)

The school had taken full ownership of the RT programme. This was evident in that the principal and other senior administrators allocated two staff meetings, one to the beginning and one to the end of the programme, for purposes of introduction to the programme and, later, reporting results and implications. Further, time was allocated for the training of teachers and teacher aides, and the use of teacher aides in assessment and in-class assistance. Other costs included the use of external expertise, resources for training, assessment, and certification of teacher aides.

Although some teachers in the junior school and the reading recovery teacher spontaneously began to use RT systematically, one concern noted was that a quality control system did not extend beyond the syndicate level. For instance, a teacher trainee and one resource teacher were observed to be still operating in the traditional teacher questioning style with students in reading groups during the programme and later in the year. A school-wide training and quality control system would have ensured any language and reading groups at the syndicate level or in other connected settings (such as with special needs teachers) used an approach that was compatible with that taught in RT and facilitated ongoing strategy use.

Overall, there were a range of indications that the programme also facilitated more inclusive practices. Examples included a more integrated regular and special needs
system evident in the school’s strategic plan; the changed role and management of special needs staff; the diversification of the teacher’s role to incorporate and manage teacher aides in class; less parallel servicing of special needs students by regular teachers and teacher aides; and an improved teacher aide resource with respect to knowledge and skills more directly accountable to regular teachers and compatible with their groupwork and class programme.

Further, the school gained a professional development role of orienting teachers from other schools who wished to understand the programme and its implementation. This reflected the beginnings of an informal instructional chaining process.

Other findings

Reading attitudes. Of interest was that the high positive attitude profile of the NZ sample, which is consistent with other NZ research (Chapman & Tunmer, 1995; Smith & Elley, 1994). The positive attitude profile fits with Henson’s (1991) conclusions that the major strengths of the NZ middle school whole language reading programmes are the positive attitudes of students, and the teachers’ attention to developing “a deep and lasting interest in reading and books” (p.6).

This positive profile contrasts with the findings of McKenna et al (1995), which showed significant differences in attitudes between high, middle and low reading comprehenders, as well as a decline in attitudes with increasing age. Similar differences were not obtained in the current study. For example, the mean attitude score for High comprehenders in this study was at the 86th percentile of a US sample of 18,138 elementary students (McKenna & Kear, 1990; McKenna et al, 1995). Similarly, the mean score for the Medium and Low comprehenders here is at the 68th percentile of the American sample. Only 7 per cent of the NZ students (N=7) were below the 33rd percentile of the US norms.

RT may not change such already positive attitudes with these Year 4 and 5 NZ students because the method closely resembles their instructional history (Freppon, 1995), such as New Zealand style reading group activities, with the focus on the enjoyment of reading and meaning-making (Henson, 1991; Wagemaker, 1993). In question is whether a downward trend of attitudes with age, as evidenced in US research, is occurring and/or being prevented by the use of this method.
The dialogue and decoding. Of particular interest are two anomalies in the results of the current study. One of these is the nature of the dialogue, which, overall, reflected high engagement throughout, but with little indication that scaffolding was occurring. That is, RT was shown to be effective when the dialogue pattern was more an exemplar of repeated practice with the cognitive strategies than scaffolded instruction, and leaves in question the relative significance of high engagement versus scaffolding being core components of RT. Note that these instructional patterns may have been facilitated by the strong role given to observation of other groups and instructional chaining at the outset in the current study. It is interesting to note that the patterns obtained in this study appear similar to those of the peer tutors observed by Palincsar et al (1987). These tutors did less modelling but demanded more participation from the first day onwards and achieved higher engagement rates than teachers. Despite this, outcomes by the tutees were comparable to those working with adult teachers. This information has major implications for who teaches RT and how it is implemented.

A second anomaly is the significant gains in decoding made by the Lowest Comprehenders despite the strong focus of the metacognitive instruction on meaning, as evident from the analyses of the group dialogues. That is, decoding improved despite a focus on meaning, and not on decoding, throughout the intervention dialogues. Note that the decoding effect is consistent with that obtained by Le Fevre et al (2002) in a smaller study, and with outcomes obtained by Pressley (Brown et al, 1996). Brown et al alluded to the ‘surprise, albeit a pleasant one’ (p. 32) of obtaining decoding effects with Transactional Strategies Instruction, explaining it in terms of parallel phonics programmes in the class rather than metacognitive instruction. However, this explanation does not suffice in the current study, where there was no concurrent word-focussed skills teaching.

The significant gains in decoding associated with metacognitive instruction for the lowest comprehenders may be a function of both the metacognitive nature of RT and the conditions created by RT for these students. The provision of access to high interest texts and dialogues with peer groups may have heightened their enjoyment, meaningful engagement and understanding levels – particularly because students with poor decoding skills typically have limited access to age-appropriate and interesting materials at their decoding level. While texts with a basic decoding but
advanced interest level are available, this resource is limited in comparison to the literature available to more successful readers. These conditions, in combination with the active learning of four comprehension fostering and monitoring strategies, may have been conducive to increased attention to ambiguities in the text at both word and sentence level – as well as to more active and purposeful resolution of these.

The findings lend support for the self-teaching hypothesis developed by Share (1995) and to a connectionist model of reading (Adams, 1990, 1994). Share views the self-teaching mechanism of phonological recoding as a critical component, besides phonemic awareness, to the acquisition of decoding skills. Share states that there are virtually no experimental tests of the cognitive processes underlying reading acquisition and the growth of orthographic knowledge, nor instructional processes known to enhance these. Yet such processes may be critical to knowing how to remediate disabled readers, who have difficulty processing not single stimuli but multiple events, as well as discriminating, coordinating and integrating these (Share, 1995). Share argues that such orthographic knowledge and fluent word recognition develops primarily as a result of the self-teaching opportunities provided by successful decoding.

Based on a connectionist model, reading involves simultaneous and interactive functioning of phonological, meaning and context processes with the ultimate goal being full understanding of the text. Within these processes, the print on the page constitutes the basic perceptual data. The RT intervention can be seen as involving all the processes and strengthening connections between processes, an essential to fluent reading.

For the weaker readers, RT may well be a form of instruction that capitalises on their strengths alongside those of the group, so that all students are fostered in learning how to teach themselves at their own cutting edge. For some, RT may foster the acquisition of metacognitive and cognitive skills that predominantly promote independent comprehension of text at word-level, sentence-level and idea-level. For others the major effects may be on independent generation of novel words. The weak reader may become more active at a metacognitive level in integrating and self-teaching phonological awareness and / or contextual information to resolve decoding and / or comprehension ambiguities.
Implications

By demonstrating a range of benefits provided by introducing RT to the regular programme of inclusive classrooms, the current study extends the literature on this instructional method. The results both replicate and extend Lederer's (2000) and Le Fevre et al's (2002) findings. All three studies obtained positive outcomes - the current study with design refinements such as randomised comparisons within classrooms, a wider range of dependent variable measures, and an analysis of treatment adherence. Further, ecological validity was enhanced by the selection of a school with an inclusive philosophy, the use of inclusive classrooms with extreme diversity of students, the participation of regular teachers and aides, and not the researcher in the RT groups and pre-planning maximal participation by a wider range of students through individualised adaptations of the programme. Despite a more challenging setting, the gains were of practical significance not only on comprehension but also on accuracy measures – and replicate the effect sizes of Le Fevre et al (2002).

Generally the results support a wider applicability of RT and the value of longer term use of RT through integration into the curriculum and use by regular teachers with in-class support. Particularly the lowest decoders may benefit in unanticipated ways through the inclusive use of RT. This may improve decoding alongside comprehension skills, and simultaneously prevent the generalisation issues noted by researchers with lower decoders in pull-out programmes.

It is clear that RT was implemented by receptive supportive teachers and teacher aides working collaboratively as a syndicate within a school-wide context that was conducive to the programme. However, there are also other features of this study that may be relevant to the successful introduction of RT and the generalisability of the findings.

First, these teachers had a philosophy of teaching that was inclusive. This was observable when they had reacted professionally to a pull-out programmes being run by a teacher aide parallel to the class programme.

Second, the method was compatible with the policy and practices of this New Zealand primary school and its staff towards inclusion and whole language learning orientations. Consequently, there were no issues evoked by the introduction of a new
method of reading comprehension instruction, in areas such as commitment, major changes of beliefs (Richardson et al, 1991), or teachers giving up control (Lederer, 2000, Pressley & El-Dinary, 1997). Presumably issues in such areas were minimised by introducing RT through the natural and pivotal positioning of the middle school syndicate team structure.

Third, the assimilation of the method may also have been facilitated by factors such as the teacher incorporating the ground rules and groupwork into the regular class programme; the students already having positive attitudes to reading, and increased adult numbers during the sessions.

Fourth, clear support structures for teachers were provided. These included brief initial education of and prior planning with teachers; instructional chaining; teacher aides; colleague support at syndicate level; and outsider (researcher) training / monitoring. Assimilation of the method by staff and students, as well as classroom management may have been particularly enhanced by instructional chaining.

Besides the restricted generalisability, limitations of this study include nonspecific treatment effects such as the likelihood of Hawthorne and novelty effects, and the absence of close and extended followup of students and teachers. Ideally, by teachers incorporating this method with individualised inclusive practices into their programme, they could themselves promote not only generalisation of learning over time, settings and tasks, but also inclusion, with particular relevance for students with special language and learning needs, and high comprehenders. To enlighten effective practice, further research should investigate subsequent developments of this procedure, with teachers, into the institutionalisation phase. In addition, further research questions are raised by findings about the programme’s benefits for decoding skills, the relative importance of high levels of engagement versus the gradual removal of scaffolding, and the absence of attitude effects with these students.
CHAPTER SIX
GENERAL DISCUSSION

6.0 Introduction

In this concluding chapter I summarise the main findings and their contribution towards validating reciprocal teaching (RT) as an inclusive practice. This is followed by an outline of possible future research directions on RT as an inclusive practice. Finally, the wider contribution and implications of the research study for research, policy and practice will be outlined.

6.1 Summary

The intention of major policy changes requiring more equitable and inclusive education in New Zealand is yet to be fully realised. Central to achieving this intent is informed selection, development and dissemination of inclusive practices.

This study investigates RT, a metacognitive method for teaching reading comprehension, to establish its potential as an inclusive practice. The examination was based on five questions developed to guide the validating process. These extended Fisher et al's (1995) criteria to include a school-wide approach.

In order to validate RT as an inclusive practice, the questions guided the review of the literature. This showed that the effectiveness and feasibility of RT as an inclusive education approach was not well researched. The questions also provided a context for discussing the findings from two implementation studies within culturally diverse urban classrooms in an inclusive school-wide approach.

In the high school study, RT was introduced after a systemic analysis showed the need for a school-wide approach to pervasive reading comprehension problems among Year 9 students. In a collaborative effort between departments, English, social studies and learning support staff were supported to incorporate RT into the curriculum and timetables. Four regular class teachers with two support teachers ran eight RT groups for the lowest reading comprehenders within seven Year 9 classrooms.
In the primary school study RT was incorporated into four Year 4 and 5 inclusive classrooms at syndicate level. With in-class teacher aides running two groups and the regular teacher the third, half of each class completed the RT programme in the first part of the year, whilst the other half of the class were exposed to RT in the second part of the year.

In both studies, teachers and teacher aides were trained and supported in the use of the new procedure, with ongoing in-class observations, feedback and discussion during the intervention. In the primary school study, specific adaptations to the RT method were also made by read aloud, tape-assisted, and prior repeated practice methods, for students new to the English language, and those with special needs.

The main findings in the high school study were that the students who received an extended programme (with 12 to 16 sessions), made powerful and significant gains on a standardised measure of reading comprehension. These gains were maintained three months later. No significant gains were observed with students in a shorter programme and in control groups.

Further, the main findings in the primary school study also showed that the low comprehenders made powerful and significant gains in both reading comprehension and decoding. In addition, all students made statistically significant gains on a measure of metacognitive awareness of reading strategies and reported they believed the RT strategies were useful to learn and their reading had improved. However, no gains were found for the total group of primary students on either a cloze measure of reading comprehension, or a measure of attitudes to reading. Note that this total group of students already had high positive attitudes to reading relative to US norms.

Analysis of data on programme adherence showed primary students had high participation rates and regularly used all four cognitive strategies throughout the intervention. In terms of programme adherence by instructors during the group dialogues, there was an appropriate focus on idea rather than word level, but the gradual removal of scaffolding was only partially evident.

Despite different age groups and settings, in both studies low comprehenders clearly benefited from RT and RT was readily adapted into the school curriculum. Further, teacher feedback supported the value of RT for staff development and the feasibility of the method for regular teachers if working together with support staff.
The introduction of RT also facilitated both schools to move towards assuming more inclusive practices. In addition, the high school study showed that school-wide implementation could be maintained for several years, and that RT was likely to remain effective - if students were provided with at least 12 sessions, and if sustained and supported at a class teacher and school-wide level.

6.2 Implications for validating RT as an inclusive practice

The findings from the literature review and implementation studies provide some answers to the five guiding questions developed to validate RT as an inclusive practice. An overall consistent picture emerged, extending support for Klingner and Vaughn’s (1996) conclusion that RT has wider benefits than previously thought.

1. RT is effective and conceptually robust. On the basis of the literature review, RT appeared to be empirically and conceptually robust as an inclusive practice, comprising a combination of best inclusive practices.

2. RT will benefit most students. The current research studies provide empirical support for the use of RT in more challenging inclusive and culturally diverse classroom settings in a school-wide approach. This research extends the validity of RT beyond research showing its effectiveness with students with special needs in remedial settings and / or when implemented by researchers (Alfassi, 1998; Brand-Gruwel et al, 1998; Bruce & Chan, 1991; Klingner & Vaughn, 1996; Lederer, 2000; Le Fevre et al, 2002). Despite the enhanced ecological validity of the two studies reported here, the comprehension gains made by the students were comparable with practically significant gains demonstrated in previous studies with the same measures (Kelly et al, 1994; Le Fevre et al, 2002).

The findings also broaden the known applicability of RT within inclusive classrooms upwards to the lowest comprehenders in high schools. By demonstrating that RT can benefit the lowest comprehenders in heterogeneous classes in high school, the validity of RT is extended beyond remedial education (Alfassi, 1998) with this level of schooling. Note also that all the students in the heterogeneous classes in the primary school appeared to have benefited, as shown on gains achieved on a measure of meta-awareness and in their self-reports. However, questions were raised about the value of the continued use of traditional RT with the highest comprehenders in both primary and high school classrooms.
Further, the efficacy and known applicability of RT was extended downwards, because the lowest decoders and comprehenders in the primary school classes demonstrated gains in both comprehension and decoding scores from this method of metacognitive instruction. This finding corroborates and extends those reported by Le Fevre et al (2002). Note that this study built on Le Fevre et al’s adaptations to make the text more accessible to these students, whereas Klingner and Vaughn (1996) did not provide adaptations and observed the least change with these students. This is an example of an instructional procedure not providing outcomes for some students unless individualised adaptations were made, and highlights the importance of expecting outcomes from all students – and ensuring students are not merely located in classes but that instruction has efficacy for all students in the class. Of importance, too, is that the lowest comprehenders made decoding gains – thereby supporting the use of RT with students who tend to demonstrate decoding fluency problems as well.

3. RT is compatible with the curriculum. At both schooling levels, RT directly matched content and strategy goals of the regular curriculum, and was readily adapted and embedded into the regular teaching programme with a collaborative approach. Interestingly, preparation for RT served as a prompt for teachers to collaboratively acquire, develop and individualise resources that were compatible with the curriculum and matched cultural, literacy and interest needs.

The findings provided further support for the arguments raised in Chapter Three for the full incorporation of RT into the regular curriculum and teaching practices, by showing that low comprehenders who had prior experience with RT continued to benefit. This finding replicated Carter’s (1997) and Klingner and Vaughn’s (1996) demonstrations that a longer RT programme fostered ongoing improvements in student achievement. Carter concluded that RT should become a ‘staple’ of classroom teachers. Note that full incorporation into the regular curriculum and teaching practices would particularly promote generalisation by the lowest comprehenders – who have been shown to take longer to reach fluency and have more difficulty generalising such strategies. By providing these students with more opportunities for repeated and increasingly flexible use within the regular class programme, it would be possible to avoid the complex engineering required to
promote generalisation of training in parallel pull-out systems which are not integrated with the class programme.

Furthermore, in Chapter Three it was also argued that RT could promote self-regulatory, prosocial, and equity goals. The use of RT for these wider curriculum goals underlines the importance of the regular teacher using RT in an informed way to foster these goals.

4. Feasibility. In the school-wide approach used in both studies, RT was feasible due to collaborative planning and training, as well as time allocated for regular and specialist teachers and aides (teacher release, in-class support). Note that additional time was used by teacher aides for primary students who would benefit from extra sessions and/or adaptations.

Anecdotal data from teacher interviews also provided some validation for the use of RT at both levels of schooling. RT was reported to be both acceptable and feasible to implement for all regular teachers – provided they had assistance with planning and in-class support in at least the introductory phase of implementation, and for the high school teachers, for ongoing sustained use. Of particular interest was that RT appeared to be a generalisable teaching strategy assisting regular teachers to cope with diversity. Although the added value of the method was observable at both levels of schooling, the most extensive impact of RT appeared to be with the high school teachers. They reported becoming more aware of their lowest students and their needs. Note also that all primary students surveyed valued RT, with the strongest appreciation being expressed by those with diverse language backgrounds.

5. RT and school-wide facilitation of inclusion. The two implementation studies also illustrated that RT can provide useful support for change towards more inclusive practices in a school-wide approach at both primary and high school levels. This is an undeveloped theme in the literature, and thus an original and worthwhile contribution of this study, extending previous research using RT in a school-wide approach specific to reading comprehension (Carter, 1997). RT was used as a means of addressing widespread reading problems – a meaningful issue to schools as organisations and teachers. Simultaneously the introduction of RT facilitated more inclusive beliefs, experiences and practices and some merging of systems between regular and special needs staff. In both schools inclusive developments included
organisational commitment and prioritising staff meeting and development time and resource allocation to a planned early intervention approach, collaboration at a school-wide level between regular and special teachers, regular teachers owning RT at syndicate or department level and incorporating the procedure into the regular curriculum with adaptations, resource development, and in-class instruction replacing pull-out teaching of students with low reading comprehension. A further benefit of the school-wide introduction of RT was its multi-purpose value for staff development. Teachers were simultaneously developing an understanding of current socioconstructivist instructional theory, while being introduced to an inclusive method and collaborative practices between regular and special teachers.

Note that this research also raises some cautions. It supports previous research showing that this inclusive strategy works conditional upon being properly implemented, such as a minimum number of implementation sessions. Further, note that the school-wide approach was not sustained beyond several years in the high school study. The institutionalisation of inclusive instructional procedures may require a school-wide approach. This would ensure appropriate commitment and integrated planning for purposes of ensuring appropriate expertise, staff training and support, strategic resourcing and delivery, treatment integrity, and sustaining methods of inclusive and early intervention.

The study also provides validation of RT in a different educational and ethnic cultural context from the one where the procedure was developed. This is important when considering that the efficacy and feasibility of teaching practices may be culture-specific, and US findings may not always apply here. For example, Pressley (1998) raised concerns about the silence observed with RT in US classrooms. This was not observed in the primary school study, where data showed high rates of engagement during the dialogue throughout the intervention phases. Note that RT appears to be particularly compatible with the beliefs and practices of NZ primary and specialist teachers and is consistent with the students' learning history in the first years' of schooling, such as the immersion in natural language and group learning approaches. This instructional history also has implications for NZ high school students – who are more likely to be receptive to a familiar teaching structure, particularly because RT provides a contrast with traditional high school practices.
Furthermore, in this research study it has also been argued that RT has apparent cultural compatibility for students who are Maori, as well as those with Pacific Island ethnicity. These conclusions are open to further inquiry. It is important to note that RT appears to work well and be particularly useful in multicultural classrooms, extending its applicability to the regular teacher with any minority children. The inclusive value of RT was particularly apparent in the way primary students with non-English speaking backgrounds provided the highest ratings of wishing to do the RT programme again. The current research therefore provides support for the generalisability of RT in a global sense.

6.3 Future Research Directions

Overall it is recognised that further comparative examples are needed to test the generality of the present conclusions. Because the limitations and implications of each of the implementation studies have been discussed in Chapters Four and Five, in this section I now propose some new directions for research on RT as an inclusive practice.

Wider validation of RT as an inclusive strategy

The use of RT as an inclusive strategy requires further validation in several areas, including its use in the high school context - with a wider group of high school teachers and administrative staff, and with adolescents. Note that in the current high school study the perspectives of different groups of students were not surveyed. Further, RT in NZ needs to be reviewed from a bicultural world view, because of the commitment of the NZ education sector to the Treaty of Waitangi. This might involve exploring the Maori cultural concepts that might link to each of the components involved in the delivery of RT, thus enabling them to be understood within the context of an indigenous world view.

Another area for research is providing firmer evidence on the wider potential use of RT as a means of fostering the inclusion of students with special needs – by profiling relevant areas beyond cognitive and metacognitive skills, such as prosocial skills, engagement, social acceptance / status, cohesiveness and equity values of the class and teacher attitudes.
Developing RT further as an inclusive procedure

In the literature review on RT and the two implementation studies, issues were raised indicating the need to develop RT further to maximise its wider inclusive properties. This could include, for instance, exploring the explicit fostering of prosocial and equity goals alongside the traditional cognitive and metacognitive learning goals. In addition, RT could be structured to facilitate generalisation of both teacher and student behaviour from the shared reading tasks of RT to deliberately combine the group dialogue with other domains, such as shared project management, the learning of life and survival skills and values, oral language such as interviewing skills, and the learning of a foreign language. Alternative combinations of best practice, such as Brown’s (1992) work on developing strategic classrooms, may also dovetail with the creative diversification of RT.

The institutionalisation of RT

Because the two studies focussed primarily on the introductory phase of implementation at the time when this was an organisational priority, there is a need for researchers to collaborate with teachers to investigate implementation factors in the institutionalisation phase, including training issues with less receptive teachers (Lederer, 2000) and the routine use of RT in high schools with the lowest comprehenders.

6.4 Wider Contribution and Implications

The collective findings of this research study, based on several literature reviews and implementation studies, contribute in at least six areas to the literature on inclusive practices and RT, and the current education context.

Bridging research and practice

This research provides a direct contribution to practitioners because of its qualitative and descriptive nature. By operationalising a method of validating inclusive practices in a literature review and two studies, researchers and practitioners gain access to a model of research and practice relevant to further development in this and related areas.
Validation of inclusive practices

Another contribution of this research study is the extension of benchmarks developed to judge the inclusive role of educational practices (Fisher et al, 1995) to acknowledge the importance of a school-wide approach to inclusive reform. It was argued that effective and sustained inclusion does not rely solely on the regular teacher, but on aligned collaborative school-wide ownership and the provision of a continuum of expertise and support to meet diverse student and staff needs within the classroom and school.

Further, by expanding validation procedures and operationalising them in a review of the literature and in two different schooling contexts, this research made the validation process more accessible for further testing to check its generalisability as a model to searching for and developing other inclusive practices.

Research on RT

By applying the validation process to RT, this study also contributes by shifting the dominant focus in the literature from a view of RT as an effective form of metacognitive instruction towards that of a validated multipurpose inclusive procedure. Another contribution is the systematising of knowledge on RT as an inclusive practice. In this process new themes, such as decoding effects, cultural, prosocial and equity factors, and the wider use of RT in a broader multipurpose approach, have been raised. Particularly relevant is that RT may be used as a vehicle to mobilise school-wide change towards more inclusive practices, not only in the classroom, but also between administrators, regular and specialist teachers, and aides.

Inclusive practices and culture

This research also contributes by identifying cultural factors relevant to the use of inclusive practices and RT with minority groups in diverse classrooms. Note that cultural factors relevant to selecting inclusive strategies appear to have been ignored in the literature reviewed in Chapter Two. However, because inclusive education can be subsumed under multicultural education, it would be expected that generic cultural issues fit well with inclusive issues. By implication we know that, when considering whether to implement inclusive strategies, they are likely to be helpful for teachers and students in culturally diverse classrooms. Particularly if combined with specific
cultural knowledge, such strategies may increase understanding and engagement, as well as provide a means for transmitting cultural knowledge. Further, students are more likely to be included – because inclusive practices, such as RT, may implicitly shift the power relations, language and content in classrooms that favour the majority (Bishop & Glynn, 1999), towards giving voice and space for minorities, thereby empowering the learner and learning. It could also be assumed that inclusive practices are less likely to marginalise or exclude children further, or be culturally harmful. These assumptions are open to empirical research.

**Teacher education and support**

Sufficient empirical evidence and applied information has been supplied in this research study to warrant methods such as RT being included in a unified approach towards inclusive education across pre-service and in-service teacher education sectors for both regular and special education teachers. Particularly in the current NZ context, all regular teachers need to be equipped with collaborative inclusive practices, because successful inclusion relies on massive change at the classroom level, with regular teachers having a pivotal role in ensuring equitable outcomes for all children. Note that Study Two showed that even competent primary school teachers benefited from learning a wider range of inclusive practices.

Note that thorough preparation of teachers and specialist teachers such as RTLBs by itself is insufficient. To ensure the integrated and sustained use of these practices so that all students benefit, strategic planning and adequate support and integrity systems at a school-wide level are indicated. This is because some inclusive practices are complex to understand and orchestrate. In addition, the major challenge of changing the practices of less receptive teachers, those who may have difficulties in integrating new practices and those with difficulties in classroom management, requires a planned approach. Note also that the longer term outcomes of the high school study illustrated the importance of developing unified infrastructures to sustain RT at a school-wide level, and to ensure the integrity of programme delivery and effectiveness among both regular and support teachers and aides. Integral to the integration of inclusive methods is the credibility, knowledge, expertise and role clarity of teacher support professionals, such as RTLBs, in providing collaborative planning, coordination, advice, training and coaching. Such educational
professionals would need to be strategically positioned to maximise planning and development at school-wide as well as syndicate or departmental or dean level.

**The inclusive context**

This research study directly contributes to the evolving international and NZ education context. The need for validated inclusive instructional methods is paramount when considering that regular teachers and schools are facing both inclusive reform and increasingly diverse student populations. This study provides teachers with an instructional procedure validated as inclusive within this context.

Further, this study provides insights and raises issues within the broader evolving context – in which inclusive reform in policy is becoming more fully aligned with practice and becoming more adequately operationalised. Integral to achieving any impact in this massive context, a concerted approach is required to strengthen the inclusive foundations of the education system. An implication from this research study is that inclusive methods need to be deliberately developed, validated and incorporated at a school-wide level in a coordinated and planned way with a developmental view on the needs of students with special needs and seamless inclusive curricula and teaching structures. For instance, the studies presented an argument for introducing preventative and inclusive metacognitive instruction methods not only at high school, but also earlier. While there continues to be a reliance on ad hoc initiatives, variable goodwill and quality of administrators and teachers, and a preoccupation with selecting which students may qualify for specialised assistance, inequitable practices will continue. Equitable educational outcomes for students with diverse backgrounds and needs may continue to be jeopardised while they continue to experience discontinuous programmes and exclusionary practices as they move through schooling levels.

In conclusion, the present research has demonstrated the importance of planned dissemination of inclusive practices that fit with SE2000 policy. However, because these same practices may raise tensions with the NZ culture of school and teacher autonomy, this situation calls for a national level focus on models of best teaching practice that are sustainable, to ensure teachers, RTLBs, professional support staff and teacher aides are unified and equipped to foster equitable outcomes for their students with diverse needs.
REFERENCES


instructional indicators (Reading Research Report No. 3), Athens, GA, and College Park, MD: National Reading Research Center.


APPENDICES

APPENDIX A

Tables

Table A1
PAT Reading Comprehension scores before and after Reciprocal Teaching, and at follow up, for all students.

Table A2
High School Teachers’ comments on the RT programme.

Table A3
Mean frequency of use (f) and participation rates (%) by each student with each strategy, per group session selected in each intervention phase, for six high and six low gain groups.

Table A4
Mean frequency of support type for strategy use (f) and for focus at idea (versus word) level (%), by instructors per group session selected in each intervention phase, for six high and six low gain groups.

Table A5
Teachers’ comments on the value of the RT for students and teachers.
Table A1. PAT Reading Comprehension Scores Before and After Reciprocal Teaching, and at Follow Up, for Control, Short Programme and Extended Programme Groups

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Table A2. High school teachers' comments on the RT programme

Teachers who used RT 12 or more times are coded as E1 to E4, whereas teachers who used RT less frequently are coded as O1 to O4.

1. What teachers liked:

For students:

- A good way for students to learn to ask coherent questions and answer in a more positive way (O3)
- Students learnt strategies in more self-directed way (E1, O2). Students improve their perception that they can improve their own reading and understanding. Students started to carry their own mini dictionaries. (E2). Not too teacher-based (O2). Students are positive towards it, can see improvements themselves. They are more confident and attentive. Some made real progress (E2). Students were happy in the class. No negative discrimination in the class (E4). Students showed greater openness in general, more confidence. (E4, O2). Bonding of groups (O1)
- Students using strategies such as clarifying in other class situations (O1)

For teachers:

- One of most rewarding things I did this year (E2)
- The opportunity to work with a small group of less able students. This established a special relationship early in the year which continued (E3, O1)
- It helps the teacher to identify areas of weakness and appreciate strengths (E4)
- The structure – the way it organises students to concentrate on their reading (O4)
- The cooperation with other teachers for the same class (O1)
2. What teacher didn’t like and the difficulties encountered:

- Difficulty of organising class ie. small groups tend to be disruptive, trying to find work to keep rest of class occupied (E1), others start feeling negative missing out (O2), discipline problems in some groups (O3), difficult to bring target group back into classwork for the rest of the period (E3), at first class management issues until it was accepted (E3)

- Difficult to fit into programme at times (E2, O1, O2); the conflict between regular work and the programme (E4); pressure on my programme when mine was the only one in which it was being used (E3); time consuming – the payoff in time appears limited (O4)

- Payoff for students not immediately apparent (O4)

- Students short-circuiting the system eg. for speed, only asking obvious questions, not clarifying difficult vocabulary (E4)

- Some students felt labelled by being in a separate group (E4, O1)

3. How and where the programme fitted:

- 20 mins each time (E1); worked on a reader that everyone was using (E2), part of reading room sessions (O3), the rest of the class did sustained silent reading

- part of social studies programme (O1, O3)

- fits well into novel work (E4, O2) and remedial Year 11 skills class (O4)

4. Need more support, training and observation?

- Yes - E1, E4, O1, O2, O4

- No - E2, E3, O3
5. Suggestions

- Works best when the foundations are laid early in term 1 (E1, E2, E4)
- Introduce in short sharp sessions (O3). Establish a positive identity for the group (E4)
- Encourage early testing for all students to be shared across subjects (E4)
- Involve the whole class in certain situations or do it with the whole class if there is a small range in reading ability (E2, O1, O4) or it is a remedial class (O4)
- Need in-class support (E3); need one staff member per group if more than one group per class (O4)
- I see it fitting best into an individualised reading unit (E3)
- Develop other more suitable text resources and more practical work to fit with the method and the students' needs (E2)
- Push to all Year 9 English and social studies teachers (E2)
- Setup observations of student groups for teachers after they have learnt the techniques – so they learn not to anticipate answers and can facilitate students who think more concretely (E4)
- Build up more enthusiasm from the positive reactions in other classes (E4); bring teachers of the same class together for more discussion (S1)
- Convince the bosses of its value and run more in-service programmes (E2)
- Stress feedback and research on its benefits (E3, O4)
Table A3. Mean frequency of use (f) and participation rates (%) by each student with each strategy, per group session selected in each intervention phase, for six high and six low gain groups

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<td>Groups</td>
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<td>5 (80)</td>
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<tr>
<td>predict</td>
<td>3 (43)</td>
<td>5 (83)</td>
<td>4 (60)</td>
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</table>
Table A4. Mean frequency of support type for strategy use (f) and for focus at idea (versus word) level (%), by instructors per group session selected in each intervention phase, for six high and six low gain groups

<table>
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<th>Intervention phase</th>
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Table A5. Primary school teachers’ comments on the value of RT

Value for students

- Learnt new words, new strategies (Mary, A)
- Used keywords in other places (A)
- Improved in reading comprehension (S, M, A), better understanding (S) eg. lowest group shifted up a year in reading age
- Learnt to skim for meaning and not look at the sky when doing running records (S), no longer skipping (M), keen to find out (M), ok not to know and clarify (M)
- Improved listening (M)
- Able to locate information better, process it, record it (S)
- Improved in summarising activities (S) – biggest area of improvement (A)
- More attempts (S)
- Liked talking in a group. NESB children just starting to join in
- Learnt tolerance
- Gained confidence, they like the teacher role, each has a turn (Mary, S)
- Middle and low children benefit, top have the skills

Value for teachers

- See student progress (S) impact a wide range of areas
- Students become more independent workers (S), develop independent thought (A)
- Motivates nearly all children, including most difficult (S)
- Improved class climate – work together, help each other (S)
- Adds variety to the programme (S)
- Can use on anything (S) eg. topic work, looking for information (M)
- Smaller group than usual
• An opportunity to get to know where the child is at (rather than guided silent reading and, in larger group don’t see them everyday)

• Students can now do RT alone at own instructional level once a week (S) – they do not need a card, and they stay on task (S)
APPENDIX B

Measures

Elementary Reading Attitude Survey (ERAS)

The Elementary Reading Attitude Survey (ERAS, McKenna & Kear, 1990) was designed to measure attitudes towards academic or school-related reading, and towards recreational reading. The ERAS has been normed on a national sample of 18,000 US students from Grade 1 to 8 (McKenna, Kear & Elsworth, 1995), and has empirically documented reliability and validity (McKenna & Kear, 1990; McKenna, Kear & Elsworth, 1995; McKenna, Stratton, Grindler & Jenkins, 1995). Its reliability was estimated to range from .74 to .89 by using Cronbach’s alpha.

The ERAS is a 20-item, 4-node, pictorial rating scale. It has two subscales on attitudes towards academic and recreational reading. Each item is scored on a 1 to 4 (weak to strong) basis. Therefore scores on each subscale range from 10 to 40, with higher scores indicating stronger positive attitudes. The following questions illustrate the format of items on this instrument:
1. How do you feel when you read a book on a rainy Saturday?

2. How do you feel when you read a book in school during free time?

3. How do you feel about reading for fun at home?

4. How do you feel about getting a book for a present?

5. How do you feel about spending free time reading?
Index of Reading Awareness (IRA)

The Index of Reading Awareness (IRA, Paris & Jacobs, 1984; Jacobs & Paris, 1987) was designed to provide data about Grade 3 to 5 children's metacognitive awareness about reading. This instrument has been used in subsequent studies (Cross & Paris, 1988; Mayer McLain, Gridley, & McIntosh, 1991; Paris & Oka, 1986; Payne & Manning, 1992), and modified for Moroccan students (Wagner, Spratt, Gal, & Paris, 1989).

The IRA comprises 20 multiple choice questions, and can be group-administered. Each question has three alternative responses, representing an inappropriate response (0 points), partially adequate response (1 point) and strategic response (2 points). The order of choices is randomised. The total score ranges from 0 to 40, with higher scores indicating a greater use of strategic reading strategies. The following examples illustrate the format of items on this instrument:

3. What do you do if you come to a word and you do not know what it means?
   a) Use the words around it to figure it out.
   b) Ask someone else.
   c) Move to the next word.

6. What would help you to become a better reader?
   a) more people helping you when you read.
   b) reading easier books with shorter words.
   c) checking to make sure you understand what you read.
Tests of Reading Comprehension (TORCH)

The TORCH comprises fourteen graded narrative and descriptive passages, each of which can stand alone. All provide measures of reading ability on a common scale, thereby allowing teachers to select the most appropriate passages for particular students or groups and still make valid comparisons. Students are presented with a retelling of the story, and fill in the gaps (in their own words) to correspond with details in the original text. Each passage has eleven items which represent distinct kinds of tasks, such as providing the subject of the story, completing verbatim sentences, completing rephrased sentences, connecting pronouns with previously mentioned nouns, connecting ideas separated in the text, providing detail, and providing evidence of having understood the motive of the actions. Normed in 1982 and 1984 on over 5,000 students in Years 3 to 10 in Western Australia, the internal consistency coefficients of reliability (KR20) ranged from .90 to .93 for each of the passages. The TORCH was used as an outcome measure of reading comprehension because the PAT was not appropriate due to its use at beginning and end of year testing in the school.
APPENDIX C

Staff Training Manual
RECI PROCAL TEACHING
OF
READING COMPREHENSION

The Research and The Method

Julia Westera
Educational Psychologist
RECIProCAL TEACHING:  
THE RESEARCH AND THE METHOD

Reciprocal teaching has been extensively tested as an instructional procedure for strengthening comprehension fostering and monitoring skills. Since Palincsar and Brown's (1984) original trial, numerous studies (see Rosenshine & Meister, 1994, for a review) have attested to the effectiveness of this procedure both in its original and modified forms, across a range of primary and junior high school students with comprehension deficits. New Zealand research has occurred with Auckland primary and intermediate schools (Gilroy & Moore, 1988; Kelly, Moore, & Tuck, 1994; Peterson, 1992); high schools (Westera & Moore, 1995; Westera, 1996), and students with special needs (LeFevre, 1996).

The training will be matched to your needs and provide
- an introduction to recent international and NZ research on this method
- teaching of knowledge and skills
- assistance with and monitoring of the implementation of the method, including some in-class observations / feedback
- assistance with student assessments / data analysis of reading comprehension, decoding, and attitudes to reading
- assistance with school-based programme evaluation

ACKNOWLEDGEMENTS

The support of the following people in the development of this resource is gratefully acknowledged:

Dennis Moore for introducing me to reciprocal teaching

Staff of Massey High School, Edendale School and Sutton Park School for co-working on developing the programme

Fiona Ayers and Lyn Doherty for co-working and resource development

Rick Westera for illustrations

RT Manual, Julia Westera, 1999
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What Is Reciprocal Teaching?

- provides systematic instruction in reading comprehension
- involves interactive participation between students and teacher
- is structured as a cooperative learning procedure, with strong routines

- has been extensively evaluated in New Zealand and abroad
- was originally designed for competent decoders who are poor comprehenders

The Four Strategies

question generating of the students themselves, and of the author's message while reading

clarifying of vocabulary, structure, text organisation, and concepts

summarising of information presented in the passage

predicting what the author will discuss next in the text on the basis of prior knowledge

What is the Goal?

- promote comprehension of text
- promote comprehension monitoring

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STANDARD RECIPROCAL TEACHING
SESSION FORMAT

- *At beginning of session only:* Introduce the article by discussing the title and inviting *predictions*

1. Select a 'teacher' who assigns a section to be read silently (*1-2 paragraphs only when introducing the method*)

2. The 'teacher' generates discussion by:
   - Checking if anyone needs anything *clarified*
   - Asking a *question* based on the section read
   - *Summarising* the passage
   - *Predicting* what might follow

- The 'teacher' selects a new 'teacher'

- *Repeat steps 1 and 2 with different 'teachers' in the group until everyone has had a turn.*
UNDERLYING RESEARCH

Research shows:

1. Currently many teachers do not teach reading comprehension.

2. There is a difference between good and poor comprehenders in terms of their strategy use.
   
   *Good comprehenders pick up*
   - *the gist of what they read,*
   - *use strategies spontaneously and*
   - *use spontaneous self-monitoring.*

3. These reading comprehension strategies can be taught.

4. Reciprocal Teaching teaches the strategies required for good reading comprehension.

5. Reciprocal Teaching is likely to be more effective under certain conditions.

RT Manual, Julia Westera, 1999
Reciprocal Teaching is an explicit, interactive teaching method developed by Palincsar and Brown to enskill students who are experiencing difficulties in reading comprehension.

1. Current Research about Reading Comprehension

Current practices in the teaching of reading do not specifically teach reading comprehension but focus on 'figuring out words', as opposed to 'figuring out meaning'. In most classrooms the students answer questions in written form, with their responses being derived directly from the text. Researchers such as Durkin have shown that less than 2% of classroom reading instruction time was allocated for comprehension - and that while teachers spent a lot of time asking students questions they did not teach them the comprehension strategies they could use to answer the questions. There is general agreement that such written responses teach neither comprehension nor self-monitoring.

2. How Good Comprehenders differ from Poor Comprehenders

Although it is widely acknowledged that meaningful and relevant text material draws children into reading, poorer readers still have great difficulty in understanding connected text. Good reading comprehenders are considered to be easily able to establish the gist of the material they have read, whereas poor comprehenders tend to parrot back the content of their reading. In fact, they have been shown to use a range of strategies as they read. Good comprehenders also spontaneously use both comprehension strategies, and self monitoring of their reading, whereas poor comprehenders do not spontaneously use these strategies and tend to lack in a strategic plan or purpose, and to approach tasks passively, failing to develop and utilise efficient learning strategies. Therefore to instill and develop a repertoire of comprehension strategies for independent use during reading it may be necessary to teach these explicitly.
3. Strategies Can Be Taught

Studies of reading comprehension suggest that competent readers spontaneously employ specific metacognitive strategies when a 'triggering event' warns them of a breakdown in their comprehension. Some students do not spontaneously and flexibly apply comprehension awareness and monitoring strategies. For these students explicit instruction and practice can improve comprehension skills.

4. What Reciprocal Teaching Does to Address This

Reciprocal Teaching teaches poor comprehenders to use metacognitive strategies to comprehend text. To develop an explicit comprehension model they identified four key strategies: clarifying, questioning, summarising and predicting. These strategies are used by efficient comprehenders. They have also been shown to foster the child's interaction with the text and check what is occurring in terms of their strategies to understand text.

Reciprocal Teaching uses explicit teaching to teach the students these four strategies. As the term Reciprocal implies, the procedure is interactive, the dialogue being central to the teaching/learning process as a means by which support is provided and adjusted.

The four strategies are specifically directed at the students' understanding of the text, and of their awareness of strategies employed in comprehending the text.

While the student is supported in the early stages of the programme, responsibility for self-monitoring is passed to the student as the skills are developed, until the strategies are internalised, and the student independent.
UNDERLYING INSTRUCTIONAL THEORY

1. Dialogue or Peer Support

2. Scaffolding and Zone of Proximal Development

3. Repeated Practice

4. Teach to Generalisation

5. Reading Awareness
1. Dialogue or Peer Support

Embedded in Reciprocal Teaching is the concept of dialogue and peer support. Initially the teacher leads the dialogue, which is structured by the four strategies. As the student(s) become(s) increasingly competent in using the strategies, they are encouraged to lead the dialogue themselves. Vygotsky (1982) says that most learning takes place in a social context, via dialogue. Each student is given the support he or she needs to succeed; the support being gradually withdrawn as increased competence is demonstrated. Independence in the use of the strategies shows that they have been successfully internalised and that the students are controlling their own learning processes.

2. Scaffolding

Reciprocal Teaching is a well researched method of using 'scaffolded' dialogue to explicitly teach these four strategies to students who can decode well but are not as competent in understanding and recalling the main ideas of what they have read.

The concept of scaffolding refers to the support provided to a novice by an expert through the use of dialogue to model and explain cognitive processes.

Scaffolding is important to the teaching-learning practice because it includes 'forms of support provided by the teacher (or another student) to help students bridge the gap between their current abilities and the intended goal of independent performance' (Rosenshine and Meister, 1992, p.26).

In using the process of scaffolding within the educational context it is important to incorporate the concept of the 'Zone of Proximal Development' or ZPD. The ZPD focuses on the distance between the actual developmental level of the student, as determined by independent problem solving, and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers (Vygotsky, 1982). Within these two levels of task performance, the 'expert' leads the social interaction through guided learning that occurs via the process of scaffolding.

3. Repeated Practice
For students to become competent and fluent with a comprehension strategy it is necessary for them to practice them repeatedly. This ensures that the strategies become internalised, and can then be called on by the student, to be used in other contexts, with little difficulty.

4. Teach to Generalisation/Promote Transfer.

Typically, students improve their skills when they participate in specific skill training sessions, but the skills are not always maintained in the classroom, or used across curriculum areas. For generalisation to occur it is important that teachers (1) setup a range of situations for students to use the strategies, (2) regularly encourage, prompt and review their use of the strategies and (3) demonstrate and explain the usefulness of the strategies. Note that reciprocal teaching does not need to be limited to reading time only. The process has also successfully increased comprehension in social studies, listening and science.

5. Reading (or Metacognitive) Awareness

Research in metacognition (reflecting on one's knowledge) has found that readers, including children, are aware of their knowledge and use strategies to attain their goals. That is, the reader can establish his or her own criteria for learning, monitor his or her own progress in terms of these criteria, and act to satisfy his or her goals as a reader. Note that skills of comprehension and 'remembering to remember' are indispensable for academic achievement.
scaffold

SCAFFOLDING - A METAPHOR

- purpose
  - assist
  - support
- characteristics
  - adjustable
  - responsive
  - temporary
  - removable
DEVELOPING A PERSONAL SYSTEM

TRANSFER OF CONTROL

STUDENT

dependent → independent
emergent → consolidated
externalised → internalised
self-regulatory

CHANGING NATURE OF SCAFFOLDING

1. PATTERNS OF INTERACTIONS

<table>
<thead>
<tr>
<th>Teacher</th>
<th>Student</th>
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<tbody>
<tr>
<td>explicit/direct</td>
<td>guided practice/ facilitate</td>
</tr>
<tr>
<td>explain</td>
<td>withdraw support</td>
</tr>
<tr>
<td>descriptive/praise/prompt</td>
<td>focus on meaning</td>
</tr>
<tr>
<td>describe</td>
<td>fluent use</td>
</tr>
<tr>
<td>model</td>
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<tr>
<td>observe</td>
<td>participating</td>
</tr>
<tr>
<td>participation</td>
<td>flexible use</td>
</tr>
</tbody>
</table>

2. MATERIALS, TASKS

easy → difficult
selective → immersion
structured → fluid

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The properties of tutorials and the development of expertise within the Zone of Proximal Development (ZPD).

THE FOUR STRATEGIES

1. CLARIFYING

By teaching students to clarify we are asking them to focus on:

- unfamiliar or new words
- new or difficult ideas
- unfamiliar passages or paragraphs
- loss of meaning

Students are then encouraged to use fix up strategies, eg

- re-read
- check with others about the meaning
- use a dictionary, or atlas
- ask for help
- ask if others need anything clarified

**Clarifying:**

- moves the focus of attention from decoding to comprehension
- helps students recognise when their understanding has broken down, for example when a concept or a word’s meaning is not understood
- makes it acceptable not to understand, to ask for help and to help each other

*WHEN A STUDENT RECOGNISES COMPREHENSION FAILURE, THEY CAN DO SOMETHING ABOUT IT.*
THE FOUR STRATEGIES

2. QUESTIONING

This gives the students an opportunity to:

- identify the kind of information that provides the basis of a good question (like one a teacher might ask)
- develop a question
- find the relevant information to answer the question they have asked
- help other students to answer the question

Questioning

- focuses reading
- can work as a means of self testing
- involves students more actively in the reading activity
THE FOUR STRATEGIES

3. SUMMARISING

This activity requires the student to:

- initially identify the most important content of the paragraph or section of the text
- later integrate important information in the whole passage with the guidance of the teacher

Summarising

Summarising assists the student to identify important content by:

- finding key words and topic sentences
- separating out detail and repetition from the main ideas
- integrating information across paragraphs

This is a useful activity for remembering, study and self-review.
THE FOUR STRATEGIES

4. PREDICTING

This activity requires the students to make suggestions about what the author might discuss in the next section of the passage, based on their reading of the text, subtitles, illustrations etc, and serves to:

- activate the students’ background knowledge
- encourage students to learn to hypothesize what the author will discuss
- set a purpose for reading - the students read to confirm or disprove their hypothesis
- encourage students to seek out information they wish to know in order to answer questions posed

Predicting

- provides a purpose for reading
- provides an opportunity to link new ideas to prior to learning
- helps students to anticipate use cues from the text - title, illustrations, subtitles, diagrams - in order to find meaning within the print

PRIOR PREPARATION
1. assess reading accuracy and reading comprehension levels of students

2. establish groups

3. find appropriate reading materials for each group

4. adapt for individual needs

5. staffing

6. set up group rules
## IMPLEMENTATION PLAN

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<th>DAY</th>
<th>STRATEGY</th>
<th>DESCRIPTION</th>
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<td><strong>Teacher explains</strong></td>
<td>strategies students will be learning why they are learning strategies when they will be helpful how they will learn strategies</td>
</tr>
<tr>
<td></td>
<td>Predicting &amp; Clarifying</td>
<td>Introduce Students practice Demonstration or Video</td>
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<tr>
<td>2 - 3</td>
<td><strong>Questioning &amp; Summarising</strong></td>
<td>Introduce Students practice Demonstration or Video</td>
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<td>4</td>
<td><strong>Reciprocal Teaching</strong></td>
<td>view demonstration, video start with easy text teacher sets group rules teacher leads dialogue teacher models use of 4 strategies students add own predictions/clarification students respond to teacher generated questions students comment on teachers’ summaries</td>
</tr>
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<td>6 - 20</td>
<td><strong>Practice</strong></td>
<td>use instructional level text transfer responsibility for initiating and sustaining dialogue to student teacher role praise attempts provide modeling provide explicit instruction frequently reminds about the use of the strategies in other situations promote generalisations to other tasks</td>
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INTRODUCING RECIPROCAL TEACHING TO STUDENTS

Introduce the Reciprocal Teaching Procedures individually over a period of three to four reading sessions with the students. During each session practice the previously learned strategy/strategies and introduce a further strategy until the students are familiar with each strategy. In each group the students will need to have their own copy of the same text.

Discuss with the students why they sometimes have difficulty in understanding what they read:

- 'can you remember a time when you tried really hard to read a story but you still couldn't understand it?'
- 'why do you think we find it difficult to understand what we read?'
- 'what do you do to remember, when you are studying a text?'

Show a video, or observe and participate with a demonstration a group, using Reciprocal Teaching

- Ask the students to comment.
- Ask the students to try using the strategies of clarification, questioning, summarising and prediction when talking about what happened in the demonstration/during the video.
- Ask students to suggest what the value of Reciprocal Teaching might be.

Explain: 'In our reading sessions I'm going to teach you to use four strategies that will help you to understand and to remember the important ideas in what we read.'

Introduce the four strategies:

- 'The strategies we are going to learn are clarifying, questioning, summarising and predicting.'
- Write these where the students can see the words.
- 'Let's look at each one in turn'

Predicting

- This is when we make a prediction about what might occur next in the text.
- Demonstrate by drawing the student's attention to what the weather forecaster does each evening on TV, to the craft of a fortune teller, what will happen next on Shortland Street, or who will win the Rugby.
• Get the student's to practice predicting from the title of a journal story eg 'animals of the sea', - 'I predict that the story will be about ....'

• Invite the students to activate in prior knowledge, such as what they would see when a class visit is made to a bottle factory.

• Introduce pieces of text that call on the students to use text statements as predictors of what would happen next in the article.

Clarifying

• Discuss how we can sometimes read, but may not understand parts of a story eg: difficult vocabulary, ideas, concepts

• It is often easier for older students to imagine that they are helping a child to understand something that may be unclear or confusing in a short passage.

• A dictionary and atlas can be a useful resource, and often helps in the important task of developing a co-operative spirit within the group.

• Set up an exercise to get the students to use the word clarify with their peers.

Questioning

• A question is a sentence that the group 'teacher' asks the others to answer, about the passage they have read.

• Begin with a discussion regarding the importance of questioning.

• Review the basic question words - what, where, when, why, who and how.

• Assist each student to generate information seeking questions.

• Practice question generating from text in a progressive fashion. for example
  Brief, clear sentence with question provided
  Brief, clear sentence with question word phased out
  Provided with a short segment of text, students learn to select main idea questions (a question like the teacher would ask).
**Summarising**

- A summary is a very short version of a story that you have read, or a film you've seen, or perhaps a game you've played.

- Get students to generate summaries about their favourite hobby, story or TV show, for each other in pairs/groups and report back each other's summaries to the class.

- To make a summary we will use these guidelines:
  
  Identify the topic sentence. That's the sentence that tells what the main point of the paragraph is. In a lot of journal stories it's usually the first sentence in the paragraph.
  
  Invent a topic if there isn't one. Leave out information that is not important, or which is repeated in the paragraph.
  
  Instead of lots of names eg. cows, sheep, pigs, we might just say farm animals.
  
  For a list of actions such as 'I got up this morning, I had my breakfast, I rode my bicycle, I saw my friends', we would just say: 'I went down to the shops'.

- Apply summary rules to short pieces of text for each rule.

**Describe Reciprocal Teaching**

'At first I'm going to show you how to use the activities when we read, but after a while everyone in the group will take a turn to be 'teacher' during the reading session.

When it is your turn to be 'teacher', you have to

- clarify i.e. share anything you find unclear or confusing
- ask the group a question like a teacher might ask from the paragraph
- summarise and
- predict what might be discussed in the next passage.

When you are 'teacher' you call on someone in the group to answer your question and you may have to say whether you agree or disagree with their answer.

When it's not your turn to be 'teacher' you need to listen carefully to the 'teacher' and comment constructively, for example, whether you thought s/he asked an important question from the paragraph and if s/he included enough information in the summary, and how accurate the prediction was.

- **Remind the students about the value of the strategies.**
- **Consolidate the strategy introduction by discussing and practicing on short pieces of text daily.**

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STANDARD RECIPROCAL TEACHING SESSION FORMAT

- All students in a group are given a copy of the same text. Generally a non-fiction article is more appropriate to introduce reciprocal teaching - journal articles are ideal.

- If the text is new to the group, the teacher calls the student's attention to the title and asks for predictions based on the title. If the passage is familiar to the students, the teacher asks the students to recall and state the topic of the passage as well as the important points already covered in the passage.

- The teacher assigns a segment of the text to be read (usually a paragraph) and either tells the students that she will be 'teacher' (more so in the earlier days of training) or assigns a 'teacher' for the first segment. At first the teacher does mostly modeling until the students are able to be assigned activities in which they can succeed. The activities are constantly reviewed and discussed during the early stages of training, and good examples are highlighted.

- The students read the assigned segment of text (start small with 1-2 paragraphs) silently.

- The 'teacher' for that segment of text proceeds first to check if anyone needs clarification, then asks a question (and asks for other questions), summarises and offers a prediction.

- The teacher provides the guidance necessary for the 'teacher' to complete the use of the strategies through a variety of techniques:
  
  **Prompting:** 'what question do you think a teacher might ask?'
  
  **Instruction:** 'remember a summary is a short version, it doesn't include a lot of detail'
  
  **Modifying the activity:** 'if you're having a hard time thinking of a question, why don't you summarise first?'
  
  **Invites the help of other students:** 'who can help us out with that one?'

- The adult teacher provides specific praise and feedback, such as:

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'You asked that question well, it was very clear what information you wanted'

'Excellent prediction, let's see if you are right'.

- After this feedback the adult teacher models any activity s/he feels required improvement, for example
  
  'A question I would have asked would be ....'
  
  'I would summarise by saying ....'
  
  'Did anyone else find this statement difficult to understand ....'.

- AT THE END AND BEGINNING of a session, the teacher reminds the students of:
  
  - the value of the strategies
  
  - when the strategies may be used, other than in this group

Also, ask the students for examples of other times when they have used the strategies, and how they have found them.
THE TEACHER'S ROLE

The teacher's role is to provide 'scaffolded' learning for each student. The scaffold is created through the use of a variety of methods; explicit instruction, modeling, prompting, encouraging, explaining and guiding.

As the students become more competent and independent in the Reciprocal Teaching process, the teacher's role shifts and becomes less of a dialogue 'teacher' and more of a facilitator.

Major components of the teacher role include:

MODELING

The teacher models the four activities for several segments of the passages.

The pupils are respondents to the extent that they are asked to comment on and answer questions generated by the teacher, and elaborate on the teacher's summary, predictions and clarifications.

GUIDED PRACTICE

Responsibility is released to the pupils and they are given opportunities to assume the role of teacher.

The teacher role is monitoring the success with which the students are employing the strategies, praising their attempts, and providing further modeling and instructions as teacher judgment requires.
INDEPENDENT PRACTICE

The teacher occasionally monitors by

* taking a regular turn as 'teacher'
* providing feedback about the quality of summaries
* providing encouragement for the 'student teacher'

ASSISTING GENERALISATION

You can assist the students generalising these strategies to other subjects and to other kinds of tasks by:

- Assisting them to be **committed** to using the strategies. To do this the students need to see and experience the value of the strategies. **Remind** the students to use the strategies, and ask them afterwards whether they have used them, and if so, which ones did they use and were they helpful.

- **Praise** the students specifically for using the strategies eg.. explain that good marks on their project may be because the strategies were used. The students need to experience that the strategies have purpose. **Catch them using the strategies.**

- **Provide opportunities** for the students to use the strategies in a range of curriculum areas.

- When opportunities are **set up** by you, **explicitly state how, when and why** to use the strategies. eg.' when you are doing your project, - writing a story about something you have read, - interview each other about what happened last night on Shortland Street, - don't copy out the book word for word, but write down the main ideas - summarise.'

---

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Reciprocal Teaching

* 'I am the teacher.'

* Clarifying

* Questioning

* Summarising

* Predicting

* 'Can you be the next 'teacher' please ......'

Would you please read to ......?

'Does anyone need anything clarified?'

'Is there anything you would like to ask?'

'I'd like to know what ...... means.'

'What is this word?'

'My question is ......'

'What Where When Which Why Who How'

'This paragraph is about ......'

'Would you please summarise for us ......'

'My summary is ......'

'I predict that ...... will happen next'

'I think that the next part will be about ......'
WHAT THE 4 ACTIVITIES DO...

1. CLARIFYING → CHECKS → Helps you check you understand it all
   If you don't then you can do something about it

2. QUESTIONS → FOCUS → Helps you think about what's important

3. SUMMARISE → THE MAIN IDEA → Helps you remember what's most important
   Sort out what's important and what isn't important - what is just bits (detail)

4. PREDICT → THE BEST GUESS → Helps you to think about what will happen next
Clues & Tricks to Help You Understand and Remember

1. Why are you learning these activities?

2. What can you do to learn even better?

Use these activities in other places, and at other times:
- When doing projects and research
- When reading at home
- When watching T.V.
- When listening...
INTRODUCTION TO RECIPROCAL TEACHING

What is Reciprocal Teaching?
* provides systematic instruction in reading comprehension
* involves interactive participation between students and teacher
* is structured as a cooperative learning procedure, with strong routines
* has been extensively evaluated in New Zealand and abroad
* was originally designed for competent decodees who are poor comprehenders

What is the Goal?
* promote comprehension of text
* promote comprehension-monitoring

What is the underlying research?
* about reading comprehension
* about good and poor comprehenders
* about teaching strategies
* about reciprocal teaching

What is the underlying instructional theory?
* dialogue and peer support
* scaffolding
* repeated practice
* teach to generalisation
* reading awareness
STAFF TRAINING

Purpose of Sessions

1. To provide research-based training
   - an introduction to recent international and NZ research on this method
   - teaching of knowledge and skills
   - assistance with and monitoring of the implementation of the method, including some in-class observations / feedback
   - assistance with student assessments / data analysis of reading comprehension, decoding, and attitudes to reading
   - assistance with school-based programme evaluation

2. To match your needs
SESSION ONE

Introduction

- purpose
- matching your needs – results of survey

What is reciprocal teaching?

- Underlying research
- Underlying instructional theory

The method

- Examples
- Roleplay
- Discussion

Implementation planning
SESSION TWO

Outline

Underlying instructional theory
  Prompt sheets
  4 strategies

Implementation – questions, teacher aides

Practice
  Demonstration
  Roleplay
  Discussion

Next week
Roleplay

1. Divide into groups of 4.

2. Assign every person a role eg. a good comprehender, a poor comprehender, a poor decoder, a NESB student.

3. Using the red card, roleplay the method until everyone has had a turn at being ‘teacher’

4. Select one person to note down any questions you may have about the method
**RECIPROCAL TEACHING OBSERVATION** of Session No. ...........

Name: ........................................... Observer: ...........................................

Date: ................... Time from ..........to .......... Class: .......... Year: ............

Reading level/s of group .................................................................

Is observation representative? .....................................................

<table>
<thead>
<tr>
<th>Strategies used by teacher / aide</th>
<th>Comments, examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 strategies</td>
<td>+, → , NA.</td>
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<tr>
<td>• all use all 4 strategies</td>
<td></td>
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<tr>
<td>• key words used</td>
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<tr>
<td>• prompt cards within view</td>
<td></td>
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<thead>
<tr>
<th>Scaffolding evident with 4 strategies</th>
<th></th>
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<tbody>
<tr>
<td>• specific praise / feedback</td>
<td></td>
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<tr>
<td>• explaining strategies</td>
<td></td>
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<tr>
<td>• extension of use of strategies</td>
<td></td>
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<tr>
<td>• decreasing role of adult</td>
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<table>
<thead>
<tr>
<th>Reading resources</th>
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<tbody>
<tr>
<td>• appropriate reading level</td>
<td></td>
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<td>• interest level</td>
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<thead>
<tr>
<th>Transfer encouraged</th>
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<tr>
<td>• reviewing of strategies</td>
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<tr>
<td>• Reminders of use in other situations</td>
<td></td>
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<tr>
<td>• Use of prompt cards</td>
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<thead>
<tr>
<th>Group facilitation</th>
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<tbody>
<tr>
<td>• Reminds, reinforces group rules</td>
<td></td>
</tr>
<tr>
<td>• Encourages turntaking and participation of all by praise, reminders, etc</td>
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<tr>
<td>• Encourages 'pause time': (5 secs thinking time)</td>
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<tr>
<td>• Keeps a steady pace</td>
<td></td>
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<tr>
<td>• Manages students who disrupt</td>
<td></td>
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<tr>
<td>• Backup strategies for disruption</td>
<td></td>
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<tr>
<td>• Seating, voice and noise level</td>
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</tbody>
</table>

**NEXT OBSERVATION:** in 2 days / within week / later  Date: .......................

focus for next observation: ..............................................................................
RECIPROCAL TEACHING
PROGRESS RECORDS  group..... name............................

Level 1:  student requires prompting / modeling of strategy
Level 2:  student uses strategy correctly at times
Level 3:  student uses strategy correctly, consistently and independently

(Insert date when observed)

<table>
<thead>
<tr>
<th>student</th>
<th>level</th>
<th>Clarif’g</th>
<th>level</th>
<th>Quest’g</th>
<th>level</th>
<th>Sum’g</th>
<th>level</th>
<th>Pred’g</th>
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GROUP RULES – reinforce the class rules and adapt with the group.

GROUP RULES – examples only
- Everyone has a turn
- Focus on reading / wait quietly until everyone’s finished reading
- Listen to ‘teacher’
- One person at a time
- Encourage each other, aroha
- OK to make a mistake

Note which group rules are working: .................................................................

Which you need to encourage: .................................................................

RT Manual, Julia Westera, 1999
starting off
- remind about the group rules
- start small one paragraph at a time first
  accept any attempts at first

during Reciprocal Teaching
- praise specific eg. you are excellent at taking turns
- pause wait for at least 5 secs
- prompt encourage tight summaries
  and thinking questions

- progress ... keep moving ...
- stick to group rules

closing
review if the students are using the strategies in other
places ... get examples? (use cue cards)

GROUP RULES
- ...
- ...
- ...
- ...

Remember, see your teacher about any questions or problems early. The teacher
- will tell you the class rules so you can use the same with your group
- will give you the reading materials a day before for you to check / read first
- help you with any questions or problems
- will observe how the group is going

RT Manual, Julia Westera, 1999
BIBLIOGRAPHY


