Characteristics of Teacher Expertise Associated With Raising the Reading Comprehension Achievement of Low Achieving Year 5–9 Students

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ABSTRACT

This study explores characteristics of teacher expertise associated with raising the reading comprehension achievement of year low achieving year 5–9 students. It reports on the first year of a three year research and development collaboration between researchers and teachers in six different schools situated within a New Zealand Ministry of Education schooling improvement initiative. The project's objective has been the deliberate identification of teacher and student needs, the analysis and collaborative use of this information by the researcher and participant teachers to identify characteristics of comprehension teaching that raise student achievement in reading comprehension and identify characteristics of teacher expertise in reading comprehension instruction. In particular, this research is concerned with developing, using and evaluating pedagogical approaches to comprehension strategy instruction in a way that is clearly linked for teachers to the reading comprehension achievement data of the students they teach.

The study developed over three phases using action research methodology. At each phase the researcher systematically observed, analysed and enhanced teachers' expertise and instructional practices associated with improvements in underachieving students' comprehension. Three sources of data were gathered at each of the three phases to inform the action research. These were data from participating teachers through taped, transcribed and coded interviews, researcher in-class observation (videoed and coded); and student reading comprehension achievement assessment data, gathered through the Supplementary Test of Reading Comprehension – STAR; (Elley, 2001a, 2001b).

Data gathered from the first phase indicated a high proportion of students were underachieving in areas of sentence comprehension, paragraph comprehension and vocabulary. By contrast, teachers believed they were doing a "good" job in teaching reading comprehension. Analysis of this mismatch indicated that the following characteristics of teaching and learning in comprehension were not evident: the in-depth analysis and use of student data to inform reading comprehension programs and the successive selection of appropriate teaching approaches, resources and activities; teacher and student analysis and use of formative assessment practices to raise achievement; the importance of taking a strategic approach to comprehension teaching that provided teachers with ways to support and develop both strategic and student centred processing of text, and the critical role of explicit comprehension strategy instruction. This analysis

informed the ensuing collaborative approach to professional development in which researchers and teachers jointly developed an ongoing process of analysing and responding to student achievement data to inform instructional strategies, theoretical ideas and practices.

The study focused on four main areas of teacher expertise identified through research as critical to raising the reading comprehension achievement of low achieving students. These were teacher knowledge of literacy learning in reading comprehension; teacher knowledge of effective reading comprehension approaches with a specific focus on developing teaching practice specific to low achieving comprehenders; teacher knowledge of analysis and use of student reading comprehension achievement data, and teacher collaboration and problem solving associated with issues of low reading comprehension achievement amongst students in participant teachers' classrooms.

The study concluded that each of these four components were essential characteristics of teacher expertise associated with raising the reading comprehension achievement of low achieving students in years 5-9. As teacher knowledge of literacy learning developed so too did teacher expertise in instructional practice and their ability to analyse areas of student underachievement. The study further found that when ongoing professional learning is evidenced based changes can occur in levels of teacher expertise that result in improved levels of student achievement.

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Table of Contents

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1: INTRODUCTION

RATIONALE

The role of the classroom teacher in making a difference to student achievement is a central consideration in the research literature. International and local New Zealand researchers (Alton-Lee, 2003; Bishop, Berryman, Tiakiwai, & Richardson, 2003; Darling-Hammond, 1997; Fullan 1999; 2001; Hattie, 2002; Stoll, Fink, & Ward, 2003; Timperley, 2002; Timperley & Robinson, 2001) have argued that what the teacher believes and what the teacher does that makes a major contribution to student achievement. Not enough is known in New Zealand about the characteristics of effective teaching of reading comprehension that make a difference to student achievement. Therefore, the major investigative purpose of this research is to explore the characteristics of teacher expertise associated with raising the reading comprehension achievement of low achieving year 5–9 students.

The context for this research includes a move to raise student achievement in reading comprehension. Using student achievement as the touchstone in this thesis was critically important for a number of reasons. Recent research signals that when we probe student achievement data; when teachers engage in active learning and problem solving of issues connected directly to student achievement and achievement data, we have potential to significantly raise student achievement (Gusky, 2000; Timperley, Robinson, & Bullard, 1999; 2003; Timperley, 2002). Similarly, we know that using data, questioning data and reflecting on data also provides teachers with opportunities to reflect critically on the match between student need and the teaching and learning approaches they understand and employ. Instructional practice must be responsive to student learning needs. Central to the development of this research is the belief that assessment is not only about improving learning, it is about achieving this through improving teaching.

In addition, and of crucial significance to this project, is the fact that the teachers involved in this study came from an area in New Zealand where there was a long history of underachievement of students in reading and, a significant number of Māori students underachieving in reading (Education Review Office, ERO, 2002). Because of this long history, and reports of ineffective practice within some of these schools, the need to change the pattern of student underachievement through enhancing practice was critical.

In 2002 a schooling improvement partnership between the schools in this area and the Ministry of Education was formed (Ministry of Education, MOE, 2001). An exploratory review of achievement in literacy identified reading achievement as an area of priority for improvement (Arnerich, Davis, Hagan, & Te Moni, 2002). The six lead teachers in this project come from a cluster of 13 schools involved in a schooling improvement initiative to raise student achievement in reading comprehension.

Much research (Allington, 2001; Braugner & Lewis, 1998; Clay, 1991; Duffy 2002; Garner, 1987; National Reading Panel, 2000; Pressley, 2001, 2002a, 2002b) is available to help teachers identify what it actually is that good reading comprehenders do. It, therefore, stands to reason, that if teachers know and understand what their students are unable to achieve, and know and understand what good comprehenders do, it should be possible to couple this knowledge and expertise with effective teaching and make a difference to student achievement. Teacher knowledge is fundamental to quality teaching in reading comprehension. Effective teaching requires teachers to have deep understanding of literacy acquisition; a strong pedagogical understanding of reading comprehension teaching approaches; the ability and desire to use achievement data to question, probe and problem solve issues focused on student learning, and the commitment to inquire into, and challenge, their own teaching practice (MOE, 2003a). This research explored the relationship among these factors.

In addition, research on reading comprehension instruction provides powerful evidence that most low achieving readers (and those who are not low achieving) will benefit enormously when lessons are constructed in a manner that makes the comprehension processes visible. Those approaches that enable students to learn about learning and to think about thinking are metacognitively rich, that is, they assist students to take control over their own learning. Research has demonstrated (e.g., Allington & Cunningham, 2002; El-Dinary, Hogan & Pressley, 1997; O'Donnell & King, 1999; Pressley, 2002a, 2002b; Pressley & Schuder, 1992) that sustained higher learning occurs when teacher pedagogical approaches encourage and assist students to take control over their own learning. Through teaching students strategies that enable a metacognitive approach to curriculum engagement, teachers are able to influence learning outcomes and make learning transparent to students. Alton-Lee (2002, p. 55) explains this stating: "metacognitive strategy instruction is a fast way into the culture of school learning, and higher achievement".

Further research on providing students with opportunities to understand and control their own learning has focused on formative assessment practices. Researchers including Black and Wiliam (1998), the Assessment Reform Group (1999), and Clarke (2000) have demonstrated that when the principles of formative assessment are embedded within teaching, when student data is shared with students and students receive high quality feedback about their own learning, it is possible to raise achievement levels. Black and Wiliam (1998, p. 19) argued "there is a body of firm evidence that formative assessment is an essential feature of classroom work and that development of it can raise standards. We know of no other way of raising standards for which such a strong prima facie case can be made on the basis of evidence of such large learning gains".

The research undertaken in this project has build upon a highly metacognitive approach to teaching reading comprehension. This approach, termed the "transactional strategies approach", has been developed by Pressley and colleagues as a way of teaching students to focus on strategies that promote their comprehension and memory of what they have read. To do so, students must possess metacognitive knowledge to enable independent understanding of when, where and how to use the strategies that they know (Pressley, 2001, 2002a, 2002b; Pressley & Brainerd, 1985; Pressley & Woloshyn, 1995; Schneider & Pressley, 1989). Transactional strategy instruction involves the teacher and student in in-depth instruction of reading comprehension strategies through teacher direct explanation and modelling of the strategy being taught, provision of guided and independent student practice, students modelling and explaining strategy use for other students and on-going and regular feedback on strategy use provided to the student by the teacher (Pressley, 2001, 2002a).

The transactional strategies approach provided a framework for the way teachers planned and conducted their reading comprehension lessons whilst, at the same time, adapting and modifying instruction to meet the needs of their students. It also assisted the planning of appropriate activities that would build on instructional lessons and provide opportunities for active and sustained student practice. Furthermore, because this framework provided principles for teaching that were able to be applied to a number of reading comprehension teaching approaches, including guided reading (MOE, 2002d; 2003), reciprocal reading (Palinscar & Brown, 1984), and the KWL approach (Ogle, 1986) it did not bring about a recipe 'one-size-fits-all' approach to teaching reading comprehension. The needs of the student remained central to instruction.

Combining knowledge of student need and knowledge of effective teaching principles and approaches required professional development opportunities that would enrich teacher professional learning. Because this project was particularly focused on teacher professional learning of characteristics of effective reading comprehension instruction and the shifts teachers could make to their practice when their learning was focused on the achievement of their own students, an action research methodology was applied (Carr & Kemmis, 1986; Elliot, 1991; Winter, 1996; Zuber-Skerritt, 1996).

Action research has been identified as one of the principles for successful schooling improvement (Hopkins, 2001, 2002a, 2002b). Hopkins states "The school will seek to use data, action research and enquiry to drive forward and inform with school improvement efforts" (Hopkins, 2002a, p. 178).

Action research methodology enabled participant teachers to be actively involved in their own learning, to engage regularly in self reflective inquiry and problem solving relevant to their own needs and the needs of their students and to use their learning to improve their own practice. Wadsworth (1998) explains: "action research sets out to explicitly study something in order to improve it. It most often arises from an unsatisfactory situation that those most affected wish to alter for the better although it can also arise from the experience of something which works well, which provokes the desire to reproduce or expand it" (p. 5). In this case the "unsatisfactory situation" was the low reading comprehension achievement levels of students attending the schools involved in this study.

The action research developed through three cyclic stages over the duration of one school year. Three forms of data were used to inform the action research. These were data on student reading comprehension achievement (using the Supplementary Test of Reading Comprehension – STAR; Elley, 2001a, 2001b), data from teacher observations (videoed and coded) and data from teacher interviews (taped, transcribed and coded). Responding to the needs of both students and teachers, with view to raising student achievement, was the focus of each cycle of action research.

Additionally, research on effective professional learning indicates that when we provide opportunities for teachers to talk about their practice, to observe others and be observed, to develop relationships that are open to critique and challenge, and to be engaged in collaborative problem solving, we are enabling teachers to engage in learning that leads to understanding (Brody & Davidson, 1998; Fullan, 1999; Fullan & Hargreaves, 1996;

Harris, 2002; Louis & Kruse, 1995; Stoll, Fink, & Earl, 2003). The professional development model that emerged through the action research process drew on these approaches.

Stoll et al. (2003, p. 33) state "learning is hard work". In the context of this model (as discussed above) teachers were learning about themselves, the effectiveness of their way of working, the needs of their students and about identified characteristics of effective reading comprehension instruction. The learning they were engaged in was focussed on bringing about change in student achievement. This research, and research that has emerged from other recent studies (Fullan, 1999; Gusky, 2003; Louis & Kruse, 1995; Taylor, Pearson, Peterson, & Rodriguez, 2005; Timperley, 2002) provide clear evidence that when teachers are assisted to challenge and alter the way they view their student assessment data, its significance for learning about teaching and learning, and for learning about student achievement, we can make a difference to student outcomes.

Overview of Chapters

This thesis begins by providing an overview of the New Zealand context within which the research was positioned. Chapter two discusses the New Zealand national literacy and national assessment strategies, the international achievement results that provide current trends in New Zealand achievement rates in reading comprehension and summarises recent research from within New Zealand that focuses on raising reading achievement. This chapter concludes by placing the key research question for this study within the current New Zealand literacy context.

Chapter three provides a literature review on reading comprehension and comprehension instruction. The chapter begins by defining reading comprehension and identifies the specific behaviours that research suggests good comprehenders demonstrate on a regular basis and, by implication, those behaviours effective teachers would teach. Discussion and research on comprehension strategy instruction are provided and a description is presented of two promising and potentially effective research and evidenced based approaches to comprehension strategy instruction that grew out of studies in metacognition (e.g., Brown, 1980, cited in Forrest-Pressley, 1984; Brown, Armbruster, & Baker, 1984; Forrest-Pressley & Waller, 1984; Garner, 1987).These are direct explanation of strategies and transactional strategy instruction. A rationale for integrating formative assessment principles in to comprehension strategy instruction is provided. The

chapter concludes by summarising the model of comprehension strategy instruction developed within the context of this study.

Chapter four provides a literature review of models of professional development. It describes the professional development events that, in combination, formed the professional development component of this research project. It describes the importance of collegiality and collaboration in professional development that is aimed at enhancing teacher learning and the integral role of each event in the overall development of teacher expertise in reading comprehension.

Chapter five presents the methodology employed throughout this study. The chapter describes the setting for the research project. It describes the role of schooling improvement initiatives in establishing support for schools and communities in areas where there is a history of underachievement and outlines the initiative in which this research was situated. The process of sample selection and data collection for the research project are outlined. The chapter then **describes the action research paradigm used in this thesis. Reasons for selecting action research methodology for this project are explained and characteristics of action research are described.**

Chapters six, seven and eight present the action research cycle of data collection, data response and data review. Chapter six recounts the first cycle of action research and the teacher professional development undertaken in relation to each of the key themes emerging from Time 1 data. The following chapter, chapter seven, presents the data collected from the six lead teachers mid way through the project. This data, collected through teacher interviews and videoed observations of teacher practice, provided implications for teacher professional learning that became the basis for the second cycle of action research. This second cycle of action research and teacher professional development is described in this chapter. Chapter eight concludes the action research phase of this thesis by presenting and summarising the data collated from the six lead teachers at the third and final point of time after nine months.

Chapter nine provides data on student achievement gains over the duration of this project using standardised data collected from administering the Supplementary Test of Achievement in Reading (Elley, 2001a, 2001b) at three time periods. It analyses shifts in student achievement through examining stanine gains for the students in the lead teachers' classes as a whole group, in comparison to other students in the schooling improvement project who were not taught by participating lead teachers. These shifts are

also examined by ethnicity and by gender. The chapter concludes by presenting a summary of the student achievement gains when the work undertaken in 2003 was extended and replicated into the classrooms of all teachers teaching years 3–9 in the 13 schools within the larger region. The data is included because of its relevance to the study of instructional practices as evidenced by improved student outcomes.

The general discussion is presented in chapter ten. The chapter discusses findings relevant to identifying characteristics of teacher expertise associated with raising the reading comprehension achievement of underachieving students in years 5–9. This includes discussion of teacher practice in which the transactional strategies approach was used to provide a framework for explicit teaching of strategies through guided reading, including strategies to enhance student development of comprehension, decoding and vocabulary. Discussion also focuses on the importance of teacher knowledge of assessment and, in particular, their ability to analyse and use the assessment information they gain to improve student achievement. It also discusses the impact of teacher professional development that is based on both teacher and student achievement data. Limitations of the research and suggestions for future research are also explored.

CHAPTER 2: NEW ZEALAND CONTEXT

This chapter describes the New Zealand literacy context for the research project. The chapter begins by discussing the relevance of this work to the National Literacy and National Assessment strategies (MOE, 1999a, 1999b, 1999c, 2002b). Research is presented that summarises current trends in New Zealand achievement rates in reading comprehension. Recent research from within New Zealand that focuses on raising reading achievement in summarised. The chapter concludes by placing the key research question for this study in the context of the current New Zealand literacy context.

THE CURRENT NEW ZEALAND CONTEXT

The research undertaken for this thesis builds upon the New Zealand government's commitment to effective practice in the teaching, learning and assessment of reading comprehension programmes as initially identified by the Literacy Taskforce (MOE, 1999c) and the Literacy Experts Group Report (MOE, 1999b) and, subsequently, through the alignment of the National Literacy Strategy and the National Assessment Strategy. There has been widespread concern within New Zealand that many students are not achieving in reading comprehension and that schools require more assistance in developing teaching and learning strategies, together with assessment practices and teaching strategies that enable them to better meet the needs of their students. To this end the National Literacy Strategy and the National Assessment Strategy both focus on enhancing practices that lead to raised achievement in reading by helping schools to gather, analyse and use -quality assessment information and deliver high quality teaching in all classrooms.

LINKS TO NATIONAL INITIATIVES

In 1998 the New Zealand government announced a multi-million dollar Literacy Strategy that led to the creation of a Literacy Taskforce (MOE, 1999c) and a Literacy Experts Group report (MOE, 1999b), who were charged with providing advice on how the government's literacy goal should be defined, how progress towards the goal should be measured and ways in which literacy learning could best be supported. The recommendations that followed saw a number of national initiatives (MOE, 2000) targeting professional learning and support aimed at improving teacher capability and

raising student achievement in literacy. In addition, changes to the New Zealand national educational guidelines required schools to give priority to student achievement in literacy (MOE, 1999c) with the subsequent establishment of National Educational Priorities requiring all schools to 'establish an on-going process of continuous improvement with student achievement as its focus' (MOE, 2002a). In the context of reading comprehension, this required schools to make better use of student achievement information, to analyse reading comprehension achievement data, recognise trends and patterns of achievement and underachievement across classes and school wide and use this as a basis of determining teacher requirements for professional development and development of teaching and learning strategies required to improve student achievement. Of national priority was improving outcomes for students at risk and improving outcomes for Māori students.

With policy decisions on assessment in primary schools aimed at raising achievement for all students and reducing disparities (MOE, 1999c, 2002a, 2002b), national assessment initiatives developed to include opportunities for teachers to engage in professional learning around the selection of appropriate assessment tools in reading and the subsequent gathering, analysis and use of the information gathered specifically for the purposes of raising student achievement. In addition, international (Assessment Reform Group, 1999; Black & Wiliam, 1998; Gipps, 1994) and New Zealand based research (Clarke, Timperley, & Hattie, 2003; Hattie, 1999) brought the practice of formative assessment to the fore in efforts to raise student achievement.

Both the National Literacy Strategy and the National Assessment Strategy are of particular relevance to this study because for each, reading comprehension is one of the focus areas. The influence of each strategy has heightened the relevance of a study that focuses on identifying characteristics of teacher expertise associated with raising reading comprehension abilities of students. The following section of this chapter now examines the results of recent research into the reading achievement of New Zealand students and the relevance of this information for this research thesis.

Reading Comprehension Achievement in New Zealand Students

Research conducted over the last few years has shown that while most New Zealand children do well at reading, there are some that do not. In particular there is a wide gap between high and low levels of achievement and significant differences in literacy

performance between groups of children, especially the performance of Māori and Pacific Island students (Flockton & Crooks, 2001; MOE, 1999c, 2003a).

Progress in International Reading Literacy Study

Progress in International Reading Literacy Study (PIRLS) is an international reading literacy study, first undertaken in 2001, that assesses the reading achievement of Year 5 students from 35 participant countries. The results enable the performance of New Zealand students to be benchmarked alongside students from other countries.

For PIRLS, reading literacy is defined as: "The ability to understand and use those written language forms required by society and/or valued by the individual. Young readers can construct meaning from texts. They read to learn, to participate in communities of readers, and for enjoyment" (Campbell, Kelly, Mullis, Martin, & Sainsbury, 2001, p. 3).

The assessments focus on three aspects of reading literacy. The first aspect is the purpose for reading. Two purposes are assessed. These are literary purpose and informational purpose. Different text types are required for each purpose and achievement can be assessed separately for each purpose.

The second aspect assessed is the process of comprehension. Four processes of comprehension are assessed, each requiring different levels of cognitive skills through which students could demonstrate a range of abilities and skills in constructing meaning from written texts. Students are assessed on their ability to focus on and retrieve explicitly stated information, make straightforward inferences, interpret and integrate ideas and information and examine and evaluate content, language and textual elements.

The third aspect examines student reading behaviours and attitudes through questionnaires completed by the students tested, their parents/caregivers, their reading teachers, and their school principals. The questionnaires gather information about the home and school factors associated with the development of reading literacy, as well as about the larger contexts in which children live and learn.

Of the 35 countries who participated in this international reading literacy study twelve of the countries achieved higher mean scores than New Zealand and twenty two achieved lower mean scores. The mean score for New Zealand students (529) was higher than the international mean (500) and New Zealand had the fifth highest percentage of students achieving in the top ten percent benchmark. However, the difference between the lowest

and highest achieving New Zealand students was large in comparison with other high performing countries. Pakeha/European and Asian students achieved, on average, significantly higher scores than their Māori (indigenous people of New Zealand) and Pasifika (people from the Pacific Islands) counterparts. Māori boys had the largest range of scores followed by Māori girls, while Pasifika girls, Pakeha/European girls and Pasifika boys had the smallest ranges of scores. Approximately three-quarters of Pakeha/European students achieved above the international mean of 500, and half of Māori and Pasifika girls, less than half of male Māori and Pasifika students reached this level. In addition, the difference between girls' and boys' mean scores in New Zealand was the fourth largest internationally, favouring achievement of girls. Results also indicated that the Year 5 students in schools situated in communities with relatively high levels of economic disadvantage had lower reading scores, on average, than students in schools situated in communities with relatively low levels of disadvantage.

New Zealand students, as a whole, did relatively better in reading for literary purposes than in reading for informational purposes. Only nine of the 34 other countries in PIRLS-01 significantly outperformed New Zealand students in reading for literary purposes whereas students from 12 countries significantly outperformed New Zealand students in reading for informational purposes. As was found in the overall test, for both domains the distribution of scores for New Zealand students was wider than most of the countries with high mean achievement.

Information derived from student questionnaires was used to determine both student attitude and student self-concept towards reading. Results indicated that year 5 New Zealand students were more positive towards reading than students from other countries, but were less positive about their own reading achievement. Furthermore, a statistically significantly higher proportion of New Zealand girls than boys rated themselves with a high reading self-concept. Also statistically significant in New Zealand, 8% of boys reported a low reading self-concept compared to 5% of girls. A higher proportion of Pakeha/European students (56%) were at the high level of the Students Attitude Towards Reading (SATR) Index compared with students from the other three ethnic groupings (Māori, 44%; Pasifika, 46%; and Asian, 44%). Consistently across ethnic groupings, students with positive attitudes toward reading achieved higher than their counterparts with negative or mixed attitudes toward reading.

In addition, New Zealand and eight of the other countries participating in the PIRLS study also took part in the 10-Year Trends Study, The 10-Year Trends Study enabled

results for performance in reading literacy in 2001 to be compared with results from the 1990-1991 International Association for the Evaluation of Educational Achievement (IEA) Reading Literacy Study (Wagemaker, 1993). This study showed that overall growth in students' performance in reading literacy had not improved markedly when comparing performance from 1990 and 2001, with the exception of reading document texts. Six of the nine countries achieved better overall growth over this period than New Zealand. The difference between girls' and boys' mean scores was of the same order in 2001 as it was in 1990, showing boys achieving lower than girls. A significant difference between 1990 and 2001 was the proportion of students who reported that they spoke a language other than English in their homes.

The New Zealand national monitoring project also confirmed the international studies (Flockton & Crooks, 1997; 2001) emphasising the continuing levels of disparity in reading achievement between girls and boys, Māori and Non-Māori, Pasifika students and non-Pasifika students, and high and low decile schools.

These studies drew attention to the urgent need for New Zealand teachers to focus their learning and practice on researched evidence of effective literacy practice for culturally and academically diverse groups of students.

Recent New Zealand Research Focusing On Raising Student Achievement in Reading

Recent research generated within New Zealand has highlighted the central role the teacher plays in raising student achievement. Current research emphasises that the quality of teaching practices by teachers is the largest influence on the achievement of students – greater than the school level influences, the student and the home background of students (MOE, 2003b). Further, research is illustrating that, while educational outcomes of students can be related to characteristics such as ethnicity, parental education and socio-economic status, these background characteristics do not and should not pre-determine educational achievement amongst groups of students. In particular, research on the role of the teacher has shown us that teacher expectations are directly linked to student achievement (Bishop et al., 2003; Bishop & Glynn, 2000; Philips, McNaughton & McDonald, 2000; Timperley, Robinson, & Bullard, 1999), informed teacher analysis of student achievement data leads to improved student outcomes (Timperley, 2002; Timperley & Phillips, 2003), teachers who deliberately and actively involve their students in the process of learning provide a basis for student improvement (Bishop et al. 2003;

Hattie, 2002; Mitchell, Cameron, & Wylie, 2002) and that effective teaching requires a strong professional knowledge base and expertise that enables teachers to be responsive to the diverse needs of students (Bishop et al., 2003; Phillips & Smith, 1999; Timperley, 2002; McNaughton, 2002).

The following section summarises the main findings for each of these teacher behaviours.

TEACHER EXPECTATIONS ARE DIRECTLY LINKED TO STUDENT ACHIEVEMENT

In describing characteristics of effective teaching, Phillips, McNaughton and McDonald (2000) identify teacher expectations as influential. In their work the authors cite examples where teacher expectations were lower than student achievement, and discuss parallels between low expectations of student progress, low socio-economic schools and minority students. Similarly, Timperley, Robinson and Bullard (1999) provide examples of low teacher expectation of students within their first years of schooling. The authors stated, "In a school culture of low expectations, parents and staff may treat gaps between what is achieved and what is desired as inevitable, and rather than motivate improved performance, they may motivate efforts to change the standards" (Timperley et al., 1999, p. 77).

The strong links between teacher expectations and student achievement are also discussed by Bishop and Glynn (2000) and Bishop et al., (2003) who argue for teachers to reject deficit theorising, stating that many teachers believe that Māori learners are simply less capable of educational achievement (Bishop et al., 2003, p. 28). The authors argue for teachers to challenge their deficit theorising and its impact on Māori students' educational achievement, fostering instead high quality in-class face to face relationships and classroom interactions. Furthermore, in a 2002 study into teaching characteristics that made a difference for Māori students, the New Zealand Education Review Office identified high teacher expectations for students to be one of the characteristics displayed by schools that had been identified as making a difference for Māori students (ERO, 2002). In addition to the influence of high expectations on student achievement, teacher knowledge of teaching content and pedagogy, when informed by analysed student achievement data, is shown to impact strongly on student achievement.

Informed Teacher Analysis of Student Achievement Data Leads to Improved Student Outcomes

Timperley and Phillips (2003) stated "If achievement is used as the touchstone for judging the effectiveness of programmes, rather than particular teaching styles or methods, then teachers are more likely to become data-based inquirers into the impact of their practice on their students" (p. 14). Their research, conducted in nine low socio-economic areas in New Zealand indicates that when student achievement data is used as the focus of pedagogical discussion and when critique of teacher beliefs and practice and teacher exploration in to the effectiveness of their own teaching takes place, significant improvements in student achievement are possible. In addition, research by Timperley (2002), again in low decile New Zealand schools, found that sustainability of professional learning in literacy was highest in schools where teachers focused on student achievement information, analysed this and used the information to adjust their teaching practice. This supports the work of Phillips, McNaughton and McDonald (2000) who were able to identify links between significant improvements in achievement and changes in teacher behaviour when teachers analysed assessment data, reflected on this analysis and their own biases towards student achievement. McNaughton (2002) has further argued that analysis be extended to include diversity awareness, the awareness of conventional and non-conventional literacy skills children have, as well as home background and topics of interest to the children, so that teachers can enhance literacy instruction most effectively and meet the diverse needs of their students.

Hattie (2002), in drawing on a meta-analysis of characteristics of expert teachers, argues that an important characteristic of an expert teacher is the ability to focus on analysing and solving problems related to individual student achievement, spending the time to understand the problem and using this knowledge to influence positively student outcomes. Furthermore, when teachers share achievement information with their students, students are better positioned to be actively involved in their own learning.

Teachers Who Deliberately and Actively Involve Their Students In The Process Of Learning Provide a Basis for Student Improvement

Research (e.g., Bishop et al., 2003; Crooks, 1993; Hattie, 1999, 2002) indicates also that when students are actively involved in their own learning not only is there increased

engagement of the learner, but improved student outcomes. The work of Bishop et al. (2003) has specifically identified the importance of student involvement. The authors describe a discursive classroom in which instruction to transmit knowledge is limited and instructions of processes of learning are more common, behavioural feedback and feed-forward is limited in favour of academic feedback and feed-forward and teachers and students co-construct what constitutes the content and the process of learning itself and learning interactions take place commonly in pairs or carefully constructed groups. (Bishop et al., 2003, pp. 200-201). These attributes of teaching provide for deliberate involvement of students in the process of learning.

Hattie (2002) has a content meta-analysis of the attributes of effective teachers. These attributes include such behaviours as teachers engaging students in learning and developing self-regulation of learning and providing a classroom climate for learning that includes increased opportunity for feedback, acceptance of error and high student engagement.

The practice of using formative assessment techniques to raising student achievement has also been a focus of the national assessment strategy (MOE, 2002a, 2002b). Research by Clarke, Timperley and Hattie (2003), Crooks (1988), Hill (1995, 1997), cite the use of assessment techniques that occur throughout the process of teaching and learning, such as the sharing of learning intentions and success criteria for lessons, providing high quality and focused feedback (oral and written), involving students in the process of self - assessment and reflection of their own learning needs and next step learning goals as integral to raising student achievement.

The practice of teachers deliberately involving students in the process of learning has been further reviewed in a recent research synthesis (Alton-Lee, 2003), in which the author states:

> There are now multiple research literatures in different curriculum areas that have identified the sustained higher achievement that occurs when teachers use pedagogical approaches that effectively support students in taking charge of their own learning. Such approaches not only foster students' 'learning to learn' and 'thinking about thinking' (metacognitive) skills but also support students in self-monitoring (Alton-Lee, 2003, p.79).

Effective Teaching Requires A Strong Professional Knowledge Base And Expertise That Enables Teachers To Be Responsive To The Diverse Needs Of Students

In addition to deliberately involving students in their own learning, numerous studies conducted in New Zealand, including that of Bishop et al., (2003), Phillips and Smith (1999), Timperley, Robinson, and Bullard (1999), and Timperley (2003), argue strongly that teachers can make a difference, and it is possible to raise student achievement when teachers respond to the diverse needs of students. In addition, a recent research synthesis has shown that high gains are possible for all students when teaching is effective for all learners (MOE, 2003). The synthesis warned against stereotyping students with respect to learning styles and presuming that students, because of their backgrounds, learn only one way. Instead, it supports a base of strong pedagogical knowledge within learning communities where pedagogical practices actively value and address diversity; where class sessions build community and cohesion; where instructional organisation and task design support this practice and where academic norms are strong (Alton-Lee, 2003, pp. 22-31).

Additionally, the work of Phillips, McNaughton, and McDonald (2001) in low decile South Auckland schools, claimed that where the teacher was aware of the diversity of skills and experiences that students bring to school and aware of the knowledge and expertise of students relevant to the tasks to be learned, this provided a basis for building on strengths and accelerating student progress. Furthermore, when there were high teacher expectations accompanied by quality teaching practices, this research suggested that the pace of learning was accelerated, as were levels of student achievement.

THIS PHD THESIS

For each of these generic descriptors of effective teaching, there is little explicit demonstration within New Zealand of teaching that uses classroom data, gathered from teachers and students, coupled by what is known about effective reading comprehension instruction and methods of teacher professional learning, aimed specifically at raising the reading comprehension achievement of low achieving students in years 5–9. Given the wide gap between high and low achievement for certain groups of students in New Zealand, this study was conducted specifically to explore the relationship between these factors and raising student achievement in reading comprehension.

We know, through recent New Zealand and international studies (e.g., Collins-Block & Pressley, 2002; Dowhower, 1999; Freeman & Freeman, 2000; MOE, 1999c; Smith & Elley, 1997) that comprehension instruction is crucial for success in reading for students of various ages. However, these studies do not document how effective teachers work with low achieving year 5–9 students and what characteristics of instruction are associated with raising comprehension abilities. This PhD thesis has set about systematically to observe, analyse and enhance teachers' expertise and instructional practices associated with improvements in student comprehension. In order to achieve this, it was important to develop a theory about reading comprehension and reading comprehension instruction and, effective professional development. Chapter 3 provides a literature review on these areas.

Consequently, the overall question that this research thesis aimed to address was *'What are the characteristics of teacher expertise associated with raising the reading comprehension achievement of low achieving year 5–9 students?'*

The subsidiary questions for this research thesis were 'What are the characteristics, identified by literature, of effective teaching associated with reading comprehension in year 5–9 classrooms, and can these characteristics be introduced into classroom teaching programmes to raise achievement in reading comprehension?

SUMMARY

This chapter has provided a summary of the national literacy and assessment initiatives aimed at raising student achievement in literacy within New Zealand. Research has been presented that summarises current trends in New Zealand achievement rates in reading comprehension and recent New Zealand research that highlights the critical role of the teacher in raising achievement in reading has been discussed. The chapter has concluded by positioning the research question for this thesis within the context of current New Zealand literacy achievement.

CHAPTER 3: LITERATURE REVIEW – READING COMPREHENSION AND COMPREHENSION INSTRUCTION

This chapter begins by defining reading comprehension. It identifies the specific behaviours that research suggests good comprehenders demonstrate on a regular basis and, by implication, those behaviours effective teachers would teach. It then provides discussion and research on comprehension strategy instruction. A description of two promising and potentially effective research and evidence based approaches to comprehension strategy instruction are presented. These are direct explanation of strategies and transactional strategy instruction. Both approaches grew out of studies in metacognition (e.g., Brown, 1980, cited in Forrest-Pressley, 1984; Brown, Armbruster, & Baker, 1984; Forrest-Pressley & Waller, 1984; Garner, 1987). A rationale for integrating formative assessment principles into comprehension strategy instruction is provided. The chapter concludes by summarising the model of comprehension strategy instruction developed within the context of this study.

READING COMPREHENSION

Reading comprehension is a constant and recurring process that is built up over time as readers engage with text. Described as a "coming together of reader and text" (Smith & Elley, 1997, p. 51), comprehension is a process through which the reader actively constructs meaning, the result of interaction among reader, print and other readers. A reader's knowledge and experiences are organised to produce a schema from which comprehension can be built through active participation of the reader (Anderson & Pearson, 1984).

Good comprehenders are active as they read. They draw on their knowledge of letter-sound relationships to decode words and develop word recognition skills. They build vocabulary knowledge and they learn to use a number of comprehension strategies. In doing so, they learn to monitor and adjust their use of reading strategies to assist them to gain meaning from text.

Decoding, a process known as "the sounding out of words" and "the acts and processes of translating written symbols in to sound" (Forrest-Pressley & Waller, 1984, p. 22), is a skill all students need to acquire to be successful readers and writers. For good readers many words are sight words, but they can also read words they have never seen before. This is because they readily associate letters with their sounds, and blend the sounds to pronounce a word (Share & Stanovich, 1995). Evidence has shown that teaching phonics, phonemic and phonological awareness and skills should be integrated with context, related to text and linked to student's prior experiences (Dahl, Scharer, Lawson, & Grogan, 2001). In addition, research illustrates that many low achieving readers can learn to recognise words through explicit decoding instruction with subsequent positive effects on comprehension (National Reading Panel, NRP, 2000). Students who cannot decode a word will not be able to comprehend it (Adams, 1990; Ehri, 1979, 1985, 2003; Metsala & Ehri, 1998; Perfetti, 1985). As Pressley (2002a, p. 79) explains: "The most salient problem for poor readers is that they do not decode well" and argues "When decoding is poor, students do not learn as much from texts as they would if their decoding were stronger". Effective teaching draws upon explicit decoding instruction and integrates student knowledge of decoding skills with reading content.

However, comprehension requires more than accurate decoding, it requires word recognition fluency (Pressley 2002a, 2002c; Samuels, 2002). The teaching of word recognition skills has an integral place within an instructional literacy programme. Students learn to use their knowledge of phonics, syntax, and word structure and apply this strategy when decoding unknown words. In the case of low achieving readers, teachers often need to place a stronger emphasis on the development of word level skills and strategies.

There is wide consensus (Anderson & Freebody, 1981; Blachowicz & Fisher, 2000; Blachowicz & Ogle, 2001; NRP, 2000; Pressley 2002a; Williams, 2002) that there is a clear association between a reader's vocabulary, the development of a student's core word knowledge and their comprehension skills. Blachowicz and Ogle (2001) suggest that students develop vocabulary knowledge through repeated exposure in reading to the most frequent words, connector words and adjectives. They argue that students who have knowledge of strategies for word learning (e.g., prefixes, suffixes, roots) and knowledge of when and how to use these strategies develop the ability to understand and use wide vocabulary. Opportunities for wide reading supported by discussion and feedback and

exposure to new words maximise student opportunities to hear and use language and build vocabulary knowledge.

Researchers (e.g., Beck, Perfetti, & McKeown, 1982; Blachowicz & Ogle, 2001; Graves & Watts-Taffe, 2002; McKeown, Beck, Omanson, & Perfetti, 1983; Pressley, 2002a; Rupley, Logan, & Nichols, 1999) agree that vocabulary development is a critical aspect of successful reading and that teachers need to structure classrooms that develop "word aware learners" (Blachowicz & Ogle, 2001, p. 165). Because the meaning of a large number of words is determined by their context, students need to learn to examine whether the word they have said makes sense in the context of what they are reading. This requires the student to pay attention to semantic context clues in order to understand what they have read and to make decisions about the particular meaning of a word as intended by the author (Pressley, 2002a).

Pressley summarises the consensus of the importance of vocabulary in reading comprehension when he argues "leaving vocabulary development to incidental learning is leaving much to chance" (Pressley, 2002a, p. 267).

Student ability to relate what they are reading to their prior knowledge is important for vocabulary development and also for reading comprehension. Fielding and Pearson (1994) argue that the relationship between prior knowledge and reading comprehension achievement is essentially a reciprocal one. They describe this relationship as having two parts; the employment of methods for developing students' knowledge base prior to reading and the role of actual text reading in building knowledge. The authors argued (1994, p. 92), "The more one already knows, the more one comprehends; and the more one comprehends, the more one learns new knowledge to enable comprehension of an even greater and broader array of topics and texts".

Cognitive research (e.g., Ausubel, 1963; Baker, 1982; Forrest-Pressley & Waller, 1984; Garner, 1987; Wong, 1984) has shown how learning becomes a process of making meaning out of new or unfamiliar events in light of familiar ideas or experiences. Early work by Ausubel (1963) proposed that old information in memory can "anchor" or provide general "ideational scaffolding" for new information in text (Garner, 1987, p. 7). Learners construct knowledge as they build cognitive maps for organizing and interpreting new information. Knowledge that is stored in memory is referred to as schema and this knowledge plays an important role in the interpretation of new information. Garner (1987, p. 4) explains, "A schema is a set of expectations. When

incoming information fits those expectations, the information can be encoded into memory so that the 'slots' in the schema are 'instantiated'". Information that does not fit expectations may not be encoded or may be distorted. In the case of prior knowledge, readers call upon content schema to enable them to make sense of text (Anderson & Pearson, 1984). Allington and Cunningham (2002, p. 44) explain stating, "According to schema theory, prior knowledge provides a schema – a framework or structure – that helps thinking".

Effective teaching, therefore, provides planned opportunities to help students link to prior knowledge (Anderson & Pearson, 1984; Beck & McKeown, 1993, Darling-Hammond, 1997). Students will draw connections among different concepts and between new ideas and prior experiences. This includes providing teaching and learning opportunities that make explicit the links between aspects of knowledge and skill that are common within a student's community or cultural group and make learning "personal to the child" (McNaughton, 2002, p. 57). This has been described as a process of "Making connections through unlocking the unfamiliar" (McNaughton, 2002, p. 28) and "Building on the familiar" (McNaughton, 2002, p. 5).

There is also wide consensus that, in addition to decoding skills, word recognition and vocabulary knowledge, good readers learn to make use of a number of comprehension strategies as they proceed through text (Dowhower, 2000; Duffy, 1993, 2001, 2003; Dymock & Nicholson, 1999; El-Dinary, Pressley & Schuder, 1992; Forrest-Pressley & Waller, 1984; Keene & Zimmerman, 1997; NRP, 2000; Pressley 2001, 2002a, 2002b; Pressley & Woloshyn, 1995). These comprehension strategies facilitate readers' memory and understanding of text. Strategies are composed of cognitive operations over and above the processes that are a natural consequence of carrying out a task, ranging from one such operation to a sequence of interdependent operations. Such strategies "Achieve cognitive purposes (e.g., memorizing) and are potentially conscious and controllable activities" (Pressley, Forrest-Pressley, Elliot-Faust & Miller, 1985, p. 45).

Recent research presented by Collins Block and Pressley (2002, p. 3) suggests that comprehension involves more than 30 cognitive and metacognitive processes. These are summarized as including the following:

> Making connections to background knowledge, interpreting text structures, questioning, clarifying meaning, comparing, contrasting, summarizing, imaging, setting purposes, using 'fix-up' strategies, monitoring, cognizing,

> interpreting authors' intentions, pausing to reflect, paraphrasing, analyzing, recognizing personal perspectives, identifying gists, changing hypotheses, adding hypotheses, searching for meaning, being alert to main ideas, creating themes, determining importance, drawing inferences, corroborating congenial and noncongenial data, contextualising, engaging in retrospection, generating, using mnemonic devices, predicting, organizing and reorganizing text.

Strategies can either be used consciously and intentionally, or they can be carried out without the reader's conscious attention. However, the important distinction between strategies and other processes is that strategies are controllable; readers can control their use when they choose to do so (Pressley et al., 1985).

Cognitive strategies are employed by good readers before, during and after reading. These behaviours, identified in Pressley and Wharton-McDonald (2000), are summarised in Table 1.

Table 1: How Do Readers Read?

Before reading
readers have clear reading goals
readers overview the text in order to determine whether the text is worth reading, identify goal-related sections of the text, and develop a reading plan
During reading
readers generally progress from beginning to end of printed text
readers give differential attention to information that is relevant to their goals
readers sometimes jump forward and backward to find particular information and to clarify conclusions as they arise. They are aware of confusions because they monitor as they read
readers anticipate what might be said, updating their predictions and hypotheses as they read

readers relate prior knowledge to the ideas in the text and relate ideas in the text to one another. They revise old ideas and make inferences during reading
readers sometimes use strategies as they read, for example, to determine the meanings of unknown words or to remember particular ideas
readers demonstrate passion for certain ideas presented in the text
readers construct interpretations and conclusions as reading proceeds
After reading
readers sometimes reread or re-skim the text just read
readers sometimes attempt to restate important ideas from the text. If notes might help later recall, they take them
readers continue to reflect on the text after they have finished reading

Note: From Pressley and Wharton-McDonald (2000).

However, good comprehenders not only draw on these strategies throughout their reading, they also display the ability to monitor and adjust their reading strategies as and when required for understanding. This behaviour is termed self monitoring, a metacognitive behaviour that involves "self evaluation of knowledge and learning, and taking steps to 'fix up' comprehension when difficulties are encountered" (Blachowicz & Ogle, 2001, p. 35). It is a process through which learners become aware of the characteristics, style and messages in the text and become aware of whether they are understanding it or not. In addition, readers learn to determine whether the understanding was easy or difficult, and why. As readers monitor their reading, detect any problems, and determine whether they understand the overall meaning, they also learn what they can do to solve problems they encounter. Good readers are confident in their ability to self monitor and draw on a range of reading strategies to adjust their reading as required. They realise if one or more strategies is effective in promoting their learning and monitor the effectiveness of this strategy (Forrest-Pressley & Waller, 1984; Pressley & Ghatala, 1990), subsequently choosing to use the strategy, as and when required to assist further

learning. As Pressley, somewhat wryly states "Quite a bit goes on when readers read" (Pressley, 2002, p. 15).

Summary

It is through understanding what it is that good readers do that teachers become more insightful as to what should be the goal of reading comprehension instruction (Pressley, 2002b). Unfortunately, research has shown many readers are passive when they read and do not see reading as an active process (Dymock & Nicholson, 1999; Keene & Zimmerman, 1997; Pressley, 2002). Reading instruction must, therefore, provide the means not just to develop accuracy and understanding of text, but must actively engage students so that they learn to "Sit back from the process of reading and think about what they are doing when they read" (Dymock & Nicholson, 1999, p. 1).

This section has focused on the key knowledge and strategies students must have if they are to become good comprehenders, and, by implication the deliberate inclusion of these in comprehension instruction. Each component described in this review is equally important for effective comprehension. Classroom instruction must build student knowledge and ability to decode, to develop word recognition strategies, to build vocabulary development, to link reading to student prior knowledge and to build comprehension strategies for independent use. The focus of the following section is to explore, in greater depth, the nature of comprehension strategy instruction.

COMPREHENSION STRATEGY INSTRUCTION

There is a broad base of agreement amongst researchers that the most important goal of reading education should be to develop readers who can derive meaning from text (Pressley, 2002a). It is also apparent, that for comprehension to be maximised, readers must possess a range of skills. The need for a specific focus on comprehension strategies has featured prominently with researchers such as Allington (2001), Dowhower (1999), Duffy (2002, 2003), Pressley (2002a), Pressley and McCormick (1995), and Pressley and Wharton-McDonald (2002), who all advocate that effective teachers take a strategic approach to reading comprehension by providing strategy lessons for students aimed explicitly at building their comprehension skills. This emphasis has been supported by strong evidence that reading comprehension performance can be improved through effective teaching. Taking a strategic approach to developing and improving student

comprehension involves both the teacher and the student working towards the goal of each student being able to use comprehension strategies spontaneously.

Strategy instruction involves a focus on strategies that promote children's comprehension and memory of what is read. Supporters of this approach argue that comprehension strategies alone will not produce skilled readers - the students must be taught strategies for use in conjunction with other knowledge, including knowledge relating to decoding, basic sight words, vocabulary, fluency of reading and accuracy of reading. In addition, the reader must possess metacognitive knowledge that will enable understanding and independent selection of when, where, and how to use the strategies that he/she knows (Pressley & Woloshyn, 1995; Schneider & Pressley, 1989).

Metacognition is defined as "The learner's knowledge and use of their own cognitive resources" (Garner 1987, p. 1). Research has shown that there are strong differences between weak and strong child readers related to differences in metacognition (Brown, 1980, cited in Forrest-Pressley, 1984; Forrest-Pressley & Waller, 1984; Pressley, 2002a). The comprehension strategy instruction approach has been designed so that students can be taught directly the skills they need to be able to comprehend, so that they can understand narrative and expository text, understand and remember important vocabulary words and interpret visual aids. The description of learning strategies associated with reading comprehension draws on the behaviours that research suggests that comprehenders use. In addition, research suggests that the teaching of comprehension strategies should be conceived as a long-term developmental process (Allington, 2001; Duffy, 2002, 2003; Pressley, 2002a).

There is consensus amongst researchers who support strategy instruction (e.g., Allington, 2001; Allington & Cunningham, 2002; Dowhower, 1999; Duffy, 2002, 2003; Pressley,; 2002a; Pressley & McCormick, 1995; Pressley & Wharton-McDonald, 2002; Pressley & Woloshyn, 1995), that there are some key elements in comprehension strategy instruction. These are summarised in Table 2.

Table 2: Components of Effective Strategy Instruction

Effective strategy instruction must be:
▪ Long term, taking place regularly over an extended period of time

- Aimed at developing a co-ordinated and independent use of strategies
- Meta-cognitively rich. Instruction needs to include information about where and when to use the strategies
- Supported by extensive practice to promote strategy efficiency and automaticity
- Effective in motivating students to learn

Through comprehension strategy instruction, each comprehension strategy taught to students constitutes a strategy system - a complex set of cognitive and metacognitive strategies and other behaviours used in sequence to complete a comprehension task. Effectively, the strategies serve as "learning tools" (Pressley & Woloshyn, 1995, p. 57).

Researchers Duffy and Pressley have each undertaken research to define and describe the nature of strategy instruction inside reading classrooms. The following section describes the approaches presented by these researchers, direct explanation of strategies (Duffy, 1993, 2002, 2003) and transactional strategy instruction (Pressley, 2001, 2002a, 2002b, 2002c) and presents evidence of the efficacy of instruction in their use.

Direct Explanation of Strategies

Direct explanation of strategies is a model of teaching that begins with direct teacher explanations, developed from the work of Duffy and Roehler (1989). The authors argue in support of direct explanation of comprehension strategies to students through mental modelling, a process that shows students what a strategy is and how to apply a strategy by thinking aloud. Explicit teaching rose out of concern for low achieving readers (Duffy, 2002). Explicit teaching (as part of direct explanation and transactional strategies approaches) differs from other approaches to comprehension instruction in two important ways. The first relates to how the term strategy is used. In explicit teaching, strategy is used to mean a technique that the reader learns to control in order to better comprehend a text. This differs from other approaches where the term strategy is used to mean a technique that the teacher controls to guide student reading. The second difference is that explicit teaching is intentional, deliberate and direct about the teaching of individual comprehension strategies. This is based on the assumption that if low achieving comprehenders receive clear and unambivalent information about how each strategy

works then they will be in a better position to control their own comprehension. In this approach, explicit teacher talk is designed to develop student metacognitive awareness of when and how to use a particular comprehension strategy. The presence of this type of explicit teaching in the direct explanation and transactional strategies approach contrasts with other teaching approaches that allow quality interaction with text without the deliberate focus on knowing and understanding each comprehension strategy.

Table 3 summarises the process of providing greater student control of comprehension and assisting low achieving comprehenders through direct explanation of comprehension strategies and the important teacher actions that benefit low achieving readers.

Table 3: Direct Explanation of Strategies

Direct explanation of strategies:
• begins with the teacher introducing the section to be read
• requires the teacher to make an explicit statement about what strategy needs to be learned, when the strategy would be used and what is needed to be done for the strategy to be used successfully
• has the teacher provide the students with a model of how to think when using the strategy
• provides students with scaffolded practice through which students practice using the strategy with diminishing amounts of assistance from the teacher
• involves the teacher and student in reading the section for two purposes - for text content and the application of the newly learned strategy
• involves closing the lesson with explicit statements about the strategy, its use in understanding text in other settings and how to implement it
Important teacher actions include:
• establishing that the student needs to learn the strategy being taught
• making explicit links between the strategy being taught and its application in the text

- ensuring that the newly learned strategy is immediately applied in the day's reading selection
- repeatedly stating and modelling how to use the strategy successfully so that students see the mental workings involved
- providing students with multiple opportunities to perform the strategy themselves, at first with coaching but gradually moving to independent use
- basing assessment on both the students' use of the strategy and their comprehension of text content
- maintaining lesson alignment – a consistent focus on the strategy to be learned throughout the reading of the text

Note: Table based on Duffy (2002, p. 33)

Studies conducted by Duffy and his colleagues (Duffy, Roehler, Meloth, et al., 1986; Duffy, Roehler, Sivan, et al., 1987) showed for each study that students in the direct explanation condition group outperformed control group students in standardised test measures of reading achievement after a year of the direct explanation of strategies approach to teaching reading comprehension. This was in contrast to teaching through guided reading instruction that was the approach used by teachers working with students in the control group. From these studies, three implications for teaching arose. These were that direct teaching of strategies benefited low achieving readers, that the nature of teacher explanations was a significant factor and that the teachers' ability to adapt their explanations to the instructional situation was critical.

Transactional Strategies Instruction

Transactional strategies instruction initially evolved as teachers developed and implemented the direct explanation approach to teaching comprehension. A number of these teachers were observed by Pressley who noted that what was observed included "so much more than direct explanation" (Pressley, 2002a, p. 253). The term transactional strategies instruction evolved to capture the dynamic give and take between teachers and students that typified classrooms in which strategies instruction was taking place. Thus, the term transactional strategies instruction arose from classroom instruction where:

a. Meaning was constructed by readers as they consider text content in light of their previous knowledge and experiences

b. Meaning emerged as teachers and students together used strategies to read and comprehend text; it was the product of group rather than individual interpretation

c. The students' actions as they read determined the actions of the teacher with teacher's instruction largely determined by the reactions, interpretations and difficulties of the students

(Brown, Pressley, Van Meter, & Schuder, 1996).

The Transactional Strategy Instructional approach includes the same key elements as the Direct Explanation approach, but differs in the role taken by the teacher in the approach. In the Direct Explanation approach the emphasis is on the teacher's ability to provide explicit explanations. However, in the Transactional Strategy approach the focus is not only on that but also on the teacher's role of facilitating discussions amongst students through which students form joint interpretations of the text and explicitly discuss the mental processes and cognitive strategies involved in comprehension. Williams, (2002, p. 249) explains: "Although transactional instruction teachers do provide their students with explicit explanations of strategic mental processes used in reading, the emphasis is on the interactive exchange between learners in the classroom, hence the use of the term transactional".

Transactional strategy instruction emphasises a reader's transactions with the text and with others. The long term goal of transactional strategy instruction is "the internalization and consistently adaptive use of strategic processing whenever students encounter demanding text" (Brown et al., 1996, p. 20). This approach supports long term instruction through which students develop strategic repertoires. Strategy teaching is integrated with teaching of content and is developed in conjunction with other strategies that students are already using. Teachers introduce strategies to students a few at a time. These are introduced to students on an 'as needed' basis. Through this process teachers provide their students with information on the strategies that includes when and how to use them and the learning benefits they will gain from their use. Students receive instruction in small and large groups through direct explanation and modelling of strategies. Additional instruction is provided through mini lessons as students practice use of strategies and

through one - to - one tutoring and reinstruction as required. Both teachers and students model the strategies for each other, thinking aloud as they read the text. Teachers also model the strategies throughout the day and across the curriculum (Pressley, 2002a).

Students are active participants in their own learning as they develop their knowledge and use of comprehension strategies. They are provided with opportunities for extensive application of strategies, moving from guided practice to independent use. As students model the strategies they learn to explain the use of the strategies to each other and receive on-going and regular feedback as they use the strategies to assist comprehension of a range of text. The strategies are used as a means through which students learn to discuss text. Students know that they are expected to continue using the strategy when they are reading on their own.

Pressley (2001, p. 2) explains this approach as follows:

> Transactional strategies instruction helps students to understand how to conduct and adapt strategic comprehension procedures and why the use of strategies is critical to successful comprehension. The approach is highly flexible, permits the teaching of a variety of comprehension strategies, and fosters consistently high engagement of learners.

A number of research studies (Anderson, 1992; Brown et al., 1996; Collins, 1991) in which transactional strategies instruction was evaluated in a controlled fashion, concluded that transactional strategies instruction can promote reading instruction beginning in grade 2 and continuing into high school. The Collins study (1991) study of grades 5 and 6 students in which transactional strategy instruction took place for three days a week over a semester resulted in improved levels of comprehension for participant students. Similarly, the Anderson (1992) study looked at the effects of transactional strategies instruction on low achieving older students (grades 6-11). Teachers used the techniques of both direct explanation of strategies and collaborative discussion. The study concluded that the students in the transactional strategies group achieved greater gains than those in the control group and made significant shifts in reading behaviours that included focusing on how to solve reading problems and asking questions. In the Brown et al. (1996) research a year long quasi-experimental study with low achieving grade 2 students was conducted. This study included data collected from standardised tests, strategy interviews with students and the development of a "think aloud" measure that required students to report their thinking as they read. The results of this study indicated that students in the

transactional studies group acquired more content from their reading lessons. Standardised measures indicated that this group improved significantly more than the control group.

In each of the three cases, the outcomes showed that students in transactional strategies instructional groups improved significantly more than control group students in standardised measures of reading comprehension and word attack skills. Pressley and colleagues observed small group lessons where discussion of strategies was prominent. This included discussion with many predictions, frequent links between materials read and student prior knowledge, explanations of the readings based on images constructed while reading, and commentaries about parts of readings that are difficult to understand. They concluded that "It was clear to us that strategies instruction is a powerful tool for stimulating rich conversations between students about the texts they are reading" (Pressley, 2002, p. 20).

Other observations conducted by El-Dinary et al. (1992) indicated that teachers were aware that some students might apply strategies in different ways to the same content and, therefore, they encouraged flexibility of use. Additionally, teachers reported frequent use of sophisticated processing vocabulary – (use of terms prediction, validation of prediction, clarification) on a frequent basis (Pressley, 2002a).

As an approach, transactional strategies instruction is definitely not seen as a quick fix (Pressley, 2002a; Pressley, et al., 1991). It is a long term approach to teaching that allows students to develop strategic repertoires over time. Strategies are modelled and explained by the teacher, followed by student practice of them. The students are coached as they learn to use the strategies, particularly in the context of small group lessons. Students are encouraged to model strategies for one another, thinking aloud as they do so. As students become familiar with the strategies and the process of using them, the teacher's role changes, as Pressley (2002b, p. 20) explains: "Although the teacher modelling of strategies was reduced as students increased and improved their use of strategies, teachers continued to think aloud when they read to students, consistently modelling for them the flexible use of the repertoire of strategies being taught in the classroom".

Learning strategies may be observable, as in the case of study skills such as note-taking or outlining, or non-observable, as in monitoring comprehension, activating prior knowledge or making inferences. A challenge for learning-strategy instruction is to make

the invisible strategies visible to students through activities and materials that explain and foster their use.

Summary

Research on comprehension instruction provides powerful evidence that most low achieving readers (and many not so low achieving) will benefit enormously when lessons are constructed to make the comprehension processes visible.

Those approaches that enable students to learn about learning and to think about thinking are metacognitively rich. It is through teaching students strategies that enable a metacognitive approach to curriculum engagement that teachers are able to influence learning outcomes and make learning transparent to students. Sustained higher learning will occur when teacher pedagogical approaches encourage and assist students to take control over their own learning. As Alton-Lee explains (2002, p. 55) "metacognitive strategy instruction is a fast way into the culture of school learning, and higher achievement".

There is also considerable evidence that when teachers apply the principles of formative assessment to their literacy teaching, student achievement will improve, particularly so for low achieving readers. The following section summaries this research.

FORMATIVE ASSESSMENT

Educational researchers (e.g., Black & Wiliam, 1998; Torrance & Pryor, 1998) consider formative assessment an essential element in raising student achievement because it involves feeding assessment information directly back into the teaching and learning programme to ensure that assessment informs future teaching. We integrate formative assessment with instruction on a daily basis. It is flexible and idiosyncratic. The primary purpose of formative assessment can best be described as "Assessment that helps the teacher find out what the child knows and what and how to teach next" (Gipps, 1994, p. 72) with the main aim of formative assessment being to help students improve. Formative assessment involves teachers in using achievement information to establish and share learning intentions and success criteria for their lessons, to provide opportunities for students to engage in self and peer assessment of their learning in relation to lesson outcomes and to provide high quality and focused feedback to their students to support future learning goals. Thus formative assessment can provide a key element in providing

explicit comprehension instruction. Indeed, studies conducted by Brown, Pressley, Van Meter and Schuder (1996) on transactional strategy instruction with low achieving readers highlighted the need for teachers to respond flexibly to students' needs for instructive feedback as they read.

Formative assessment supports a metacognitive approach to learning, allowing students to monitor their own performance and check their performance against set goals. Studies of student achievement conducted by researchers Black and Wiliam (1998) concluded: "Improved formative assessment helps the (so-called) low attainers more than the rest, and so reduces the spread of attainment whilst also raising it overall" (p. 4). The authors' findings have been supported by other researchers including Clarke (2001), Freeman and Lewis (1998), Torrance and Pryor (1998), and Tunstall and Gipps (1996). This research project aimed to draw on research on the effectiveness of formative assessment as one component for exploration when researching the characteristics of effective reading comprehension teachers.

Implications for the Theoretical Focus for this Study

Comprehension strategy instruction research provides powerful evidence in favour of developing a way of teaching reading comprehension that is both highly metacognitive and deliberate in teaching students specific strategies that will assist their comprehension. There is also evidence that teaching using formative assessment principles is highly metacognitive and that assessment for formative purposes is central to any pedagogy that aims to bring about learning with understanding (Alton-Lee, 2002; Assessment Reform Group, 1999; Black & Wiliam, 1998; Clarke, Timperley, & Hattie, 2003; Crooks, 1988, 1993; Harlen, 1994).

It is likely that combining a transactional approach with formative assessment techniques would produce an effective framework for teachers to use when providing high quality reading comprehension instruction to their students.

Both Duffy and Pressley's work have offered valuable insight in to direct explanation of reading comprehension strategies to students. This research project has built on this work in developing the transactional strategies approach as a framework for providing reading comprehension instruction to low achieving readers in years 5–9. The researcher favours a highly metacognitive approach to comprehension instruction that provides students not only with direct instruction of what strategies are, when and how to use them, (direct

explanation of strategies) but also actively engaging students in knowing about their own comprehension, verbalising and demonstrating what they are doing, why and how, and deliberately assisting students to learn to exert control over their own reading (transactional strategy instruction). The researcher contends that, for all students, but particularly so those who are low achieving in reading comprehension, a highly metacognitive approach to teaching is likely to lead to improved achievement.

By developing the transactional strategies approach as a framework for teaching and integrating formative assessment procedures in to this, it was anticipated that teachers would learn how to take a strategic approach to teaching reading comprehension. This transactional strategy framework could be applied to the various teaching approaches teachers used when delivering reading comprehension instruction. The framework would provide a means through which teachers would learn how to integrate strategy instruction in to lessons aimed at building student comprehension skills. This approach would see both the teachers and the students working towards the goal of students being able to use these strategies spontaneously (Collins Block & Pressley, 2002; Dowhower, 1999; Pressley, 2002).

Through integrating formative assessment principles teachers would learn to know what to look for from their students when they delivered comprehension instruction, how to interpret what they saw and heard, how to respond to the students, and how to adjust their teaching accordingly (Assessment Reform Group, 1999; Black & Wiliam, 1998; Clarke et al., 2003; Tunstall & Gipps, 1996). Formative assessment would involve teachers feeding assessment information directly back in to the teaching and learning programme to ensure that assessment informed future teaching and also to help in providing in-depth feedback to their students on the level of expected achievement, what the student has achieved and what the student needs to learn next. (Clarke et al., 2003) Students would be aware of, and involved in determining the goals for their learning, thus providing learning that is metacognitive by nature.

Combining transactional strategy instruction and formative assessment would enable instruction to be carried out in the context of a reading program that also included teaching to promote word recognition skills, vocabulary knowledge, and extensive reading of books. The exact nature and type of the teaching would depend on the needs of the students as identified through analysis of assessment data.

Summary

Data gathered at the commencement of this project indicated that there were low levels of reading comprehension achievement across the area, and particular to the study that is the concern of this thesis, the low achievement of the students of participant teachers. Time 1 data further indicated that teachers were not able to identify the specific reading comprehension strategies that they taught their students, were not able to explain what a metacognitive approach to learning entailed and were not utilising the principles of formative assessment in their teaching. This led to the rationale that developing an approach to teaching reading comprehension that deliberately integrated both strategy instruction and formative assessment would increase the effectiveness of comprehension instruction.

This chapter has brought together knowledge of what good comprehenders do and research on comprehension strategy instruction. A framework for raising reading comprehension achievement has been suggested that integrates the transactional strategies approach to comprehension strategy instruction with formative assessment practices.

CHAPTER 4: LITERATURE REVIEW – MODELS OF PROFESSIONAL DEVELOPMENT

INTRODUCTION

The research reported in this thesis involved an intervention in the 6 schools in the form of professional development therefore this chapter provides a review of literature of effective methods of professional development. The chapter provides a basis for the action research methodology described in the methods chapter (chapter 5) by describing the events that, in combination, formed the professional development component of this research project. It describes the importance of collegiality and collaboration in professional development that is aimed at enhancing teacher learning and the integral role of each event in the overall development of teacher expertise in reading comprehension.

ACTION RESEARCH, SCHOOLING IMPROVEMENT AND PROFESSIONAL DEVELOPMENT

This research project employed an action research methodology based on data collected from both teachers and their students. Because action research is premised on education and improvement (Hopkins, 2002a; Mills, 2003; Tomal, 2003; Zuber-Skerritt 1996), action research is professional development.

Action research gives the teachers the opportunity to embrace a problem-solving philosophy and practice as an integral part of the culture of their schools and their professional disposition. Mills, (2003, p. 13) explains:

> Simply informing teachers about research is unlikely to bring about change. Therein lays the beauty, power and potential of action research to positively affect practice. As a teacher researcher, you challenge your taken-for-granted assumptions about teaching and learning. Your research findings are meaningful to you because you have identified the area of focus. You have been willing to challenge the conventional craft culture.

Professional development and teacher learning each have a central role in schooling improvement. Research (Fullan & Hargreaves, 1996; Harris, 2002; Roy, 1998; Stoll et al.,

2003) is informing us that professional development must be comprehensive, sustained, focused on student learning and that teacher development is a vital element in school change. There is also firm evidence that professional development must be linked to school and/or area goals so that teachers involved understand why professional development is occurring and why it is important (Brody & Davidson, 1998; Fullan & Hargreaves, 1996; Hargreaves, 2003; Harris, 2002).

Teaching has been described as an isolated profession (Fullan & Hargreaves, 1996) with collegiality being cited as a critical factor in determining effective models of professional development (Fullan, 1999, 2001; Fullan & Hargreaves, 1992; Harris, 2002; Little, 1981, cited in Brody & Davidson, 1998; Stoll & Fink, 1996). Early work from Little (1981, cited in Brody & Davidson, 1998) identified three norms of effective professional development. These were the norm of continuous improvement (the belief that learning is never completed), the norm of experimentation (teachers learning through their attempts at change, their successes and their failures) and the norm of collegiality (teachers sharing responsibility to help each other learn). Collegiality requires teachers to plan together, problem solve together, talk together, plan together and share the responsibility of supporting the development of new practices. Little, (1981, cited in Brody & Davidson, 1998) describes collegiality as joint work, believing that by joint work teachers can share the load of long term improvement.

There is also consensus that professional development that simply provides information and short term experiences does not lead to shifts in teacher practice or understanding (Brody & Davidson, 1998; Fullan & Hargreaves, 1996; Harris, 2002; Hopkins, Ainscow & West, 1994; Hopkins, Harris, Singleton, & Watts, 2000; Stoll, Fink, & Earl, 2003). Professional development research has taken the focus away from a one size fits all model of professional development with Harris (2002, p. 11) arguing: “There is no one blueprint for action”. Additionally, Fullan and Hargreaves (1996) have argued that staff development has often taken the form of something that is done to teachers, rather than with teachers, and still less by teachers. Professional development that is done to teachers, argue Fullan and Hargreaves (1996, p. 17), “Ignores the way that teachers’ approaches to their work are deeply grounded in the accumulated learning of experience, in the meaning that their work and the way they approach it has for them as people”.

It is evident that, for professional development to be effective, teachers need planned and sustained opportunities that provide not only access to new information, but also time to listen, to practice, to talk, to reflect, to support, to challenge and to change. People learn

differently; therefore professional development must involve a range of opportunities for learning (Hopkins, 2000a; Mitchell, Cameron, & Wylie, 2002). Professional growth requires a planned and long term approach to learning based on the needs of participating teachers and their students that provides opportunities for in-service, practice and participant reflection. Above all, professional development must be linked to identified needs of students and generate high expectations about student achievement.

RESEARCH IMPLICATIONS

Harris (2002) argued: "Highly effective schooling improvement projects reflect a form of teacher development that concentrates upon enhancing teaching skills, knowledge and competency. It involves teachers in an exploration of different approaches to teaching and learning" (p. 99). In this research project, developing a model for professional development that challenged the existing ways that teachers worked (both with students and with other teachers); supported teacher risk taking and change based on identified student and teacher need, and led to sustained shifts in teacher practice was paramount.

This project combined a range of professional development events to develop a way of learning about effective comprehension teaching. This was on the basis that professional learning would be achieved through a long term, planned programme of professional development that provided a range of opportunities to support sustained practice and classroom use of effective reading comprehension teaching approaches. Thus, professional development incorporated the following events: teacher workshops, professional readings, facilitator demonstration, teacher practice, observation and feedback, buddy mentoring, and collaborative problem solving. Opportunities for teacher talk and teacher reflection were critical to all aspects of professional development. In addition, participant teachers were required to use and transfer their new learning to other teachers within their school through leading school-based workshops, and through undertaking and providing feedback on observations of instructional lessons in reading comprehension. On all occasions, raising student achievement was to the fore in our work. The following section summaries each of these professional development events.

TEACHER WORKSHOPS

Teachers participated in regular workshops that incorporated both reading comprehension theory and facilitator demonstration. The content was determined in response to researcher analysis of teacher and student needs from each data collection time.

Responding to the needs of the teachers' themselves, and areas of student weaknesses identified through assessment results, and adapting workshop content accordingly, enabled workshops to be used to strengthen the knowledge base of teachers while, at the same time, providing relevant information on teaching approaches and learning activities. The development of these workshops was cyclic, each workshop building on the content of previous one, with teachers required to complete a follow up task and report back at subsequent sessions. This organisation was particularly designed to avoid one shot workshops (Brody & Davidson, 1998) and to incorporate strategies for reviewing and sharing effective teaching practices, actions described by Harris (2002) as a paramount aspect of professional learning.

PROFESSIONAL READINGS

Incorporated in to each of the workshops were professional readings on reading comprehension acquisition and pedagogy, analysis and use of assessment data and ways of engaging in professional learning. Professional readings were used to introduce and build a research-based understanding of reading comprehension within the participant teacher group based on the belief that, for teachers to use and develop an innovation well and appropriately, they need to understand the theory behind the new practice (Roy, 1998). Teachers' participation in regular critique and discussion of professional readings is a way of learning about teaching and uncovering a wealth of ideas and support material. It is viewed by researchers including Fullan and Hargreaves (1996), Harris, (2002), Stoll et al. (2003), and Tafel and Fischer (2001) as a way of enhancing teacher learning.

A critical component of using research was deliberately to link it to the needs of teachers and student, critiquing key messages and findings and the implications of this for the teachers and students involved in this project and for raising student achievement, thus making the research relevant to teachers' work (Mills, 2003). The collaborative critique and professional exchange between teachers provided a powerful opportunity for teacher learning.

Early work from Joyce and Showers (1988) indicated that the isolation of the classroom and lack of professional exchange amongst teachers worked against instructional change occurring in most classrooms. The use of professional reading study groups within the professional development model allowed teachers and researcher to meet to read and discuss material relevant to their own situation and to learn to use this research and

subsequent findings and recommendations to conduct inquiry in to their own practice. Using professional readings allowed the group to move from research to teaching practice and from teaching practice to research. Fullan and Hargreaves (1996, p. 21) explain this process stating "Learning does not move in one direction only, from research to teaching. It is a respectful, two-way process". Furthermore, reviewing the literature allows you to "Reflect on your own problems through someone else's lens" (Mills, 2003, p. 29).

Workshops not only included regular review of professional readings but also facilitator demonstration of reading comprehension teaching approaches.

FACILITATOR DEMONSTRATION

Teachers often need to see a new idea or procedure put in to practice in order to better understand it. This should ideally be by someone expert in the field under study (Roy, 1998). Opportunities for facilitator demonstration were built in to workshops at the discretion of both the researcher (i.e., when the researcher felt that an aspect of professional learning required explicit demonstration) and the participant teachers (i.e., when participant teachers wanted to see something in practice in order to understand it better).

In response to participant learning from workshops, from professional readings and through demonstration, teachers required opportunities to synthesise new ideas and practice in response to their new learning. The following section reviews the professional development events of teacher practice, observation of others, and being observed by peers.

Teacher Practice

It was important for teachers in this project to understand why a particular approach or strategy is effective, and be given the time to learn to use it, adapt it to their own teaching and the needs of their students and blend it with other instructional approaches they might use. Joyce, Murphy, Showers and Murphy (1989) believe that when teachers have moved through these stages they have reached executive control over use of their new learning. The aim of the teacher practice and feedback stage was to achieve such control.

Consistent follow up in the classroom is considered a critical feature for teacher change (Lotan, Cohen, & Morphew, 1998) and practice supported by feedback is effective in making sure that, as teachers adapt their new learning to their own classrooms, the

innovation retains its critical attributes (Roy, 1998). Once participant teachers have had the opportunity to practice independently, personalised coaching from the researcher provided feedback for each of the teachers. The researcher was able to discuss teaching approaches and understandings and give suggestions for strengthening the teaching interactions in their classrooms. It was also envisaged that the feedback sessions, each based on a set of observations, would assist participant teachers to become more familiar with the observation measures so that they would be able to observe their colleagues and interpret the data collected from their colleagues in order to provide school based support.

We know from the work of Lotan et al. (1998) that for observations and feedback to be effective, adequate sampling of a teacher's performance along with clear criteria and standards for what constitutes quality implementation are necessary. The criteria used for observations were workshopped with participant teachers, used to guide relevant researcher demonstrations and used by participant teachers to critique their own videoed teaching practice. Opportunities for teachers to observe each other developed from researcher observation and feedback.

Peer Observation and Feedback of Teaching

Peer observation was established as a form of teacher professional learning to further the goal of developing a collaborative approach to professional development. Observations provided a means of exploring and sharing instructional practices and beliefs with others teachers whilst feedback and discussion also generated opportunities for reflective follow up discussion. From observation and feedback teachers gain opportunities to learn from observing each other, from practicing in the presence of a colleague, from discussing the decisions they made when they were teaching their students with other teachers and also opportunities to seek support when learning new instructional approaches. Harris (2002) describes the role of observation as a crucial one in supporting the professional growth of teachers, contending: "It is a pivotal activity that links together reflection for the individual teacher and collaborative enquiry for pairs or groups of teachers. It also encourages the development of a language for talking about teaching" (p. 106).

Buddy mentoring is an activity that builds on shared observations, discussion and feedback. Mentoring enables teachers to assist others by planning with them, demonstrating, provide feedback, sharing strategies and providing resources (Feiler, Heritage, & Gallimore, 2000). Partner relationships such as this enable reciprocity in learning with each person assisting the professional growth and learning of the other.

Buddy teachers are able to share common concerns and work together to discuss and plan ways to resolve these concerns. Additionally, buddy mentoring "Helps teachers ease into reflective practice and begin to self assess their teaching" (Cooper & Boyd, 1998, p. 51). These are two critical aspects of self learning through action research. This action research model required teachers to become enquirers in to their own practice and to participate in collaborative problem solving with view to raising the reading comprehension achievement of their students.

Collaborative Problem Solving

This project drew on the benefits of collaborative problem solving to engage teachers in the process of solving problems together, supporting each other with planning and parallel teaching of new approaches. Recent research, (e.g., Earl & Katz, 2002; Fullan 1999; Gusky, 2003; Symes & Timperley, 2003; Timperley & Wiseman, 2002; Timperley & Parr, 2004) indicates that data is so much more useful for teachers when it is considered collaboratively. Fullan, (1999) explains:

> When teachers in the schools sit down together and study student work, when they relate this student performance to how they are teaching, and when they get better ideas from each other and from best practice outside to improve their teaching practices, they are engaged in a knowledge creation process that is absolutely essential. (p. 38)

In addition, when teachers discover an area of analysis that they find difficult or are unable to understand, they can support each other in finding out more. This link between student achievement data and teacher learning is explained by Timperley and Parr (2004, p. 124) as "Where the student achievement indicates that teachers need to learn new skills and knowledge, then leaders and teachers work together to find the best way to engage in the needed learning".

Creating opportunities for teachers to meet together regularly to talk about achievement and to talk about their teaching practice underpins teacher learning about and from data. Routman (2002, p. 33) explains "the impact on student learning and achievement would remain very limited without on-going professional reading, reflection, sharing, thinking, collaboration, practice, revision and continual discussion about all aspects of teaching, learning and evaluating". From analysis, Gusky (2002) suggests that teachers can pay

special attention to the trouble spots – those items or criteria missed by large numbers of students in the class.

Regular opportunities for teacher talk supports teachers as they engage in on-going professional dialogue and learn to ask hard questions about their practice (Elmore, 2002). Similarly, teacher reflection enables teachers to consider the effectiveness of their teaching practices. The following section describes the importance of teacher talk and teacher reflection in effecting and sustaining teacher change through professional development.

Teacher Talk

Teachers engaging in regular discussions aimed at improving teaching and learning has been identified by a number of researchers as an effective way of growing and changing teacher beliefs and practice (Annan, Lai, & Robinson, 2003; Darling-Hammond, 1995; Fullan & Hargreaves, 1996; Hawley & Valli, 1999; Little, 1981, cited in Fullan & Hargreaves, 1996). Schooling improvement, states Little (1981, p. 12, cited in Fullan & Hargreaves, 1996, p. 6) is achieved when:

> Teachers engage in frequent, continuous and increasingly concrete and precise talk about teaching practice (as distinct from teacher characteristics and failings, the social lives of teachers, the foibles and failures of students and their families, and the unfortunate demands of society on the school). By such talk, teachers build up a shared language adequate to the complexity of teaching, capable of distinguishing one practice and its virtue from another.

Teacher talk is fundamental in learning about learning when it is non-judgemental, exploratory, based on collective inquiry and grounded in the need to know. When teachers engage in discussion that focuses on improving their own and others' practice, they engage in talk described by Annan et al. (2003) as learning talk .The authors describe learning talk as:

> Learning talk is divided into three categories: analytical, critical and challenging. Talk that analyses the impact of teaching practices on student learning is analytical talk; talk that evaluates the outcomes of that analysis is critical talk, and talk about making changes in ineffective practices by creating more effective ones in challenging talk. Learning talk is therefore about teaching which analyses, evaluates and/or challenges the impact of teaching

> practices on students learning outcomes and/or creates more effective practices to replace ineffective ones. (pp. 31-32)

Professional discussion amongst teachers promotes teacher confidence to make informed decisions about teaching practice. So, too, does reflection on practice. Routman (2002) argues that the impact of new ideas on student achievement would remain limited without ongoing professional reflection, sharing, thinking and collaboration about all aspects of teaching and learning. Furthermore, Routman reports that professional conversations were instrumental in sparking an interest in teachers towards their own learning.

Teacher Reflection

The concept of a reflective practitioner (pioneered through the work of Donald Schon, 1983, 1987) has gained recognition as a way of guiding and supporting teacher learning that leads to new insights and improved practice (Cooper & Boyd, 1998; Fullan & Hargreaves, 1996; Senge, 2000; Stoll et al., 2003). Reflection is an activity that involves teachers in focusing not just on what you did or are doing but on your thinking and understanding. Effective learners think about their own learning – they ask themselves questions, they make connections between ideas and information, they summarise, paraphrase and articulate their new ideas. This is a necessary condition of teacher professional development. Cooper and Boyd (1998, p. 50) explain: "Not only does professional growth require conscious thinking and meta-cognition about our craft, it also requires taking the time to reflect and a structure for doing so".

The purpose of reflection is for teachers to become more aware of their attitudes, skills and knowledge. Cooper and Boyd further explain:

> Engaging in on-going reflective practices affirms and reshapes our knowledge. Reflection helps us to analyse our action, decisions, or products by focusing on what we did or are doing, so we can learn lessons that can be applied to new situations.…It can occur on our actions, for new action, and whiled doing our work in action (1998, p. 50).

Additionally, collaborative reflection as a means of teacher learning provides the opportunity for teachers to review their own learning and development with a peer colleague. Fullan and Hargreaves describe the benefits of collaborative reflection as "Deeper reflection requires other eyes, other perspectives as well as our own" (Fullan & Hargreaves, 1996, p. 68).

This project drew on both individual and collaborative teacher reflection. Reflection was based on student achievement data and on shifts in teacher knowledge and pedagogy in relation to the data. The teachers were involved in using analysis of assessment to reflect on their own teaching, to note strengths as well as weakness and to identify questions teachers still needed answering in order to improve their own practice.

Lead Teacher-led Workshops

Boyd and Cooper have argued "We often learn best by teaching someone else. Teachers need the opportunity to facilitate each others' learning, both within and across schools, and structures need to be created for this" (Boyd & Cooper, 1998, p. 61). As this project developed, participant teachers were called on to take a lead in workshops for other teachers in a wider schooling improvement project. This was aimed at providing opportunities for lead teachers to share their own new learning and the impact that this was having on their teaching while, at the same time, providing the lead teachers an opportunity to consolidate learning through providing support for others. The lead teachers were provided with opportunities to facilitate their own and others' learning through structures that included area wide workshops and leading staff meetings at their own or other schools. Additionally, staff meetings facilitated by the lead teachers created excellent opportunities to conduct problem solving sessions in which peers could discuss problems and learn from each other.

Summary

Highly effective schooling improvement projects reflect a form of teacher development that concentrates upon enhancing teaching skills, knowledge and competency (Harris, 2002). They involve teachers in an exploration of different approaches to teaching and learning. However, despite the prevalence of professional development opportunities within schools there is limited evidence of professional development that can be deliberately linked to improved levels of student achievement. Internationally, reports such as the RAND report (RAND Reading Study Group, 2002) and the NRP (2000) have both highlighted the need for more research of this type. Within New Zealand research some promising studies are emerging (e.g., Bishop et al., 2003, Timperley 2002; Timperley & Parr, 2003; Timperley & Phillips, 2003) although these studies are not aimed specifically at students in years 5–9.

The research conducted in this thesis intended to deliberately explore the links between teacher professional learning and improved student achievement by basing professional development on evidence from teacher and student data that is collected at three points of time over the year. The project was particularly focused on providing professional development that led to teacher professional learning of characteristics of effective reading comprehension instruction and the shifts teachers make to their practice when their learning is focused on student achievement.

Evidence based professional growth and development has involved combining student and teacher data with individual, partner and group reflective practices through access to research, professional reading, supported practice, observations, feedback, peer support and reflection. Each of these professional development events was equally vital in developing a model of professional development through which the research and participant teachers could work collectively, using critically informed action, to develop and enhance understanding and practice in addressing issues in student reading comprehension achievement.

This chapter has described the professional development events incorporated into the action research conducted in this project. It has described the significance of events that include teacher workshops, access to research, time for teacher practice, observation, feedback and peer support and leading the learning of others. In addition, these events have been located within a context in which opportunities for regular teacher talk and teacher reflection are considered paramount.

CHAPTER 5: METHODOLOGY

This thesis, 'Characteristics of teacher expertise associated with raising the reading comprehension abilities of year 5–9 students' is based on the study of six teachers, each teaching in a different school. It documents and analyses the way in which professional development and shifts in teacher practice resulting from an action research methodology can effectively make a difference to student achievement in reading comprehension.

This chapter begins by describing the setting for the action research project. It describes the role of schooling improvement initiatives in establishing support for schools and communities in areas where there is a history of underachievement and outlines the initiative in which this research was situated. The measures used to collect data from the lead teachers and the students in their classrooms are described. The action research methodology, a research paradigm established for educational, professional, managerial and organisational development (Zuber-Skerritt, 1996), and the research paradigm used for this project, is discussed. The chapter concludes by outlining the role of the researcher and the ethical considerations pertaining to this research.

THE RESEARCH SETTING

The research for this thesis took place at the initiation phase of a schooling improvement and effectiveness initiative in a semi-rural area in North Waikato, New Zealand. Schooling improvement is "A strategy for educational change that enhances student outcomes as well as strengthening the school's capacity for managing change" (Hopkins, 1996, p. 32). Within New Zealand, schooling improvement initiatives come under the New Zealand Ministry of Education's Schools Monitoring and Support framework (MOE, 2001) and are underpinned by the principles of involvement, co-operation, commitment and partnership. The initiatives provide an opportunity for the government to provide for an integrated strategy to support schools where there are potential risks and/or apparent risks (Sinclair, 2001).

Schooling improvement initiatives identify four main phases of the change management process. These are scoping, initiation, bedding in and sustaining.

Through this process schools and communities with similar characteristics can work together to improve student achievement, strengthen school performance, build community capacity and strengthen school and community relationships (MOE, 2001).

Schools and communities involved in schooling improvement and effectiveness initiatives engage in a number of review tasks through which school and student performance can be evaluated. These review tasks form the basis of a development plan aimed to address the problems identified through the review. As part of this process data are collected, collated and analysed to provide baseline information on student achievement, school performance and school and community relationships. The review tasks identify those strategies that are working well and are already contributing to the desired outcomes and identify where existing strategies can be strengthened and new strategies introduced. From this point, Ministry and community representatives meet to negotiate and reach agreement on the outcomes to be achieved through the initiative. A performance plan is developed to contain agreed strategies for improvement. This plan includes key performance indicators, timelines, costs, and responsibilities. Achievements are reviewed at milestone, evaluation and research dates. The performance plan is refocused based on the outcome of these reviews (MOE, 2001).

Thirteen schools in the North Waikato were clustered to form a partnership between the Ministry of Education and the school communities that aimed to focus attention on raising levels of student achievement in literacy. This project was called the Performance Enhancement North Waikato Schooling Improvement Project (PEN). The community sought an active partnership with the Ministry of Education to tackle the barriers that were preventing their students from achieving well in literacy.

The review undertaken in this area led to the appointment of a management team comprising school, community and Ministry personnel to develop an initiative focused on raising student achievement. A co-ordination team, a literacy consultant for the mainstream schools (the researcher) and a literacy consultant for the Kura Kaupapa Māori schools (where the medium of teaching is Māori) were appointed and a strategic plan evolved that identified four major goals for focusing on raising student achievement in all mainstream and Kaupapa Māori PEN schools. These goals were to improve student achievement, especially Māori student achievement, to provide students with high quality learning opportunities that recognised the primary importance of literacy and numeracy, to enhance the communication and collaboration between PEN schools, homes and their

communities and to improve the governance, leadership and management capabilities of Boards of Trustees and Principals.

The PEN Mainstream Schooling Improvement Initiative

The PEN mainstream schools (where the medium of teaching is English) schooling improvement project became a partnership between the New Zealand Ministry of Education and the Boards of Trustees of 13 schools in the North Waikato. All schools were located in a low socio economic area. New Zealand has a system of classifying schools according to the socioeconomic status of the area the students come from. Schools are allocated a decile ranking that relates to the socioeconomic status of the area. One is the lowest decile ranking and ten is the highest. Of the thirteen schools in this project, six were decile one, three schools were decile two, three schools were decile three and one school was decile four. There was a high Māori population of students in each of the schools.

An initial literacy review, as one of the review tasks, was conducted in part by the researcher in October 2002 (Arnerich, Davis, Hagan & Te Moni, 2002). This review concluded that the schools did not have sufficient curriculum leadership in literacy capable of directing literacy initiatives based on rigorous school review of literacy pedagogy. In addition, across the cluster of thirteen schools there was no common assessment tools used to gather area-wide assessment data on reading achievement in a consistent manner. Those assessments held by individual schools did, however, indicate from stanine scores that the levels of reading achievement were well below national expectation. However, the review concluded that there was little evidence that the schools were analysing achievement data for the specific purpose of reviewing the effectiveness of their teaching, to inform classroom teaching approaches, or to identify the professional learning needs of their teachers.

Additionally, the review reported that despite a number of "one-off" literacy interventions being in place in many of the schools, there was no evidence of the monitoring of these interventions for changes in teacher practice or improved student achievement. The review also indicated that, with reference to teacher practice in classrooms, the "years 5-9 classes were of greatest concern with respect to planning and implementing reading and writing programmes" (Arnerich et al., 2002).

The management committee agreed with the review that there would be two aspects to the professional development phase of the schooling improvement project. The first involved undertaking an action research project where student achievement data would be used as a basis for professional development aimed to determine effective characteristics of teaching reading comprehension for those students in senior primary classes. This research would involve teachers within the area who were considered by their principals and peers to have interest and expertise in the area of reading comprehension. The findings of this research would then be used to inform delivery of larger scale professional development across the cluster of thirteen schools in the following year. It was this part of the Schooling Improvement Project that formed the basis of this research thesis.

The second aspect to professional development was to provide cluster-wide workshop-style professional development sessions for all teachers in the thirteen schools, for school principals and for Boards of Trustees. These workshops would be run during each of the three school terms throughout the year, a total of five workshops for classroom teachers, eight workshops for Principals and five workshops for Board of Trustee members. Hence, the work undertaken in this research thesis sat inside a larger professional development project that evolved as a result of the schooling improvement partnership.

Summary

This section has outlined the schooling improvement initiative in which this research thesis was positioned. It has described the nature of the schooling improvement initiative in this North Waikato area and the setting in which the research took place. It concluded by positioning the work undertaken in this project with the other professional development occurring within the larger schooling improvement initiative. The following section outlines the process of sample selection and data collection for the research project.

SAMPLE DESCRIPTION AND SELECTION

The Lead Teachers

Principals from each of the thirteen schools in the overall project were asked to nominate teachers from their staff who were leaders within their school and who held expertise in the teaching of reading to become lead teachers. Nominated teachers were required to

teach students from years 5 to year 9. Principals were also able to ask staff to volunteer or to recommend other teachers whose reading comprehension teaching practices were considered to be highly effective. This method of selection utilised the 'network' method of sampling (Patton, 1990).

Of the thirteen schools, six were able to provide teachers to become Lead teachers and the primary focus of this study. The schools were semi rural, four were decile 1, one was decile 2, and the other decile 4. All schools were full primary, catering for students from years 1-8. Within the lead teacher group the years teaching experience ranged from 2 years to 30 years (the average was 19 years). Two of the six teachers were Māori and four were Non-Māori. One teacher held an education degree, the other five a Diploma in Teaching. Apart from these teaching qualifications none of the teachers had other literacy or assessment qualifications.

Teachers

The six participant teachers are identified within this thesis as teachers B, D, E, G, K and L. Teacher B was a New Zealand European female with 25 plus years teaching experience. This teacher held a basic 3 year teaching qualification (Diploma in Teaching). Teacher D was also a New Zealand European female with 25 plus years teaching experience. This teacher was the Deputy Principal of her school and held a basic 3 year teaching qualification (Diploma in Teaching). Teacher E, a New Zealand European teacher with 25 plus years experience teaching also held a basic 3 year teaching qualification (Diploma in Teaching). The fourth teacher, Teacher G was Assistant Principal in her school. She was a New Zealand European teacher with 25 plus years experience and also held a Diploma in Teaching. Teacher K was a Māori female teacher. She had been teaching for 12 years and held a basic three year qualification. The sixth teacher, teacher L was a Māori female teacher. This teacher had a Batchelor of Education and had been teaching for 2 years.

Students

There were 137 students in the classrooms from the Lead Teachers (75 were Māori and 62 were Non-Māori, i.e., New Zealand European or other). Teacher B had 25 students, 17 Māori and 8 Non Māori students. Teacher D had 22 students, 4 Māori and 18 non Māori. Teacher E had 28 students, 13 Māori and 15 Non Māori. Teacher G had 21 students, 14

Māori and 7 Non Māori. Teacher K had 21 students, all students were Māori. Teacher L had 20 students, 6 Māori and 14 Non Māori.

There were 1018 students in the remaining classrooms (714 of whom were Māori and 402 were Non-Māori). These were the classrooms of teachers in the area who were not one of the six lead teachers.

Design

Data were collected from the six teachers and their students at three time periods over a school year - time 1, February 2003, time 2, July 2003 and time 3, November 2003. Following the initial data collection the group of six teachers commenced analysing and discussing the student evidence and the data from their own practices. The measures of teacher ideas and beliefs associated with reading comprehension allowed these to be tracked across the first year at each of these three points.

Measures

Student Measures

The assessment of student reading comprehension used the Supplementary Tests of Achievement in Reading (STAR) (Elley, 2000). These tests, designed for repeated measurement within and across years, are used widely by schools in New Zealand and provide a recognized, standardized measure of reading comprehension which can be readily compared across schools. STAR was designed to supplement the assessments that the teachers make about students' reading comprehension achievement in years 4–9 in New Zealand (Elley, 2001). This assessment tool contains subtests which are designed to assist teachers to make judgements about aspects of their students' reading comprehension. Those students in Years 5-6 were administered four subtests measuring word recognition (decoding of familiar words through identifying a word from a set of words that describe a familiar picture), sentence comprehension (complete sentences by selecting appropriate words), paragraph comprehension (replace words which have been deleted from the text in a 'Cloze' format) and vocabulary range (find a simile for an underlined word). In years 7 and 8 students complete two additional subtests, involving understanding the language of advertising (identify emotive words from a series of sentences) and reading different genres or styles of writing (select phrases in paragraphs of different genres which best fit the purpose and style of the writer). Within the context

of this project, those students in years 5-6 sat a different number of subtests to those in years 7-9. For this reason the student achievement results presented in Chapter 9 are presented as stanine scores and not total scores. However, total raw scores are included in Appendix A.

Stanine scores

The STAR test provided norm referenced student achievement data, along with subtest analysis, in reading comprehension at three time points throughout the project. STAR is a standardised test that provides norms, or typical scores. To provide these norms the scores of a large representative sample of pupils in each class level were used to establish stanine norms for each class level. Teachers use a table of stanine norms (refer Elley, 2001, p. 4) to convert a student's raw total score to a stanine score. Elley (2001, p. 12) explains "The stanine scores are the scores on a 9-point scale (from 9 to 1), which indicate how well each pupil achieved on the test in relation to others of the same class level in New Zealand schools, at the same time of the year". Students who score at stanine 9 are in the top 4 % of their year level nationwide, pupils who score stanine 5 are in the middle 20% nationwide and pupils who score stanine 1 are in the lowest 4% nationwide.

The achievement data at each stanine were analysed using *t* tests to compare growth, and effect sizes were calculated. The effect size was calculated by using the difference between the students' mean score at Time 1 and Time 3, divided by the average of the standard deviations of the year groups at the two points in time (refer Chapter 9).

Measures for Teacher Data

The teacher measures included an interview (taped, transcribed and coded), researcher observation of teachers teaching, videoed and analysed) and teacher reflective logs that noted shifts in teacher knowledge and practice (data from these logs were used for formative purposes and are not reported in this thesis). Interviews and observations occurred three times a year to coincide with the gathering of student achievement data. The interviews were semi-structured. Questions explored the beliefs and knowledge of assessment – gathering, analysing and using assessment information - held by participant teachers, along with their beliefs and knowledge of the achievement and learning needs of their students. Interview themes are included in Appendix B.

Video tapes of the teachers' 30 minute guided reading lessons were collected and analysed at each time point; a total of 18 observations were completed over three time periods. Coding categories were developed to enable evaluations of the lesson introduction, lesson body and lesson conclusion. The codes were developed from descriptions of 'best practice' from New Zealand models (MOE, 2002, 2003) and from research based accounts of effective instruction (e.g., Pressley, 2002).

Observation Schedule of Guided Reading Lesson

Ordinal categories were given to each criterion for lesson introduction, body and conclusion. The introduction (maximum of 12 points) was coded for such things as establishing learning goals and discussing themes to activate prior knowledge and identifying potential difficulties (including unusual text features and vocabulary). Sections of the lesson body were coded for aspects such as specific guidance for student strategies, use of questioning to develop understanding and wait time (maximum of 19 points). The conclusion was coded for checking back to intended outcomes and reflection on learning (maximum of 5 points). The coding categories and definitions are contained in Appendix C. To code the lesson, each 30 minute lesson was divided in to lesson introduction, lesson body and lesson conclusion. Two raters coded three initial lessons together. Together they observed each of the categories at the lesson introduction, body and conclusion and discussed what they had observed in relation to the coding categories. Then each rater completed six common observations independently. When they met to discuss the coding of these observations the mean independent agreement for recognising behaviours against criteria (represented through ordinal categories), and subsequently allocating points from the criteria, was 84%.

Procedure/Form of Analysis

Data were gathered and analysed from teacher interviews (audio taped) and observations of teaching (video taped) and from student achievement data collected through the use of STAR (Elley, 2001). Data were analysed to identify areas of weakness and/or areas for improvement in both teacher knowledge and practice related to raising achievement in reading comprehension and student achievement.

Analysis of teacher data provided comparative information between research on effective practices in teaching reading and raising student achievement in reading comprehension and the participant teachers' current knowledge and understanding. The data provided an

indication of each teacher's current teaching practice. The teaching approaches, programme components, instructional strategies and assessment practices applied by each teacher, and the effects of these in raising student achievement in reading comprehension, were able to be identified. This information was used to prioritise the professional development provided to participant teachers.

Analysis of student achievement data from reading comprehension achievement results supplied information that described the current achievement, strengths, needs, strategies and understandings held by the students. These data enabled a comparison of student achievement with known patterns of literacy acquisition and development to be made and a focus on next steps learning needs to be established. The researcher and participant teachers were able to reflect on the effectiveness of the teachers' current assessment in literacy in relation to the needs of their students and their teaching and learning programme in reading comprehension.

In this research the focus was on transforming both teachers and their practice, rather than merely getting teachers to do better what they have always done. The action research aimed to develop capability among teachers to have the knowledge and commitment to teach students with diverse needs well, to be responsible for student learning and to be responsive to student needs and concerns. Darling-Hammond describes this as "creating a right to learn" (1997, p. 2) in the belief that teachers must take advantage of student's different starting points and approaches to learning. The following section describes the action research methodology undertaken throughout this project.

Action Research Methodology

Action research methodology is widely described as a form of collective self-reflective enquiry (Kemmis & McTaggart, 1988; McNiff, 2000; Zuber-Skerritt, 1996). Participants engage in the study of a social situation with a "view to improving the quality of action within it" (Elliot, 1991, p.69). It is a way through which educational practitioners can work together using critically informed action and reflection in order to seek new ways of working and understanding their work (Kemmis & McTaggart, 1988). Teachers work together, and, as is the case of this research, sometimes collaboratively with a facilitator, to address problems that are of concern to the group.

This form of research becomes emancipatory because it aims not only at technical and practical improvement (Carr & Kemmis, 1986) but also at the participants' empowerment

and self-confidence about their own ability to create theory that is 'grounded in theory and practice' (Zuber-Skerritt, 1996). Emancipatory action research was particularly applicable to this study in that it enabled teachers involved in curriculum development to voice and explore concerns about how and when learning occurred and whether and why the teaching should be changed for the benefit of the students (Melrose, 1996).

Action research was deliberately chosen as the methodology for undertaking the study for this thesis because this method has been employed extensively in school-based curriculum development, professional development and school improvement programmes (Hopkins, 2001, 2002a, 2002b; Kemmis & McTaggart, 1988; McNiff, 2000; Mills, 2003; Tomal, 2003; Zuber-Skerritt, 1996). Tomal (2003, p. viii) explains: "It is a method used by educators in solving educational problems and making school improvements" while Mills (2003, p. v) concurs with Tamal arguing "Action research has the potential to be a powerful agent of educational change".

This project was about teacher effectiveness. The research undertaken by teachers was aimed at enhancing their own teaching, testing educational theory in practice and critically reflecting on their own teaching as a way of improvement. It was about critical reflection and change that resulted in improved reading comprehension achievement. Hopkins (2002a, p. 1) explains: "Undertaking research in their own and colleagues classrooms is one way in which teachers can take increased responsibility for their actions and create a more energetic and dynamic environment in which teaching and learning can occur".

Action research provides a way of learning that generates reflection. Reflection generates new actions, thus developing and supporting a cyclic process of inquiry that based on the following principles:

Action Research Is Collaborative

McNiff (2000, p. 204) explains, "Action research is always work with others". As such, collaboration is a defining feature of action research (Carr & Kemmis, 1986; Kemmis & McTaggart, 1988; McNiff, 2000; Zuber-Skerritt, 1996). It allows everyone to contribute their point of view. This is important because collaboration improves meaningfulness and relevance to those involved in studying the problem. It allows participants to share ideas and reflections with others without trying to synthesis these into consensus. Instead, collaboration can prevent teachers participating in self-limiting reflection (Schon, 1983)

by using individual differences to enable "analysis to move onwards from its inevitably personal starting point towards ideas which have been interpersonally negotiated" (Winter, 1996, p.22).

Action Research Is Educative and Developmental

Because action research is based on education and improvement (Hopkins, 2002a; Mills, 2003; Tomal, 2003; Zuber-Skerritt 1996), action research is professional development. Within the context of this research the developmental focus was paramount. McNiff (2000, p. 204) describes education as "a relational process between people that enhances their understanding of their practice with a view to improving it". Action research methodology provided a means forward towards this end.

Action Research Narrows the Gap between Theory and Practice

In this research project the aim was to bridge the gap between theory and practice by enabling teachers to carry out an investigation on their own comprehension teaching practice, drawing on research, applying this to their own teaching and evaluating the effectiveness of changed practice. This is in the belief that "theory is generated not only about practice, but through practice" (Zuber-Skerritt, 2000, p. 10). McNiff (2000, p. 3) explains: "Action research generates practical theory. It is undertaken by people who want to improve their understanding of their practice in order to improve their dealings with others in social situations".

Initially, in this research, theory preceded action, and action was informed by theory in the belief that teacher practitioners were not able to reflect on their own practices until they were aware of alternative perspectives (Argyris, 1994). However, as the research proceeded, a more reciprocal relationship emerged between theory and action. As Winter argues (1996, p. 25):

> Theory and practice need each other, and thus comprise mutually indispensable phases of a unified change process. Together they present the strongest case for practitioner action research as an activity which represents both a powerful, vigorous and worthwhile form of practical professionalism and a powerful, vigorous and valid form of social inquiry.

Action Research Is School and Classroom Focused

Researchers (Cohen & Manion, 1994; Hopkins, 2002a; Mills, 2003; Tomal, 2003) support intra-organisation action research within schools and classrooms as a means of exploring teaching methods, learning strategies, evaluative procedures, attitudes and values and management and control. The present research into effective comprehension practices focused on diagnosing the reading comprehension problem of participant teachers in their own classroom context and then attempting to solve it in that same context. This involved developing teachers' understanding of the work they do in comprehension more thoroughly by studying it and raising their own awareness and through collecting data on ways through which it had been improved (McNiff, 2000).

Action Research Involves Problem Solving

Action research enabled participant teachers to collaboratively problem solve problems related to their teaching of reading comprehension (Calhoun, 1994; Elliot, 1991; McNiff, 2000). Problem solving required dialogue among the participant teachers themselves, between the teachers and myself as researcher, and between students and teachers. Throughout the research this dialogue was designed to encourage self reflection, to challenge current thinking and practice and to deepen insights into the teaching of reading comprehension.

Action research is focused on the practitioner and their practice

Through this action research the participating teachers focused on their own practice, taking control over developing and improving their own knowledge and practice.

Zuber-Skerritt (1996, p. 14) describes this ideal of professionalism as "an extension of professional work, not an addition to it', arguing that action research is an ideal way to link practice, and the analysis of practice into a 'continuously developing sequence".

Action Research Is Transformative

Action research has an emphasis on transformation or change, both at a personal and professional level. The change phase of this action research was explicitly aimed to transform comprehension teaching practice and it took a practical approach with my role

as facilitator being to help participant teachers to focus on their own issues of comprehension teaching and to encourage on-going self reflection. As Wadsworth (1998, p. 5) explains:

> Action research sets out to explicitly study something in order to improve it. It most often arises from an unsatisfactory situation that those most affected wish to alter for the better (although it can also arise from the experience of something which works well, which provokes the desire to reproduce or expand it.

Action Research Links Self Reflection to Professional Development

Through this action research, participants were involved in the process of self reflection and changing practice. Winter argues (1996, p. 14) "although these two claims can be separated conceptually, they are best achieved together". Reflection plays an important role in action research through which practitioners evaluate actions with a view to changing future behaviours (Schratz, 1996). As teachers reflect on practice that is data based and engage in the process of reflecting both on and in action (Schon, 1983), they are developing their own theories and asking themselves, "How do I improve my own work?" This reflection was central to our work in this project.

Action Research within the Context of this Project

The problem addressed in this research was to explore the characteristics of effective comprehension teaching with view to raising student comprehension achievement. The action research developed through a self-reflective spiral, of the cycles of planning, acting, observing, critical and self-critical reflection of progress and making evidence based decisions to re-plan for the next cycle of the research. This involved three cycles of research.

The first cycle focused on gathering data of the reading comprehension teaching practices, knowledge and beliefs of the six participant teachers. These data were gathered through teacher interview and in class observations of reading comprehension lessons.

Student reading comprehension achievement data were also gathered from each class through standardised comprehension tests using the STAR assessment tool (Elley, 2001a, 2001b). Data collected enabled the participant teachers and the researcher to identify current practice and to develop a plan of action for addressing issues that arose through analysis of the data.

This led to the implementation of change designed to lead to actual improvement and problem resolution. This cycle was designed to enable participant teachers to further enhance their own skills and knowledge of reading comprehension approaches and strategies. Throughout this implementation participant teachers acted, observed and reflected on and in their own practice (Schon, 1983). On-going monitoring through shared sessions and through a mid point collection of data from both teachers and students (repeating the same measures as in the initial data collection) assisted the process of giving and receiving feedback on teaching effectiveness, re-directing changes and professional learning to inform further planning and implementation of change in a continuation of the action research cycle.

The evaluation stage reviewed the shifts in teacher practice that occurred over the duration of this project and the subsequent effects of these on student achievement. Teachers reflected both individually and collectively on how effective their changes had been and on their perceptions of the action research approach that they were involved in. Evaluative data were again collected from teachers by way of interview and in-class observation, and from students through the STAR reading comprehension tests (Elley, 2001a, 2001b). The evaluation process involved inferring the relationships between the actions undertaken by the teachers and the students, and the goal of exploring effective comprehension teaching to raise student comprehension. The researcher also evaluated the effectiveness of the research process with a view to ascertaining whether this intervention led to improved student outcomes and teacher knowledge.

Action Research within a Quasi-Experimental Design

Repeated measures of children's achievement in both the Lead Teachers' schools (n = 6) and in the seven other schools in the schooling improvement cluster were collected at three points in the first year February, 2003 (Time 1), June, 2003 (Time 2), November 2003 (Time 3) as part of a quasi experimental design (see Phillips, McNaughton & MacDonald, 2004, for a study with similar aims that employed this design). The design uses single case logic within a developmental framework of cross sectional and

longitudinal data. The measures at Time 1 generated a cross section of achievement across year levels (years 5–8), which provides a baseline forecast of what the expected trajectory of development would be if planned interventions had not occurred (Risley & Wolf, 1973). Successive stages of an intervention can then be compared with the baseline forecast. The cross sectional baseline was established at Time 1 (Feb 2003). Students from that initial cross section were then followed longitudinally and were re tested at Time 2, and 3. Within a year these are essentially pre- post measures. But, because they are able to be corrected for age through transformation into stanine scores (Elley, 2001a, 2001b), they provide an indication of the impact of phases (in the present case, the first year of the intervention programme) against national distributions at similar times of the school year. However, a more robust analysis of relationships with achievement is provided by the Time 1 and Time 3 data when they are used within the quasi experimental design format. They show change over a repeated interval, compared with the cross sectional baseline.

A further comparison is possible with this design. It is between the students' achievement in the Lead Teachers' classrooms and all other students. This indicates the extent to which the intervention specifically with the Lead Teachers was associated with gains in addition to those that might be associated with the schools generally. The rest of the teachers (the "Other" teachers) also participated in professional development delivered through five workshops on teaching reading and assessment of reading that took place during the year. The number and nature of these workshops were determined by the initial schooling improvement budgeting process.

It was not intended to set up a comparison of interventions. Rather the intention was to develop some initial capabilities in the "Other" teachers who would then be better able to work with the Lead Teachers in the second and third years in their own professional learning communities within their school. However, the policy design enabled a naturalistic experiment to occur in which the two approaches to teacher development could be contrasted.

MY ROLE AS A RESEARCHER

As the researcher my role was to work collaboratively with the lead teachers to identify the main problem(s) in student achievement in reading; to support the gathering and examining of student and teacher generated data and to work with the team to develop an action plan towards improved student achievement. In doing so, I would be supporting

the teachers through professional development and regular opportunities for practice and reflection. These opportunities were designed to enable teachers to further enhance their own skills and knowledge of comprehension strategies and of research on raising achievement in reading comprehension. By providing opportunities for teachers to reflect both individually and collectively on how effective their changes had been, and of their perceptions of the action research approach they had been involved in, I was able to guide discussion and practice on next areas for change.

Throughout the process my own involvement in evaluating and reflecting upon the effectiveness of what we were doing was based on problem identification and resolution and ascertaining whether the intervention we developed had led to improved student outcomes and teacher knowledge.

ETHICAL CONSIDERATIONS

In undertaking this research I was aware of the importance of addressing ethical issues to clarify rights and obligations and to set the study on a 'professional footing' (Walker, 1985, p. 43). This is especially necessary as the subjects of this study are human subjects. Issues of informed consent, confidentiality and anonymity were addressed through the provision of an information sheet for all participants and an informed consent statement prepared for each participant. Participants included participatory teachers, the Board of Trustee Chairperson of each school involved, parents of students in each classroom and the pupils themselves. These statements followed the guidelines set by the University of Auckland Human Participants Ethics Committee and the study received their approval.

Permission to use a tape recorder to tape interviews prior to transcribing, and to use a video recorder to video teaching behaviours prior to analysis was sought and gained from all participants. Assurances were given to all participants that all information shared between the researcher and participant teachers would be confidential. Anonymity and right to privacy were protected through the grouping of data and through the use of pseudonyms, numbers and codes. The schools were not named. Throughout the research, the development of the work remained visible and open to suggestions from participating teachers so that they were able to influence the work as it progressed (Winter, 1996).

SUMMARY

This chapter has outlined the schooling improvement initiative in which this research thesis was positioned. It has described the nature of the schooling improvement initiative in this North Waikato area and the setting in which the research took place and has positioned the work undertaken in this project with the other professional development occurring within the larger schooling improvement initiative.

The research design has been outlined including sample selection, measures for data collection, the role of the researcher and ethical considerations integral to this project. The characteristics of the action research paradigm used in this thesis have been described and the reason for selecting action research methodology explained. The chapter has concluded by discussing the role of the researcher and ethical considerations have been discussed.

CHAPTER 6: TEACHER KNOWLEDGE, PRACTICES AND PROFESSIONAL DEVELOPMENT TIME 1

INTRODUCTION

This chapter presents the data collected from the six lead teachers at the commencement of the project to answer the research question 'what are the characteristics of teacher expertise associated with raising the reading comprehension achievement of low achieving year 5–9 students?' The data, collected through the teacher interview and videoed observations of guided reading teaching provided the basis for the first cycle of action research. The interviews yielded data concerning teacher knowledge of effective literacy acquisition, teaching and learning. The observations provided data on the nature, type and quality of reading comprehension instruction. This chapter provides a summary of the data collated from the six lead teachers at the first of three points in time over one year. It concludes with a summary of the implications of this data for professional learning. The chapter is organised according to the themes that were generated through teacher interview at time 1 data collection.

LEAD TEACHER SUMMARY OF DATA TIME 1

Theme A: Knowledge of Literacy Learning In Comprehension

a. Ability to articulate and explain what they believe reading comprehension actually is

b. Knowledge of what good comprehenders do:

   i. Use of processing strategies

   ii. Use of comprehension strategies

Teacher explanations of what reading comprehension was were variable. One teacher (Teacher G) was able to provide a clear and elaborated definition of reading comprehension. This definition included student ability to process text at different levels

and their ability to use both decoding strategies and understanding of the author's message to get information. This teacher described comprehension as reading to learn, rather than learning to read.

The other five teachers provided responses largely based on students being able to understand the text. An example of this level of response is as follows:

> *It's just when you read something and be able to understand what you've read* (Teacher L).

When asked to describe what a "good" comprehender would be able to do, Teacher L was not able to state specific behaviours or strategies, instead stating:

> *A comprehender would be able to tell you what the story was about…it wouldn't be just a one word answer; it'd be a explanation* (Teacher L).

Teachers D and E were aware that comprehension required students to be able to infer from text clues, although did not use the word inference to describe this process. Teacher D explained:

> *I call it read between the lines* (Teacher D).

This teacher identified the ability to retrieve information and use their prior knowledge as two additional characteristics of "good" comprehenders.

In the case of Teacher B, the teacher was confused between literal and inferential understanding stating:

> *It's to do with literal understanding, and then be able to, um, work out from that literal the inferential. For example, a lot of people say literal, use literal language, but they don't mean it* (Teacher B).

The teachers participating in this study were not confident in describing or explaining what they knew about what good comprehenders actually do. Three of the six teachers (Teachers B, L and K) could not describe the characteristics or behaviours of a good comprehender. This is exemplified by Teacher K and Teacher B, who responded as follows:

> *Somebody that doesn't ask a lot of questions when you ask the first question, somebody that can just answer the question straight away* (Teacher K).

> *First of all they need to be able to, um, to read. To read the paper, to be able to understand, um, sorry, read the, have decoding skills. Read through it, think about it. I guess that's the difference between just understanding and moving on from there* (Teacher B).

Two out of six teachers were able to identify several of the comprehension strategies used by good comprehenders. One teacher (Teacher G) was able to provide a more concise explanation that included knowledge of decoding, vocabulary, ability to retrieve information from text, identification of main ideas, links to prior knowledge and ability to infer.

Theme B: Knowledge of effective reading comprehension approaches

a. Ability to explain the main teaching approaches they use to teach reading comprehension

b. Knowledge of relationship between research on reading comprehension and own practice

c. Knowledge of approaches to develop metacognitively aware readers

d. Knowledge of providing an and comprehensive reading comprehension programme

Not one teacher was able to describe what comprehension strategy instruction was or how she included strategy instruction as part of the reading comprehension programme. Examples of responses to a question about use of strategy instruction that illustrate this lack of teacher knowledge are as follows:

> *No. No. not really, not with the children. I don't know what it means (Teacher B).*

> *Probably not, no* (Teacher D).

> *No. No, I don't think I have done that much. Sort of not with strategies. I don't even know what the strategies are myself. That would be something I'd like to find out* (Teacher E).

> *Um, no, not at this stage, that I can, um. It's just been so busy in this last term* (Teacher E).

Similarly, no teacher was able to explain what metacognition was and, subsequently, no teacher was able to explain how her teaching developed metacognitive awareness amongst her students. As a result, no teacher was able to discuss the degree toward which her students had knowledge and ownership of their own reading comprehension learning strengths and needs.

Teachers were asked to explain the range of teaching approaches they used to teach reading comprehension. Guided reading and reciprocal reading were not referred to as being used regularly as a comprehension teaching approach by five out of the six teachers. However, three out of six teachers referred to shared reading as having some part in their instructional programme. Teachers E and G stated that they used shared reading when teaching the lower achievers, while Teacher K suggested it was part of her teaching programme but was very vague as to what shared reading actually was! When asked to describe reading comprehension teaching practices, Teacher K responded:

> *It's usually like reading, shared reading, out aloud and asking short questions based on the story, yeah, just basically asking questions related to the story. We use worksheets, whiteboard, a lot of hands on thing. Which for my children they tend to learn more by kinaesthetic learning, as well as visual* (Teacher K).

No teacher was using shared reading as an instructional approach suitable for regular classroom instruction in reading comprehension at this level.

Planning for, and providing, pre and post text comprehension activities was identified as an area in which all teachers required professional development. No teacher provided specifically planned pre-reading activities for students to prepare them for their reading and to set a foundation for comprehending the new text. Similarly, no teacher provided pre-reading activities based on previous lessons.

Post reading comprehension activities appeared to be based around keeping students busy rather than building on comprehension strategies. One teacher, Teacher G, stated that post reading activities were developed based on student need. However, this teacher was not able to share a wide range of targeted activities that indicated that this was always the case. The remaining five teachers relied heavily on comprehension questions (often in the form of worksheets and referred to by four out of six teachers), responses to text that did

not challenge the students or their comprehension skills (for example drawing pictures was referred to by five out of six teachers) and commercially prepared resources that were photocopied and distributed without knowledge of suitability in order to match their use with student need. Resources of this nature were referred to by four out of six teachers. In addition, none of the four teachers using commercial resources was able to explain how the resources were actually levelled and, therefore, how they were able to select from these resources those activities that best met the needs of their students. The following discussion with Teacher B illustrates this concern:

> Researcher: *Are they [the pre-made resource] levelled. I mean, are they for a particular reading age?*
>
> Teacher B – *I don't know what the level is. Comprehension 4, I think. I would give to anyone, say, on about 11 to 12, say about 12 age reading group. Comprehension 3, the next step down is sort of like 10-12, and the next step would be 9-10, level 2. So either they're given to me levelled, they're sort of aimed at that reading age, yeah.*

Three of the six teachers were relying almost entirely on commercially produced resources as a way of teaching reading comprehension.

KNOWLEDGE OF HOW TO DEVELOP TEACHING PRACTICE SPECIFIC TO LOW ACHIEVING READERS

No teacher had a really clear understanding of how to work effectively with low achieving readers. Teacher G was able to identify two teaching approaches that were used. These were buddy reading and reciprocal reading, but the teacher was confused around the types of comprehension she thought should be taught – referring to lower levels of comprehension as being most appropriate.

Responses from three of the six teachers (Teachers B, D and L) indicated a mismatch between the needs of the lower achieving students in their class and the instruction they provided. This is illustrated by Teacher B who described:

> *If they are low achievers they are probably not good at decoding. So probably you would have to do a lot of silent reading to bring up that* (Teacher B).

Teacher L was non-specific in how she tailored instruction to meet the needs of low achieving students. The teacher explained:

> *Probably a lot of discussions, just asking them questions to find out, and just with that you find, well, for me anyway, students who just have no idea* (Teacher L).

Additionally, the teacher did not know whether the students actually knew about reading strategies stating:

> *I think they know of it, but you know, they know what comprehension is…well I hope so. They know what comprehension is, I can only assume that. But are they independent? Well they will get up and go to their dictionary and find out what a word is, and then they'll be able to understand. But then others haven't been taught and they depend on me* (Teacher L).

Low expectations for low achievers were evident in the responses of four teachers (Teachers B, D, E, and L). Two examples of teacher comments indicating low expectations are as follows:

> *Um, yeah, well you've always got low achievers in your classroom, eh? And so what, I'd just do is make the questions easier* (Teacher B).

> *I've come across children like that, that don't, like they can read it beautifully but they have no understanding of the text. I had a particular little girl in year 3,4 level and she did. It was common in the family; the older sister struggled with comprehension as well* (Teacher D).

Three of the six teachers were unable to be specific about what they actually did do to assist students requiring extra support in reading comprehension in their classrooms. (Teachers B, D, and L). Teacher B referred only to working more on decoding while Teacher D couched her response in terms of what she would *probably use,* indicating this was not necessarily something she had done, as follows:

> *I'd probably use a lot more pictures. I would probably read to the…and maybe they would copy that in to their books, you know* (Teacher D).

Teacher L indicated that she would spend longer with this group, and use a different text to other class members, although differentiated instruction was not observed in this classroom. The teacher was teaching whole class reading lessons.

No teacher made mention of using assessment information to identify the needs, or to inform the teaching practice, of their underachieving students.

Theme C: Knowledge of Analysis and Use of Student Achievement Data for Raising Reading Comprehension

a. Knowledge of assessment practices

b. Knowledge of what information assessments provide

c. Knowledge of analysing data

d. Knowledge of relationship between assessments and teaching practices

e. Knowledge of assessment properties

Four of the six teachers were able to refer to an assessment tool that they used to gain information about student achievement. These tools were the Progressive Achievement Tests (PATs, Reid & Elley, 1991), identified by three teachers and the running record (MOE, 2002c), identified by three teachers. However, all of these teachers were unable to demonstrate that they used the tools correctly, all were unable to provide any evidence that they had specific knowledge of what kinds of information different assessment tools actually provide. Teacher E explains this confusion:

> *Well, we start off the year with the PATs and um, basically that just tells me their stanine or whatever, so it's a 1-9, and that sort of thing, but then I'm not too sure where you go from there actually. OK, fine, gee they're a 1, that's shocking, you know, but so what? What do you do? I don't know. .I think that's something that's lost, what to do with them. We file them we put them on their cumulative cards and go yeah, that is done for the year. And you don't use any of the information.* (Teacher E).

Similarly, Teacher L stated that she used PATs to assess students but was not able to state how these were analysed or used to set goals or plans for instruction. In addition, the teacher considered that assessment was mainly gathered through:

> *One-on-one, asking them things that they understand* (Teacher L).

Understanding of formative assessment principles and practices was weak across all six teachers. No teacher was providing instruction in which formative assessment was an integral component.

Teacher D believed that she did use formative assessment regularly, but could not explain what formative assessment actually was as illustrated through the following comment: Teacher D stated:

> *Well, mainly just questions and talking. When I discuss, like often, well that formative assessment stuff is happening all the time in my room* (Teacher D).

Teacher G did not know the difference between formative and summative assessment stating:

> *I always get the formative and the summative mixed up* (Teacher G).

None of the six teachers was able to explain the process of analysis. They did not know what analysis was, neither did they know how to actually analyse data or what information could potentially be gained from analysis.

Teacher L, when asked to describe the process of analysis she used, responded:

> *Oh, I don't. I don't look for things analysing it. I just think about, ok, what to do better for the comprehension part, but no, I don't spend a lot of time analysing* (Teacher L).

When questioned further, this teacher said:

> *I think sometimes, even with, like the PAT test, it's like, ok, so they've got a reading age of whatever, but then what after? So you've got the results of the test, so that's something I want to learn about, because we give them all of those tests, but what exactly are they? Other than just, you know, recording reading age. Which is what? It's something that I haven't really been taught* (Teacher L).

Teacher D understood the process of analysis to be whether the student was able to complete the task that was set or not. The teacher explained:

> *Whether they can read, tell the story orally, whether they can flow diagram maybe the main points of the story…all those sorts of things* (Teacher D).

The teacher was not able to explain what analysis actually took place in the event that a task was not completed accurately or how one might go about doing this.

Additionally, no teacher could explain how they specifically used the information, collected to inform teaching practices based on the needs of students.

Observation Analysis Time 1

Video tapes of the teachers' 30 minute guided reading lessons were collected and analysed to coincide with data collection gathered from teacher interview. Coding categories were developed to enable evaluations of the lesson introduction, lesson body and lesson conclusion. Ordinal categories were given to each criterion for lesson introduction, body and conclusion, allowing total scores to be assigned to each part of the lesson (refer Appendix C).The codes were developed from descriptions of best guided reading practice from New Zealand models (MOE, 2002d, 2003) and from research based accounts of effective instruction (e.g., Duffy, 2003; NRP, 2000; Pressley, 2002a, 2002b, 2002c).

Analysis of lesson content and interactions at time 1 indicated that the teachers were not familiar with recent guided reading theory and practice, despite this being a major teaching approach for comprehension teaching and recommended as a vehicle for teaching comprehension strategies (MOE, 2002d, 2003). Out of a possible score of 36, the teachers' average at time one was 8.0.

Table 4 summarises the ratings for each teacher at Time 1.

Table 4: Ratings of Guided Reading Lessons at Time 1 for Lead Teachers

		Teachers						Mean
Component	(Max)	B	D	E	G	K	L	
Introduction	(12)							
T1		3	2	1	1	0	0	1.2
Lesson	(19)							
T1		5	7	5	10	4	2	5.5

		Teachers						Mean
Component	(Max)	B	D	E	G	K	L	
Conclusion	(5)							
T1		0	0	0	1	0	0	0.16
Total	(36)							
T1		8	9	6	12	4	2	6.83

Lesson Introduction

The introduction (maximum of 12 points) was coded for such teaching behaviours as establishing learning goals, discussing themes to activate prior knowledge and identifying potential difficulties (including unusual text features and vocabulary). The mean score for this was 1.2 out of 12. The teachers were not sharing desired lesson outcomes and success criteria with their students at the beginning to the lesson. There was little evidence of deliberate teacher actions to activate and link the text content or structure to student prior knowledge. Neither was there evidence of teachers identifying possible challenges within the text prior to the reading (and linked to their knowledge of student needs) and preparing students to meet these challenges prior to commencement of independent reading.

Body of Lesson

The lesson following was coded for aspects such as dividing the text into sections for reading, assigning specific purposes for each section prior to student reading, providing specific guidance for student strategies, use of teacher and student questioning to develop understanding and making deliberate links to the lesson outcomes as the lesson progressed. Allocation of a maximum of 19 points was possible from the body of the lesson. The mean score for the lead teachers at time 1 was 5.5 out of 19. While five out of six teachers were dividing the text in to manageable chunks for reading and discussion, only two teachers were setting a purpose for this reading indicating also that there had been little pre-planning as to the most appropriate division of the text. On all occasions

discussion was at surface level and was led by the teachers. There was little probing of responses and students were not asked to provide evidence from text for their responses. Questions largely followed the Initiate, Respond and Evaluate cycle (Cazden, 1998). Lesson outcomes and success criteria were not referred to as the lesson progressed. It was not apparent that the students (and in some instances the teachers, e.g., Teachers K and L) were clear of the purpose of the lesson as it developed.

Lesson Conclusion

The conclusion was coded for checking back to intended outcomes and reflection on learning. The possible maximum score was 5 points. The mean score for the lead teachers was 1.2 out of 5. On most occasions teachers did not return to the learning outcome and success criteria for the lesson (where these were indeed established at the beginning). Students were not involved in assessing how well they had achieved through the lesson, neither were they asked to reflect on their own learning and identify areas they would like to revisit or focus their learning on in subsequent lessons.

Responding to the Data Time 1

Analysis of the data from individual teachers and from the lead teachers as a group indicated a number of priorities for professional learning aimed at raising the reading comprehension achievement of pupils in their classes. No teachers had an in-depth understanding of the specific behaviours that research suggests good comprehenders demonstrate on a regular basis, and, by implication, those behaviours effective reading comprehension teachers would provide instruction in. Neither were any teachers able to explain that, for comprehension to be maximised, readers must possess a range of skills and, subsequently, that assessment should be undertaken specifically to identify those strategies students are not using, leading to explicit instruction of these strategies.

Time 1 data demonstrated many areas for teacher professional learning thus highlighting the critical importance of an approach to professional development that would provide a long term approach and a range of learning opportunities to meet both the individual and collective needs of teachers and their students. For professional development to be it would require a comprehensive and sustained approach, one that focused on student learning and teacher development as a way of initiating change.

Summary

This section has summarised the data collected from teachers at Time 1. It has identified key teacher understandings on reading comprehension instruction from data collected through taped, transcribed and analysed interviews along with exemplification of current guided reading comprehension teaching practice as observed, videoed and coded. The following section describes the response in terms of the thrust of professional learning that was indicated from the data collected from teachers and students at Time 1. It recounts the first cycle of action research and teacher professional development undertaken in relation to each of the key themes emerging from Time 1 data. The four themes were generated from teacher interview and teacher observation data. They were: teacher knowledge of analysis and use of assessment data, teacher knowledge of literacy acquisition, teacher knowledge of literacy pedagogy and teacher knowledge of ways of working.

Analysis and Use of Student Achievement Data

Data collected from Time 1 indicated a lack of teacher knowledge of the tools available to assess student achievement in reading comprehension. While there was variability in the tools that teachers could name, teachers were unable to describe how they would select a tool to be the most appropriate match to either the identified student need, or the aspect of learning they wanted to explore further. Participant teachers could not clearly explain the process of analysis of data to inform teaching.

The first priority for the researcher was to introduce the STAR assessment tool to teachers, to facilitate learning about the type of information it could potentially provide for teachers, and how the tool should be administered. The second priority was to begin to develop teacher capacity to analyse data by engaging them in the process of analysis. STAR data gathered from the students in participant teachers' classes was used for this purpose.

Two full day workshops, plus problem solving and discussion sessions, held at fortnightly intervals, were devoted to examining initial classroom STAR assessments and to learning about and through analysis of data. The philosophy of Clay (1998) who argued: "Assessment should make a real difference to a child's learning. It should reach into the child's existing ways of learning to discover at what level his or her literacy awareness can be tapped" (p. 205), underpinned the basis for learning about and examining student

data.

Teachers were required to examine the reading behaviours and skills that each STAR subtest assessed. Teacher talk was directed towards understanding what subtest and stanine scores might mean for individual students and groups of students, the type of questions teachers needed to ask of their data, and what other information they would need to gather to gain a more informed picture of individual and group achievement. Teachers learnt to read STAR subtest scores to determine which students achieved within expected score (e.g., the mean and typical range where approximately 50% of students fall, Elley, 2001, p. 22); which students achieved at or below a critical score (e.g., those in need of individual investigation and assistance (Elley, 2001, p. 22), and which students scored higher than the typical range of sub-test scores.

The STAR teachers' manual was used to provide professional reading to support STAR data analysis. A professional reading by Gusky (2003), "How classroom assessments improve learning", was used to focus teachers' thinking on the implications of their student data for their own professional learning and the use of these data to establish student learning goals.

Following these sessions, the researcher led a workshop on gathering and analysing data through use of running record (MOE, 2002) assessments. The use of running records in years 4-9 is not recommended for all students. Rather, it should be used selectively for those students requiring assessment of accuracy, fluency and decoding (MOE, 2002, Timperley, Miriams, & Portway, 2002). Additionally, while a running record assesses oral reading, this is only one of the many skills a student needs to acquire. This workshop was developed in response to Time 1 data collection where teachers stated they were using running records with all their students twice a year to provide summative information on reading achievement.

The lead teachers worked in groups to critique the type of data a running record could contribute to their understanding of student achievement, to consider what they would learn about student strengths and needs, and to formulate what questions they would need to ask of the data in order to be able to use it to inform their teaching. The workshop also focused on teacher knowledge of principles for consistent gathering and use of data taken from a running record.

Following this session, and building on the observations teachers were able to make through assessing oral reading, we began to explore the practice of teacher observation as

a further way of gathering high quality data on student's reading comprehension achievement. In particular, we explored participant teachers' knowledge of what information they could gather from observing students behaviours as they read silently, as they read to a partner, and as they selected text for independent reading and the information these observations could provide to inform reading comprehension instruction. "Observational strategies: alternatives to large-group assessments" (Allington & Cunningham, 2002, pp. 146-158) was provided as a professional reading for participant teachers.

These sessions initiated discussion on formative assessment, what it was, what information it provided teachers and students with and how gathering formative assessment assists in planning needs based programmes for students. Participant teachers agreed to take a running record assessment with those students in their class who achieved a stanine 1 or 2 score and that the information gained from this tool would be used for formative purposes. This included teachers learning to take opportunities to use assessments to provide feedback to students about the reading strategies teachers observe or diagnose and find to be missing.

A complementary session was spent learning about formative assessment. We particularly focused on the practice of sharing lesson learning intentions and success criteria with students at the beginning of the lesson; providing discussion and feedback in relation to these goals during the lesson, and providing opportunities for self assessment and reflection on learning at the conclusion of each lesson. Two professional readings were introduced to the teachers and used to support teacher learning and to engender teacher discussion. These were "Inside the black box" (Black & Wiliam, 1998) and "Unlocking formative assessment" (Clarke, 2001).

Knowledge of Literacy Acquisition

In addition to having little knowledge of assessment practices, participant teachers did not have a clear understanding of how students develop the ability to comprehend text. Interview and observation data had indicated that the teachers were not able to explain what comprehension actually involved or the processes and strategies good comprehenders acquire and learn to use. However, informed knowledge of comprehension acquisition is critical if teachers are to respond more effectively to student achievement data, to learn to make decisions on appropriate instructional content and practice and to develop a supportive and needs based learning environment for reading

comprehension achievement (Farstrup & Samuels, 2002; NRP, 2000; RAND Reading Study Group, 2002). For this reason, focusing on developing teacher knowledge and expertise of literacy acquisition became equally as important as focusing on classroom teaching approaches. Stoll et al. (2003, p. 78) argue: "What we do know [about understanding learning] suggests very strongly that to focus on the 'tools' of teaching without an understanding of learning is short-sighted. Learning needs to come first". In the context of this project, teacher learning was paramount.

Initially, participant teachers needed to learn about what good comprehenders actually do. Two professional readings were provided for teachers. These were "Knowledge of Literacy Learning" (MOE, 2003, p. 17-48) and "Metacognition and self regulated comprehension" (Pressley, 2002, p. 291-309). The workshop content and group discussion was aimed at building teacher knowledge of comprehension processes and strategies. The key messages for teachers were that skilled readers know how to get meaning from text and that good comprehenders are active as they read.

Student ability to relate what they are reading to their prior knowledge in order for text to make sense is essential for reading comprehension (Anderson & Pearson, 1984; Fielding & Pearson 1994). Participant teachers needed to understand the importance of reader prior knowledge and to develop methods for deliberately linking to student prior knowledge before students begin to read.

Time 1 STAR data, and subsequent data collected from running records indicated that there were a number of students in each teacher's class who were weak at decoding and word attack. Research illustrates that many low achieving readers can learn to recognise words through explicit decoding instruction and that these behaviours enable readers to have greater cognitive capacity for comprehension – both at word, phrase, sentence, and paragraph level (Ehri & Nunes, 2002; NRP, 2000; RAND Reading Study Group, 2002). However, it was evident through Time 1 data and from the questions and discussion of student reading comprehension difficulties at initial professional development sessions, that, with the exception of teaching students to "sound out" unknown words, none of the teachers knew how to teach decoding strategies explicitly.

It was important to meet the needs of the students for whom decoding was difficult. In the context of this professional development this meant providing participant teachers with workshops and researcher demonstration regarding strategies students could use to help them decode unknown words. Strategies that were explained and demonstrated included

learning about the use of onset and meaning to figure out a word, sounding out a word by elongating its sounds; rechecking by rereading and monitoring sounds; using letter-sound information to rethink a miscue; using pattern knowledge to figure out words; developing knowledge of complex letter sound and using words students know and building on word knowledge (Allcock, 2002; Cunningham, 2000; Dahl, Scharer, Lawson, & Grogan, 2002).

Teachers were provided with opportunities to explain and demonstrate the strategies to each other and together they developed approaches for working with students to provide explicit instruction on decoding. Underpinning these sessions was research stating that students need cognitive clarity about what they are learning (Cunningham; 2000); that classroom instruction requires not just knowledge of phonics concepts but also instruction on how to use this knowledge (Dahl et al., 2001); that instruction should be explicit (Ehri, 2003), and that students need to be confident and motivated that they can learn (Schunk & Zimmerman, 1997).

The teachers revisited "Knowledge of literacy learning" (MOE, 2003, p. 17-48) and, under the guidance of the researcher, identified and listed strategies that students could use to help them decode a word. These strategies were developed for teachers to model, demonstrate and provide explicit instruction on through modelling in small groups and in the context of reading instruction, demonstration of their use, provision of independent student practice and creating opportunities for students to talk about what they did and why. Teachers determined to introduce strategies with their students in the context of instructional lessons and through paired reading. The strategies that were identified for instruction are summarised in Table 5.

Table 5. Strategies for Decoding Unknown Words

When we come to a word we don't know we can:
• Look at the initial and end sounds and try to work out what the word is
• Look at the initial letters and ask "How does the word start?
• Look for syllables and use these to sound out the word
• Look for patterns in the word – blends, vowel sounds

When we come to a word we don't know we can:

- Read to the end of the sentence, go back and think about what might make sense
- Look for small words we know within the word to help us sound the word out
- Look for root words with a suffix and/or prefix
- Use a combination of these strategies

Time 1 data collected from both interviews and observations also indicated that teachers were not knowledgeable about the cognitive strategies good readers control before, during and after reading. A professional reading (Pressley & Wharton-McDonald, 2000) provided participant teachers with an introduction to cognitive comprehension strategies, what they were and how they needed to be taught as part of regular reading comprehension instruction. After whole group discussion on the reading, teachers re-visited the strategies with a buddy. The purpose of buddy work was to identify those strategies they were most unfamiliar with and to begin to talk about what they would need to know to be able to explain a strategy to their students, how they would explain the strategy to their students, the questions that would prompt students awareness of the strategy and the type of demonstration teachers would need to provide of the strategy in use.

In the following session the researcher explained and demonstrated the following key components of transactional strategy instruction:

a. Strategy instruction is long term with strategies being introduced one at a time on a needs basis

b. Teachers provide their students with information on the strategies that includes when and how to use them and the learning benefits they will gain from their use

c. Students receive instruction in small and large groups through direct explanation and modelling of strategies

(adapted from Pressley 2002a).

This session linked directly to the group's professional development sessions on guided reading. If transactional strategy instruction was to provide a framework for teaching comprehension, this meant that comprehension strategies would be deliberately introduced, explained and modelled to students as part of the guided reading lesson.

Teacher Pedagogical Knowledge

Time 1 data indicated that participant teachers were not confident in their use of the guided reading approach to teaching reading comprehension. Despite all six teachers stating that they were using guided reading as an instructional approach, no teacher was able to describe her practice clearly. Video observations of the six teachers concluded that guided reading instruction was weak. No teacher was able to describe the place of comprehension strategy instruction in her teaching, either in the instructional lesson or in the pre and post lesson activities. Two immediate areas for professional learning were to revisit the instructional teaching approach of Guided Reading and to provide instruction for teachers on how to build metacognitive awareness in to deliberately planned classroom instruction.

The researcher provided demonstrations of guided reading teaching. These demonstrations systematically focused on fine tuning teacher practice at the introductory phase of the lesson (integrating formative assessment practices of shared learning intentions and success criteria), the body of the lesson (including questioning, discussion, teacher prompting and scaffolding, as strategies for comprehension were made explicit), and the conclusion of the lesson (revisiting learning intentions, content knowledge, use of strategies and providing opportunities for student and teacher self reflection). Both the demonstrations and the discussion that followed focused on how teachers could use guided reading to provide focused, explicit teaching with an instructional purpose based on identified student needs. The observation schedule used for analysing videos of teacher practice at time 1, 2 and 3 (see Appendix C) was provided to focus teacher observation of the demonstration and to guide subsequent discussion. This schedule was also used to assist teachers in setting goals for their own teaching as they practiced guided reading and reflected on their practice between professional development sessions. Sections from "Guided reading years 1-4" (MOE, 2002d) were assigned and became a focus for discussion and teacher talk at each of the subsequent professional development sessions.

Guided reading practice and teacher learning about comprehension strategy instruction became a major focus for the remainder of the professional development sessions in phase 1. The transactional strategy instruction model of long term instruction, introducing a strategy one at a time with modelling and demonstration was developed with teachers as a framework for comprehension instruction.

At subsequent sessions, the researcher and teachers met to talk and engage in collaborative problem solving around issues related to guided reading instruction, the inclusion of formative assessment within guided reading and the deliberate teaching of comprehension strategies. Teachers were finding it difficult to determine exactly which strategies their students were not using. A major factor with this was that the teachers were not sufficiently familiar with the strategies themselves and needed time to learn about these and work with them. Subsequently, it was difficult for the teachers to decide what the learning intention should be and to write clear learning intentions for their lessons. We revisited student achievement data specifically for the purpose of identifying strategies and next steps for teaching and agreed to focus our learning, and the students' learning, on the strategies of linking to prior knowledge (Anderson & Pearson, 1984; Fielding & Pearson 1994) and generating visual images. The researcher demonstrated how teachers could use formative assessments to monitor student progress and identify future lesson focuses. Monitoring progress against lesson outcomes and success criteria, teacher observation and discussion with students, completed student tasks and student self assessment were each suggested as ways that teachers could gather useful information to inform their teaching, to review the effectiveness of their strategy instruction and set instructional goals for future lessons.

In addition to modifying their practice in these ways, teachers were asked to replace daily sustained silent reading with daily oral repeated reading with a partner. The researcher had two reasons for this. Firstly, teachers had commented that their students were not very motivated towards silent reading, and not very well behaved during this time. Secondly, when teachers were questioned by the researcher it was evident that they were not monitoring the appropriateness of the level of the text their students were reading. Nor were teachers monitoring student comprehension of what was read.

Oral repeated reading was introduced to provide an opportunity for students to practice specific decoding, fluency and accuracy strategies with a partner. The method was modified to require students to observe each other read aloud and give feedback to each other about the strategies they observed each other use. This drew on the transactional

strategy model of providing opportunities for students to use strategies independently, for students to model and explain their use of strategies to each other, and for students to give and receive feedback on their strategy use from peers. At the same time, repeated reading of a text provided opportunity for improving a student's reading speed, word recognition and comprehension (Samuels, 2002).

Building teacher knowledge about raising student reading comprehension achievement during phase 1 was a complex process. The researcher needed to build teacher knowledge, capacity and confidence in both analysis and use of assessment data: in how to take guided reading instructional lessons and in how to respond to individual and group learning needs. A good deal of time was spent on establishing guided reading practice and beginning to develop teacher knowledge and expertise of teaching of comprehension strategies.

Explicit instruction from the researcher, supported by professional readings and regular opportunities for teacher talk and collaborative problem solving, was a critical element in developing teacher expertise at this stage of the project. Between each fortnightly session, teachers were encouraged to practice new learning, to reflect on both the shifts they were beginning to make to their teaching, and to observe the way their students were responding to instruction. Teachers brought to each session examples of specific student learning outcomes, success criteria, lesson plans and comprehension strategy tasks. These were shared, discussed and evaluated by the group. This had the added value of not only building teacher confidence in what they were doing, but also in terms of their learning to critique the effectiveness of their practice with others, to justify and explain the teaching decisions they were making, and to learn from the practices and reflections of their colleagues.

As momentum and teacher confidence started to build, the focus of sessions began to change. Teachers began to take more ownership over identifying the content for workshop and researcher demonstration sessions. They wanted to know more about how they could engage all their students in discussion during guided reading sessions. They also began to ask about how to teach specific comprehension strategies.

A professional reading on collaborative problem solving approach (Allen, 1995) was introduced as a way of examining student achievement. Using this approach, a problem was presented to the group by one of the group members. This group member explained the problem and what they had done to try to address it. Other group members then asked

questions to try to clarify the problem before participating in a discussion in which group members examined what they believed had worked well and what the teacher could try to improve. The session concluded with the teacher who presented the problem sharing the ideas suggested by other group members and reflecting on what they might try to do next. The researcher's role was to demonstrate this process, to see that discussion was inclusive and to prevent conversations being superficial. This was an important aspect of providing professional learning opportunities for participant teachers through which their talk would have an impact on student learning (Annan, Lai & Robinson, 2003).

We established a buddy mentor system and set guidelines for teacher observations of guided reading instruction and for providing feedback. Fortnightly visits to observe one another teach were built in to the professional development sessions. Buddies would provide feedback to each other, and then to the group, on what they had seen. An observation schedule (see Appendix D) and individual teacher goals provided the basis for buddy observations. Feedback would include suggestions for improvement.

Each participant teacher was required to run three staff meetings with staff at their own school over this time. Guidelines for leading staff meetings and the content of each meeting were workshopped with the lead teachers during their professional development sessions. The first staff meeting was to support school staff with analysis of STAR data; the second and third were on using data to set learning intentions for guided reading instruction. Participant teachers presented their own class data, and the analysis of this to support their sessions. They shared with their staff what the analysis told them and how they were learning to use this to identify priorities for instruction. Each staff meeting lead by participant teachers preceded a cluster wide workshop for all teachers in participant schools on analysis of STAR data and of guided reading. This workshop was run by the researcher.

Summary

This chapter has described how the data collected at time 1 were used to inform teacher professional development aimed at raising reading comprehension achievement of the students in participant teacher classrooms. The chapter has described the first phase of professional development as the researcher responded to data on low levels teacher knowledge of reading comprehension assessment, lack of teacher knowledge of reading comprehension acquisition and low teacher knowledge of reading comprehension pedagogy. The chapter details how the philosophy underpinning a Transactional Strategy

Approach to teaching and learning in reading comprehension was introduced to participant teachers through the context of guided reading, direct explanation and demonstration of strategies and building teacher knowledge of what good comprehenders do as they read. This chapter also detailed the introduction of formative assessment and teacher learning of data analysis in to the Transactional Strategies approach. The conclusion of this chapter discussed the collaborative and evidence based ways of working that were integral to the professional development model.

Chapter 7: Teacher Knowledge, Practices And Professional Development Time 2

This chapter reports on the analysis of the data collected from the six lead teachers mid way through the project. The data, collected through teacher interview and videoed observations of teaching, provided the basis for the second cycle of action research. The interviews provided on-going data of teacher knowledge of effective literacy acquisition, teaching and learning. The observations provided data on the nature, type and quality of reading comprehension instruction. The chapter analyses the data collated from the six lead teachers at the second of three points of time over one year and presents the findings under the key themes generated from teacher interviews and observations. It then recounts the second cycle of action research and professional development undertaken in relation to each of the key themes from which the data were gathered. The chapter concludes by providing a summary of the data collected at time 2 and the implications of this for future professional learning.

LEAD TEACHER SUMMARY OF DATA TIME 2

Theme A: Knowledge of Literacy Learning In Comprehension

a. Ability to articulate and explain what they believe reading comprehension actually is

b. Knowledge of what good comprehenders do

c. Use of processing strategies

d. Use of comprehension strategies

Four out of six teachers were able to provide a clear definition of reading comprehension that included student knowledge and use of processing and comprehension strategies. These teachers were able to demonstrate their knowledge that reading comprehension was a complex process that involved students in making meaning from text. The teachers indicated that their own view of what reading comprehension was had grown as they

learned more about the processes and strategies used by good comprehenders. Teacher G explained:

> *I don't think that I've changed my basic view of what comprehension is, but I've got a broader vision of how far it extends into the kids' reading. Comprehension is still the kids' ability to understand and interpret the text, but the skills that they bring to comprehension are so varied that it needs a lot of direct teaching, which I haven't been going before. It's the ability of a child to actually take the text, be able to decode it, and read it and understand what the authors' message is and what the purpose of the writing was. They need to be able to link in with what they already know, and that has been one of the hardest things for me, they need to use that prior knowledge and apply it to the text and make connections. They need to have a good basis with vocab, not actually just saying the words but understanding what they mean and be able to use them in more than one context to really show their understanding. They need to be able to ask questions of the text, and have the confidence to do that….they need to be able to predict what may happen, using part of the text as a guide, or even using photographs and things like that that support text* (Teacher G).

Teacher D explained that reading comprehension was more complex than she had initially thought. She described how, in addition to being able to decode text, comprehension involved students gaining deeper meaning, drawing on skills of inference, summarisation, making judgements and linking to their prior knowledge to be able to *"read deeper"* (Teacher D).

The importance of students knowing about their own learning, and being actively involved in the process of learning was articulated by Teacher G and Teacher B. These teachers were beginning to understand the importance of taking a highly metacognitive approach to teaching reading comprehension. Teacher G explained:

> *It's a thing to look at what they do themselves and be aware of what skills they are using and what skills they are not using* (Teacher G).

Similarly, Teacher B shared an example of how she deliberately involved students in knowing about their progress as a result of regular running record assessments. This teacher explained:

> *They are leaving out words and things like that. I've done a reading accuracy test with them to show them what they are doing. The students know exactly where they were with the last running record and so I say, "How are you going to go this time?", and after the assessment they ask "How did I go?" It has really become a meaningful thing for them* (Teacher B).

Additionally, four of the six teachers were now discussing the importance of student prior knowledge and comprehension. This is exemplified by Teacher B and Teacher D who stated:

> *It's about taking the reading and putting it into their life and making it meaningful for them* (Teacher B).

> *They often have prior knowledge to bring to their text, their experiences of the world and of language and a general understanding of the topic* (Teacher D).

However, responses from two of the six teachers indicated that they still did not yet have a clear understanding of what reading comprehension involves. These teachers limited their definitions of reading comprehension to student ability to decode, to read fluently and to read accurately. While each of these is a component of good reading comprehension, responses from these teachers indicated that the teachers had not fully grasped the relationship between processing and comprehension strategies, nor the role of cognition and metacognition in comprehension. Teacher L stated that comprehension was:

> *When students read something, reading for accuracy, fluency, just understanding of a certain text and decoding the words. So if you ask them a question about what they've just read they'll be able to understand either the paragraph or the word, depending on what we're reading* (Teacher L).

Similarly, the following transcript from teacher K illustrates that the teacher does not fully understand the complexity of reading comprehension. This teacher stated:

> *They should be able to decode, being able to sound initial letters and words, to recognise basic high frequency words, (long pause), decoding. Just understanding what is being read and just working out the words; how they sound, the meaning of the words* (Teacher K).

When prompted a second time to describe what a good reader would be doing, Teacher K continued to focus on decoding strategies. This is despite both teachers later discussing how they included teaching visualisation and prediction in their comprehension teaching.

However, when asked to reflect on what they had learned about reading comprehension over the course of time 1 professional development, all teachers were able to share how their understanding was deepening. Shifts in teacher understanding were explained by Teachers E, D and L who commented:

> *It's all the work we have done this year, it's sort of opened your eyes to what we are wanting the children to gain from the text, and to understand from the text, rather than giving them ten questions and expecting the answer, you know, a worksheet. Worksheets have just gone out the window, basically* (Teacher E).

> *I'm more focused on what the purpose is. And it's not just choosing a book and saying, "Oh, we'll do this story today". I'm really choosing texts very wisely now, and for a reason. You know, linking back to the needs of that group. I feel I have moved a great deal in how effectively I'm teaching comprehension strategies. It has made me look at what I'm doing, and why I'm doing it and justifying* (Teacher D).

> *There is just so much about comprehension; just learning specific strategies, knowing what they are and implementing them into the classroom and seeing the influence on the students. Before it was very vague, now it's more specific* (Teacher L).

Theme B: Knowledge of Effective Reading Comprehension Approaches

a. Ability to explain the main teaching approaches they use to teach reading comprehension

b. Knowledge of relationship between research on reading comprehension and own practice

c. Knowledge of approaches to develop metacognitively aware readers

d. Knowledge of providing an effective and comprehensive reading comprehension instructional programme

All six teachers were able to explain that they were using guided reading as a comprehension teaching approach. Additionally, all six teachers referred to teaching reading comprehension strategies within the context of their guided reading lessons. Teacher D explains:

> *Through my guided reading lessons we do a lot of predicting and a lot of "What do we want to know?" and "What do we want to find out?" We will often brainstorm the topic or theme before we do the lesson. While I'm taking the guided reading lesson I'm now stating a purpose for that part of the reading, stating: "We are going to find out" or "Read and find out". So I'm actually giving them something to focus on, and a question that they need to answer. If you give them that question first then it gives them something to look for while they are reading* (Teacher D).

In addition, all teachers now shared specific learning intentions with their students at the beginning of their guided reading instructional lesson. Teachers reported that this was making their teaching more explicit, and was effective in helping their students to learn about what they should be able to do to comprehend text. This process is explained by Teacher D:

> *Sharing of learning outcomes and success criteria is happening on a regular basis now, with the kids even reminding me when we haven't filled out the sheet with these on it. I've got one boy who always reminds me, so that's good. He obviously likes to know what we are doing* (Teacher D).

Four teachers (Teachers B, D, L, & G) described how the learning intention and success criteria were effective in developing their students' awareness of what good readers do and of their own reading comprehension.

All teachers were able to talk about comprehension strategies that they were incorporating in to their guided reading lessons. These were predominantly the strategies of visualisation and activating prior knowledge (the strategies that were focused on as part of professional development in phase 1). However, two teachers were also teaching the summarisation strategy, one teacher (Teacher G) had begun to introduce self questioning strategies, while Teacher K was also focusing on inference. Additionally, all

six teachers described how they used paired reading where partners monitored each other's ability to read fluently and accurately. This is part of teaching students the strategy of self monitoring what they are reading and understanding.

It was apparent however, that teacher understanding of comprehension strategies and comprehension strategy instruction remained variable. Two teachers found it difficult to explain how they actually incorporated strategy instruction in their teaching. This is exemplified by Teachers L and K who stated:

> *First we've been doing a lot of peer reading, so a lot is comprehension, like reading for accuracy, fluency, things like that. Also prediction, when they are um, reading text before, trying to get that visual image in their mind, so they can understand what the text is about. I don't know what else. I think just picking out words too, um, doing guided reading with them. I've seen that has really helped a lot with comprehension* (Teacher L).

> *For comprehension it is mainly about sentence structures. Words, understanding what words, words that you could put into place into a sentence, there's a lot of different meanings of different words. And we have been visualising. I've read a passage, they visualize, they draw what they could see when I read. And then they do it themselves* (Teacher K).

Three teachers (Teachers D, B, and G) explained how they deliberately planned activities to build on student prior knowledge of content, and to link to their students' own life experiences, before a new text was read to the students. These teachers either used the KWL strategy (Carr & Ogle, 1987; Ogle, 1986) or group brainstorming around key headings to do this. Teacher G also explained how this prior knowledge activity has helped her become more selective about text selection. Teachers B and G explain:

> *We do a lot of what do we know and what do we want to find out. We'll often do a brainstorm on the theme or topic before we do the lesson* (Teacher B).

> *I've used KWL all term and that has been amazing, because the things I expected them to know about they actually didn't. And that was for me because I could check after they'd done it. And on occasion I have actually withdrawn*

> *the text I was planning to do, and did another one because there was just not enough prior knowledge there* (Teacher G).

However, linking to students' prior knowledge before instruction was not occurring in all classrooms. Teacher K and L were not doing this on a regular basis, as illustrated by Teacher L who shared:

> *I have done a little bit of KWL, not too much, still getting that up and running* (Teacher L).

Furthermore, Teacher L was not able to describe clearly, or elaborate on, how she delivered vocabulary instruction. The following conversation illustrates this:

> Researcher: *What sort of things do you teach?*
>
> Teacher L: *Just picking out words too. Reading like a paragraph, chunking, and then you know, certain words that I think they may not understand, just with the vocabulary and putting it into different context. So I say, "What do you think this means?" And so then they can understand the rest of the paragraph.*
>
> Researcher: *In terms of vocabulary teaching, what sort of things do you do?*
>
> Teacher L: *I'm thinking of a word. A word on the board and they have to make up other words, or have to find finishes. Sometimes a root word, sometimes it could be syllables, sometimes specific categories, I just depends.*

Four teachers, however, described how they had begun to make changes to include more explicit and planned opportunities for vocabulary instruction within the reading comprehension lesson and follow up activities. These teachers explained:

> *We do categorising, using nouns, adverbs, adjectives, synonyms; semantic word mapping* (Teacher D).
>
> *We do a pre-reading vocabulary activity so they've already started thinking about vocabulary; we do categorising, synonyms, word study* (Teacher B).
>
> *Categorising activities for vocabulary and making them search the text* (Teacher G).

> *There are a lot of different meanings for words. I have the key words written down; if there are words they are not sure of we do word webs* (Teacher K).

No teachers were building on opportunities to teach and practice comprehension strategies during cross curricula studies. One teacher stated:

> *We've talked about visualisation when we've been reading an article about orang-utans in this rehabilitation project. Probably not as much as I'd like to be doing. I'll be doing more of that next term* (Teacher D).

A second teacher (Teacher E) reported using guided reading during science, health and social studies lessons, but was not yet deliberately incorporating strategy instruction in to her teaching outside the actual reading lesson.

However, paired reading had been adopted by all teachers with the specific focus of teaching students about reading for fluency and accuracy while also providing increased opportunity for actual reading. Teacher D shares this practice by saying:

> *With paired reading we're talking about, and practising, what we've found out about reading fluently and accurately as we have listened to our pair read. It is going really well. The kids have their buddy from their own ability group. They have a laminated sheet that they keep beside them with fluency and accuracy behaviours listed. The person who is listening to the reader has to stay focused on the goal. They give the reader feedback. After they have read a page they talk about the visual image they have. They just love reading aloud to each other and finding that their fluency is improving* (Teacher D).

Knowledge of How to Develop Teaching Practice Specific to Low Achieving Readers

All teachers indicated that they had increased the amount of deliberate vocabulary instruction incorporated in their planning for all students, and particularly so for their underachieving students. Three teachers described their use of pre-reading activities designed to activate student prior knowledge as having an increased focus in their teaching. In each case this included a deliberate focus on vocabulary that would be encountered in the text. Three teachers described activities that assisted students to categorise new vocabulary so that connections were made between new words and the language and experiences of the students.

Teacher G described how she had been trying to make the follow up tasks for her students closely linked to the learning intentions for instructional reading. This teacher had also identified from STAR data and observations during lessons that there was a need for activities to focus on building wider vocabulary. This teacher stated:

> *If the purpose is comparing text, or comparing vocabulary, then the task they take away is linked in with that. I will also pick a vocab activity because that's something we've been trying to lift up* (Teacher G).

One teacher described how she had begun to be more deliberate incorporating strategy instruction into teaching of low achieving readers. The teacher stated:

> *I think we were spending too much time on decoding. It's almost taking the place of the comprehension. We're moving in to activating pictures in your mind now (visualisation strategy). Trying to. I don't think they are quite seeing this themselves, but I am telling them that this is going to help them understand something that they don't understand. But they haven't actually got the belief in it themselves, yet, but we're working on that* (Teacher B).

This teacher also reported that she had been learning the strategy of summarisation. She described how they were just starting to talk about the summarisation strategy as a result of students having difficulty with re-tell. The teacher explained:

> *Retell is a balance of what to re-tell and what not to re-tell. We've been practicing this through short chunks of text – I ask them to read to find out something and then they close their text and summarise what they found out* (Teacher B).

A second teacher described how teaching the students to self monitor as they read had become an important part of her work with underachieving students. This teacher stated:

> *The purpose is based on self correcting. The main thing we do is read a text together. I could make a mistake and see if they find it, if they can go back and self correct. And then letting them do this independently* (Teacher K).

Similarly, Teacher E, in identifying student questioning as an area of need, stated:

> *At the moment I'm working on their questioning techniques and that's the main focus, questioning from text. And so I'm modelling questions. I might have*

questions all prepared so it is giving them models of a good question, it's more the thinking type of questions and getting them to understand those (Teacher E).

All teachers also attributed formative assessment practices, in particular the sharing of learning intentions and success criteria with students, as having impact with their underachieving students. This practice is discussed in the following section.

Theme C: Knowledge of Analysis and Use of Student Achievement Data for Raising Reading Comprehension

a. Knowledge of assessment practices

b. Knowledge of what information assessments provide

c. Knowledge of analysing data

d. Knowledge of relationship between information and teaching practices

e. Knowledge of assessment properties

All teachers were asked to describe what they knew about their students' reading comprehension needs at this stage of the year. Responses indicated that teachers were beginning to analyse how they were using the data they collected, what they were teaching, what students were doing during their lessons, how students were responding, and that teachers were beginning to think about what these findings might mean for the type and mix of instruction they provided. The following quotes from Teachers K, G and E illustrate the responses made by teachers:

I have a lot of readers that are fluent, they read very fast, but it is the comprehending of what they have read. So I'm going to put them down a reading level to help them with their comprehension, so that they understand what they have read, um, inference questions, that's what I'm finding out. They can't comprehend what they have read unless it is straight from the story, and they can't sequence (Teacher K).

There is a big range. Some of them consider themselves to be very, very good readers, and feel they've got nothing else to learn. Data has shown opposite to that, it has shown that they've actually got gaps. And until they realise that they have got gaps, then their progress is going to be slow. Other students have got

> *really low self esteem, and they feel that they are poor readers and they'll never be able to read. Trying to break through that attitude and their self-perception is going to be a challenge. I think that is the biggest challenge, how they see themselves as readers. The other big thing for us is student prior knowledge because lots of them have not got a lot of prior knowledge, and then you are in a quandary, do you stay within texts that are within their experience, or do you use the text as the experience and deliberately develop prior knowledge. Vocab is another problem. The other thing that has come up is their ability to make connections. They tend to learn things in isolation, and don't see that it can be used in lots of ways. They are not linking things together* (Teacher G).

> *I think it is still the predicting. They need to still be able to have the confidence to go and predict what's going to happen. I've got them answering a lot more thinking questions, like, "why do you think that? How do you think?, so what we've started doing is bringing in a lot of questions that have the word "think" in them. And also, what I'd like to do is get them more confident with some of the follow up activities that they are expected to do* (Teacher E).

Teacher descriptions of how they gathered assessment data continued to be variable but there was greater emphasis on specific methods of formative assessment that teachers were using, and indication that teachers were beginning to think about the fit between the method and what they actually wanted to know about achievement. Teachers reported that a variety of approaches to gathering assessment data were used. These were teacher observation (n = 4), teacher anecdotal records (n = 2), student ability to use the strategies lessons had focused on (n = 1), student re-telling (n = 1), student asking questions of text (n = 2), discussion students contribute during lessons (n = 2), student self assessment (n = 2), student book work (n = 2), student-teacher conferencing (n = 2), student responses to teacher questions (n = 3), and taking a running record for target students (n = 4).

In addition to these assessment methods, all teachers had just completed the time 2 student data collection using the STAR reading comprehension assessment tool at the time of this interview. Teachers reported that they had become more confident with analysing achievement using the STAR tool. Teacher L explained:

> *The first thing I do is look at where those students are who are identified at the critical stage, and what areas they are especially weak in. And also, those really top students who might have got really low in one section* (Teacher L).

Three of the six teachers were able to explain how they had become more open in sharing the purpose and results of assessment with their students as a deliberate attempt to help the students become more aware of their own learning needs. These teachers explain:

> *I've done a reading accuracy test with them to show them what they are doing. I think actually seeing the running record has been more meaningful for them. They know exactly where they were with their first running record, and so I ask 'how are you going to do this time" and when we have done it they ask "how did I go". It has really become a meaningful thing for them* (Teacher B).

> *I do a test at the end of the week, a little test to see if they understand what we have been learning. They have log books that I use with them. The goal that we've set for the day, what they've learnt and what they need to learn. And I just comment always, I re-visit goals until I find that their understanding is coming through* (Teacher K).

A third teacher (Teacher L) had just shared the second STAR test results with her students at the time of this interview. This teacher explained:

> *Seeing the STAR test, just seeing how they've all improved. It's really good. That is what they are all saying "that's really good"* (Teacher L).

All teachers attributed the sharing of learning intentions and success criteria with students at the beginning of reading comprehension lessons as integral to their efforts to raise student achievement. Teacher comments included:

> *At the end of the lesson, going back to it and the kids go "oh yeah, you know, we have been able to do that!"* (Teacher L).

> *I share the learning intention with the students, but students are only just starting to develop the success criteria themselves. With my lower group I haven't started this yet. At the beginning we tried and it was a disaster. They were only identifying what they felt they would be comfortable with, and I wanted more than that* (Teacher G).

Teacher G described how it took her groups a long time to focus on what they had been learning, rather than what they were doing. The teacher stated:

> *They weren't identifying the skills, but now they are going back and saying, "Oh, yes, this week we've been learning to compare. They are starting to see that learning has got a lot more to it than just reading the stuff* (Teacher G).

Another teacher (Teacher D) described how the practice of sharing learning intentions and success criteria with students during reading instruction was beginning to happen in science and social studies. This teacher stated:

> *And sharing the outcome, like in science, we talk about what we are learning today, so we're always doing that now, and in social studies, in all the topic studies, I'm actually sharing the learning outcome now. And the kids are getting better at success criteria* (Teacher D).

There was also evidence that teachers were beginning to use their student achievement data to make decisions about their teaching approaches. Teacher D and G both described how they had modified instruction to be more focused on vocabulary acquisition, and Teacher D had also begun including cloze activities from instructional text as a way of providing demonstration, modelling and direct explanation of reading for meaning and syntax. Teacher G described how she used a variety of information to help inform her decisions. This teacher stated:

> *At this stage it's a combination of my observations of what they are doing, I've started recording what I'm observing in the guided reading sessions, their ability to make inference text, their ability to reorganise the text, their responses to a text. Those are the ones I really have to keep track of because they just find them difficult* (Teacher G).

However, several teachers did identify problems they were having analysing and using data. The following transcript from Teacher E indicates that although there had been shifts in initial teacher understanding of assessment, there was still a lack of deep knowledge of what precisely to do with data to make informed decisions about teaching. Teacher E stated:

> *I have a lot more competence as far as questioning and formative assessment goes. It's not just having questions on a worksheet, and asking can they answer ten out of ten questions. It's looking at the types of answers* (Teacher E).

However, when asked to reflect on diagnosis of specific learning difficulties from data the teacher stated:

> *I just seem to think, ok, here are the results, now what do you do with them? You can't teach to everybody's individual needs, so you've got to go and group them. It's the diagnosis; you've got it in front of you, now what?* (Teacher E).

Teacher G commented:

> *I think the more I learn the more I have to learn. There seems to be more out there that I don't even know yet. The analysis for these lower achieving students is more complex* (Teacher G).

Additionally, Teacher L stated:

> *There's still more I need to learn, but I think I'm getting better* (Teacher L).

and Teacher B explained:

> *It's the everyday data – knowing, from the picture, where to go day to day* (Teacher B).

Observation Analysis Time 2

Video tapes of the teachers' 30 minute guided reading lessons were collected and analysed to coincide with data collection gathered from teacher interview at Time 2. Coding categories, developed and used at Time 1, enabled evaluations of the lesson introduction, lesson body and lesson conclusion to be recorded and analysed against both the categories and shift in teacher practice between Time 1 and Time 2.

Analysis of lesson content and interactions at Time 2 indicated that the teachers were now more familiar with guided reading theory and practice and more proficient at using this as a vehicle for teaching comprehension strategies (MOE, 2002d, 2003). Out of a possible score of 36, the teachers' average at Time 2 was 18.2 (for a discussion of coding and scoring see Chapter 5). Table 6 summarises the ratings for each teacher at Time 2 and provides a comparison between these ratings and those collected at Time 1 (for observation scoring schedule refer to Appendix C).

Table 6: Ratings of Guided Reading Lessons at Time 1 and Time 2 for Lead Teachers

		Teachers						Mean
Component	(Max)	B	D	E	G	K	L	
Introduction	(12)							
T1		3	2	1	1	0	0	1.2
T2		6	4	8	6	3	4	5.2
Lesson	(19)							
T1		5	7	5	10	4	2	5.5
T2		12	7	9	13	10	7	9.6
Conclusion	(5)							
T1		1	1	1	3	1	0	1.2
T2		4	3	4	3	2	2	3.0
Total	(36)							
T1		9	10	7	14	5	2	8.0
T2		22	14	21	22	15	15	18.2

Lesson Introduction

The introduction (maximum of 12 points) was coded for teaching behaviours such as establishing learning goals, discussing themes to activate prior knowledge and identifying potential difficulties (including unusual text features and vocabulary). The

mean score for this was 5.2 out of 12. The teachers were now all sharing lesson outcomes and success criteria in writing with their students at the beginning to the lesson. However, Teachers K and D were not yet writing these in language that students were clearly able to understand. In addition, the only teacher to check that students understood the success criteria was Teacher G. There was some evidence of teachers deliberately activating student prior knowledge of text content and text structure prior to the lesson commencing but only one teacher focused on possible challenges within text prior to reading. This was done verbally and without direct reference to the text. No teacher deliberately focused on explaining and checking student understanding of unusual text features, potentially challenging vocabulary or other challenges prior to beginning independent student reading.

Body of Lesson

The lesson following was coded for aspects such as dividing the text into sections for reading, assigning specific purposes for each section prior to student reading, providing specific guidance for student strategies, use of teacher and student questioning to develop understanding and making deliberate links to the lesson outcomes as the lesson progressed. Allocation of a maximum of 19 points was possible from the body of the lesson. The mean score for the lead teachers at time 2 was 9.6 out of 19. All teachers were dividing the text into manageable chunks for reading and discussion, with four out of six teachers setting a clear purpose for reading each section of the text. Two teachers (Teachers B and G) were making explicit links to strategies for comprehension throughout the reading. These were both pre-planned by the teacher prior to the lesson and in response to student difficulties as the reading progressed. Teachers L and K taught pre-determined strategies throughout the lesson but were not confident to shift their strategy teaching in response to problems that arose as students read. In the remaining two lessons, for Teachers D and E, comprehension strategy instruction was not evident. Skill in leading discussion and conversation around text also varied. Teacher G was facilitating conversations that enabled in-depth exploration of text content and encouraged students to contribute ideas freely and ask questions themselves of the text. In contrast, in the lesson taken by Teachers K and L, discussion took the form of questions by the teacher and answers from the students.

Lesson Conclusion

The conclusion was coded for checking back to intended outcomes and reflection on learning. The maximum possible score was 5 points. The mean score for the lead teachers was 3.0 out of 5. While all teachers returned to the lesson learning outcome and success criteria, Teachers L and K did so without an opportunity for student self assessment. In other classes, students were asked to reflect on what they had achieved but Teachers B and E were the only two teachers to ask students to identify areas they would like to revisit or focus their learning on in subsequent lessons.

Summary

This section has summarised the data collected from teachers at Time 2. It has identified key teacher understandings of reading comprehension instruction from data collected through taped, transcribed and analysed interviews, along with exemplification of current reading comprehension teaching practice as observed, videoed and coded.

Analysis of the data from individual teachers and from the lead teachers as a group indicated a number of priorities for professional learning aimed at raising the reading comprehension achievement of pupils in their classes. Data gathered from both the interview and from observations indicated that guided reading practice had become stronger and that comprehension strategy instruction was beginning to have a stronger place within their guided reading lessons. The teachers were now more aware of what these comprehension strategies were but it was very evident that they needed far more support in learning about how and when to teach them to their students. Similarly, while teachers now acknowledged the place of metacognition in reading comprehension instruction, this was not highly evident in their lessons. In addition, formative assessment, while now apparent with varying degrees in all lessons, needed to be strengthened to involve students more actively in both determining lesson outcomes and in reflecting on their own learning.

Time 2 data also highlighted the need to continue a comprehensive and sustained approach to professional development, one that focused on learning about and through student data as a way of continuing teacher development and change. Time 2 data indicated that while teachers were engaging in new learning and making changes to their practice, they were each doing so at a different pace. Continuing to focus on providing opportunities for mentoring within the group, for collaborative talk and problem solving,

for individual practice and reflection were considered critical to long term and sustained change.

The following section discusses the findings from the second teacher data collection and describes how the second phase of professional development in the action research cycle responded to the data described in this chapter

Responding to Data Time 2

This section builds on from the themes gathered from the data collected from teachers and students at time 2 and recounts the second cycle of action research and teacher professional development undertaken in relation to each of the key themes from which data were gathered. The themes were generated from teacher interview and observation were teacher knowledge of analysis and use of assessment data, teacher knowledge of literacy acquisition, teacher knowledge of literacy pedagogy and teacher knowledge of ways of working. The chapter concludes providing a summary of the data collected at Time 2 and the implications for future teacher professional learning.

Analysis and Use of Student Achievement Data

The second round of data indicated that teachers were developing understanding of and confidence in using reading comprehension assessment tool. They had administered STAR on two occasions and were about to begin analysis of the second STAR data. Participant teachers had also made modifications to their practice of taking running records and were now only using these as an assessment for their lowest achieving students. In addition, they were beginning to explore a range of other ways of gathering data that included use of formative assessment information from learning outcomes, success criteria, student discussion and participation during lessons, focused observations, student participation in follow up activities, group work, and book work. However, despite an increased ability to gather data, teachers were still not confident in knowing how to analyse the data specifically, and to use it inform their comprehension instruction.

This led to a number of priorities for professional development in the second phase of the project. We needed to continue to learn about a variety of assessment procedures that would provide high quality information on student comprehension abilities. Teachers needed to learn more about what assessment information could best be gathered by which tools, including a continued focus on developing teacher observation strategies drawing from the daily work that students participated in during lessons (Allington &

Cunningham, 2002). It also meant a sustained focus on formative assessment procedures (Black & Wiliam, 1998; Clarke, 2001; Clarke, Timperley, & Hattie, 2003), in particular the inclusion of self and peer assessment and individual and small group conferences that led to goal setting for future comprehension lessons. Current practice also indicated that teachers were taking sole responsibility for determining the success criteria for the lessons. Now that the practice of sharing success criteria was consistent, teachers needed to be encouraged to let students be more involved in this process, linking self assessment and reflection of learning to the success criteria of subsequent lessons.

A second priority was to learn more about the process of analysis, what analysis actually was, how to analyse and the kinds of questions and problem solving that in depth analysis of reading comprehension data would require.

Teachers were required to bring student achievement data that included STAR data, running records, observational records, monitored learning intentions and success criteria to each professional development session. Workshop and collaborative problem solving sessions took place based on the data teachers collected from their students. The critical question posed to teachers was "What is this student not able to do that is preventing him/her from improving his/her achievement in reading comprehension?"

Lack of teacher knowledge of what analysis involved was evident from time 1 and 2 interview data and from discussion of assessment practices during phase 1 professional development. The teachers needed support with how to analyse the data they gathered in order to get the most benefit for their students, and their teaching, from the data. One teacher (Teacher E) particularly asked for support with analysis at the Time 2 data gathering interview.

For these reasons, the researcher developed a series of questions to assist teacher thinking about data analysis. These questions were used to guide professional development sessions in which teachers would learn through data and engage in collaborative problem solving of issues of underachievement. The questions acted as prompts, supporting teachers as they began to build up profiles of what underachievement looked like in their classrooms and as they began to explore effective practice in reading comprehension instruction. The questions are listed in Table 7 below.

Table 7: Questions to Support Analysis of Student Comprehension Data

What is going on here?
• What was this assessment requiring students to do? • What has this student been able to do? • Is the assessment task completed by the student – if not why? • What errors have been made? How often? • What kind of errors are they? What has caused this error to occur? • What trends are becoming evident? • Does this match other information I have about this student's learning need? • What skill (s)/understanding(s) are underlying these errors? • What does this tell me about the probable learning needs of this student? • What is the next step for this student right now (and what do I note to build on in later lessons)?
How can I now use this information most ly to raise achievement?
• What feedback do I give the student? How do we set learning goals? • What is the match between assessment information and teaching approaches? • What is the best way for this student to learn this? • What is the match between assessment information and teaching content? • How can I make my teaching more deliberately aligned to this information?
What else do I need to know to confirm my analysis?
• Does this confirm what I already know?

- What surprises are in this information?
- Does this assessment tool, and the results of this assessment, actually give me the information I need to know about this student's learning needs?
- What other information can I gather to confirm or to find out more? (e.g., talking with the student, observing them during a lesson, use of another reading comprehension tool)

Teacher learning also focused on areas of teacher knowledge of literacy acquisition for the purpose of developing deeper teacher knowledge that would assist and improve teacher ability to analyse what students were not able to do. Analysis of student errors gathered from the STAR sentence and paragraph comprehension subtests indicated that these subtests required inference skills, semantic understanding and student knowledge of syntactic structure of texts. However, teacher knowledge of each of these components was limited (as identified at both Time 1 and Time 2 data collection).

Reader prior knowledge plays a large part in understanding text and many inferential questions assume background knowledge that students may not have. The implication for comprehension instruction is that critical background knowledge needs to be taught directly to students, prior to reading instruction. Teachers had begun to use the KWL approach (Ogle, 1986) as one way of deliberately linking to prior knowledge before reading. Professional development in phase 2 built on the KWL approach and also introduced teachers to other ways of ensuring that background knowledge was activated prior to text instruction. Using text that teachers had selected for group instruction, participant teachers discussed and demonstrated how they could use discussion, semantic mind mapping and pre-teaching of information that was critical to the topic, theme or main ideas as deliberate techniques to prepare students for comprehending new text.

Similarly, using text selected for student instruction, the researcher led demonstration and discussion sessions exploring sentence structures that are frequently encountered in text. This included previewing text for sentence constructions that included participles, clauses, pronouns, connectives, active construction and passive construction (MOE, 1996). Previewing text alerted teachers to the different types of structures students were expected to comprehend while, at the same time, teaching the teachers what these

structures were and how, by drawing attention to these, teachers could focus their observations and questions on finding out what aspects of structure were causing comprehension difficulties. Teachers were encouraged to observe and question their students and gather information about areas of difficulty. They presented and reviewed their data at subsequent problem solving sessions where both the researcher and other teachers contributed suggestions for instruction to meet student need.

In several of the sessions exploring areas of student underachievement, the teachers reported that student's lack of vocabulary was an issue during reading instruction and when students were reading independently. This was confirmed through the STAR vocabulary subtest. In response to this growing concern, the researcher asked participant teachers to share their vocabulary instruction practices with their peers, and all considered what it was that they were actually doing to improve student vocabulary. This uncovered considerable variation in practices with teachers reporting that they studied words in the text (non-specific); they talked about words students did not know; they referred students to dictionaries, and they encouraged wide reading. However, no teacher was able to describe deliberate approaches they undertook to make explicit to students strategies they could use to learn and retain new vocabulary. These findings were despite research (Beck & McKeown, 1991; Beck, Perfetti & McKeown, 1982; Blachowicz & Fisher, 1996; Graves, 2000; Graves & Watts-Taffe, 2002; Stahl, 1998) that suggested that direct instruction should be used to teach words that were necessary for students to comprehend a passage.

The researcher drew on the work of these researchers to develop a series of workshops for participant teachers on a range of active learning opportunities identified as effective in cementing new vocabulary knowledge and improving comprehension. This included teaching vocabulary from concept cues (Graves, 2000; Stahl, 1998), creating word maps, word play building on root words, homophones, homographs and synonyms (Blachowicz & Fisher, 1996; Graves & Watts-Taffe, 2002), and categorisation (Blachowicz & Fisher, 1996). In each case, a central component of vocabulary teaching was the teacher and the students making deliberate connections between new vocabulary and the students' existing knowledge. In addition, the researcher presented research on the benefits of repeated reading (Samuels, 1979; 2002) and wide reading (Nagy & Scott, 2000; Stahl, 1998) to participant teachers.

As the teachers learned more about the reading comprehension needs of their students, and, concurrently, of reading comprehension acquisition, a number of priorities for their

teaching programme emerged. At the pre-reading stage teachers needed to be deliberate in how they linked text content and structure to student prior knowledge. They also needed to deliberately teach key vocabulary prior to reading text. During instruction teachers needed to create opportunities to teach their students about words and develop their word awareness. They also needed to focus, in response to student need, on sentence structure, deliberately modelling and explaining strategies for understanding text at sentence level. After reading, providing regular opportunities for repeated reading supported students as they developed knowledge and ability with decoding, fluency and vocabulary acquisition. In each instance, the transactional strategy framework (Pressley, 2002a) was used as a model of how teachers could teach and support their students to become metacognitively aware of themselves as readers. Teachers provided direct instruction supported by demonstration, guided and independent practice. Students learned to explain and model their thinking processes to their teacher and their peers as they engaged in their learning, and as they encountered difficulties with text.

In phase 1, the teachers had focused much of their efforts on comprehension instruction towards developing their formative assessment and guided reading practices. Although embedded in both the formative and guided reading development, developing greater teacher understanding of comprehension strategy instruction and the transactional strategy framework was a priority for phase 2. This phase involved teachers learning about how to provide explanations and how to demonstrate the use of a strategy both in isolation, as a focal strategy (Pressley, 2002a), and in combination with other strategies. It was essential that, for each strategy we explored, teachers understood what that strategy was, how students could use this strategy to assist their comprehension, when the strategy should be taught and how to provide guided and independent follow up practice for students to become confident in strategy use.

Research has indicated that students needed to develop strategic repertoires over the course of their years in school, and that strategy instruction should not be seen as a quick fix (Pressley, 2002a; Pressley et al., 1991). Teachers in the present project were initially introduced a number of comprehension strategies that skilled readers used as they read (Pressley, 2001, 2002a). Then, over the four months of phase 2, teacher learning concentrated on four focal strategies. These were prediction and re-prediction, self questioning, knowledge of text structure and summarisation. In addition, teacher knowledge of the two strategies from phase 1, linking to prior knowledge (Anderson & Pearson, 1984; Fielding & Pearson 1994) and generating visual images, was maintained

over this phase. To select these initial strategies the researcher drew on both cognitive strategy research that showed each of these strategies to be in assisting students to develop complete representation of the ideas in a text, thus enabling them to understand and remember text (Anderson & Pearson, 1984; Levin & Pressley, 1981; Pressley & Afflerbach, 1995) and the recommendations of the National Reading Panel (2000) that endorsed teaching students to use a small repertoire of strategies as part of improving comprehension instruction.

In addition, data gathered from teachers indicated that they were not able to explain clearly how they deliberately taught strategies that developed understanding and memory of text, while data gathered on students confirmed that these students did not draw on strategies to support their memory of text.

The objective for this teacher learning was to develop in-depth teacher knowledge of these strategies, thus informing the deliberate transfer and inclusion of participant teacher knowledge in to their reading comprehension instruction. As teachers moved from learning about what the strategies were to learning about how to teach these to their students, professional development included researcher demonstration of deliberate strategy instruction within, and in response to, a guided reading lesson, professional readings and discussion, and opportunities to support teachers to plan and talk through lessons that incorporated strategy instruction. Teachers were encouraged to learn about their strategy teaching by utilising the approaches of conducting a mini lesson, by embedding instruction within the context of a group reading lesson, and by providing both one-to-one and partner support to their students.

Between professional development sessions teachers were expected to practice and develop their own teaching. Independent practice was supported by observations and feedback by both the researcher and the buddy teacher.

As teacher learning and confidence developed, professional development sessions, while continuing to focus on strategy instruction, assumed a dual focus and included strengthening the questioning, discussion and conversation practices of teachers within their guided reading lessons. Data gathered at Time 2 indicated that teacher practice was variable. There were many instances during which instructional conversations took the form of an Initiate-Response-Evaluation cycle in which the teacher initiated a question, the student responded and the teacher followed this with an evaluation before initiating the next question. Research has shown negatives aspects of this interaction to include

questioning that is often at a lower level; questioning that is involves literal, factual questions rather than those that require students to manipulate information and reflect on what they have read; learning that is passive because it usually involves only one student at a time and learning that is controlled by the teacher, rather than by the students (Pressley & McCormick, 1995). Together, participant teachers used role play, discussion, and collaborative planning as a means to explore their questioning practices. The aim was to lead teachers away from predominantly evaluating their students' responses and deciding who will get a turn to answer next, to developing conversations that would encourage students to elaborate on their knowledge, ideas and inferences and be actively involved in group conversation around text.

Engaging in on-going problem solving and teacher talk, based on student achievement and subsequent teacher practice continued to be an essential element in the way the participant teachers and researcher engaged with one another. Workshops and researcher demonstration aimed to build on, extend and challenge participant teacher knowledge of both their students and their own practice, and the decisions they made about comprehension teaching content and method. Providing teachers with opportunity to practice new learning away from the critical eye of the researcher and their buddy, to reflect on their own learning and make modifications in light of new learning, was an important part in the process of consolidating new learning in to existing and modified teacher practice. However, feedback from observations specifically targeting effective instruction was critical in ensuring that teachers were, indeed, applying research and new learning to their own teaching. Revised guidelines for observation and feedback were developed to support this process and encompass a more in-depth focus on strategy instruction and student discussion of text, as reflected in the content of teacher professional development.

This section has described how the data collected at Time 2 were used to inform teacher professional development aimed at raising reading comprehension achievement of the students in participant teacher classrooms. During the phase 2 professional development the participant teachers were required to trial new approaches aimed at strengthening their comprehension teaching practice and to reflect on the impact of these, not only on their own instruction, but the impact these changes were having on student learning and achievement. These shifts in teacher knowledge and practice were concurrent with shifts in teacher ability and confidence to articulate what they knew reading comprehension to be and what they knew about what good comprehenders actually know and do. At Time 1

teacher responses were very variable and only one teacher was able to provide a clear definition of what reading comprehension was. At Time 2, four teachers were able to do so. It was critical during this phase of professional learning that the focus involved continuing to build teacher knowledge of comprehension strategies, what the strategies used by good comprehenders were, how these strategies worked, how they could be taught using a transactional strategy framework within a guided reading context and how to look for evidence that students were using these strategies to assist their comprehension of text.

Additionally, and concurrently, was the need to develop in an on-going and sustained way, teacher knowledge of the reading comprehension strengths and needs of their students. With teachers beginning to know how and when to make informed decisions about instruction, based on student data, and their knowledge of comprehension acquisition, professional development opportunities were able to build on practice specifically tailored to the needs of the teachers and their students.

Summary

This chapter has presented and analysed the data collected from teachers at Time 2. The data, collected through teacher interview and videoed observations of teaching identified key teacher understandings of reading comprehension instruction at this time, and provided the basis for the second cycle of action research.

The chapter then described this second phase of professional development as the researcher responded to data on teacher knowledge of reading comprehension assessment, teacher knowledge of reading comprehension acquisition and teacher knowledge of reading comprehension pedagogy. The conclusion of this chapter discussed the ways of working that were integral to this phase of teacher professional development.

CHAPTER 8: TEACHER KNOWLEDGE, PRACTICES AND PROFESSIONAL DEVELOPMENT TIME 3

INTRODUCTION

This chapter presents the data collected from the six lead teachers at the conclusion of the project. The data, collected through teacher interview and videoed observations of teaching provided the basis for the final cycle of action research. Again, the interviews established data of teacher knowledge of effective literacy acquisition, teaching and learning. The observations provided data on the nature, type and quality of reading comprehension instruction. The chapter provides a summary of the data collated from the six lead teachers at the third point of time over one year. It concludes with a summary of the significant shifts in time that became evident from the Time 3 data.

LEAD TEACHER SUMMARY OF DATA TIME 3

Theme A: Knowledge of Literacy Learning In Comprehension

a. Ability to articulate and explain what they believe reading comprehension actually is

b. Knowledge of good comprehenders do

c. Use of processing strategies

d. Use of comprehension strategies

All teachers were more confident in their responses when explaining what comprehension was than they had been at both Time 1 and Time 2. Teacher D was able to explain that comprehension involved knowledge of comprehension strategies, of processing strategies, the ability to decode, vocabulary knowledge, and the ability to read with fluency and accuracy. Similarly, Teacher B gave a detailed definition. This teacher stated:

> *Comprehension is like a process that goes on when you are reading that helps you to understand what you are reading. It's an interaction between the text and the prior knowledge that the reader has. Prior knowledge is changing all*

> *the time as you gain new understanding from your reading. A good comprehender has certain strategies, prior knowledge, purpose for reading…as you are reading you are predicting and confirming what you predict, you are summarising in your head what's going on, you're making pictures in your mind if you are reading something and you can visualise it, you are able to read between the lines, make inferences and you have a purpose for reading* (Teacher B).

Teacher B was also able to report that, to be good comprehenders, students needed to read fluently, accurately, to self question and engage in discussions as a result of their reading.

In addition to the strategies described by other teachers, Teacher G was able to discuss the importance of self monitoring and evaluating messages as two further strategies used by good comprehenders. This teacher explained:

> *They need to question their own ability of what they are doing. By that I mean if they are having difficulties or are not getting sense, then they need to be able to monitor themselves. It is a sort of self regulating thing as they read. They need to think about what they have read, be critical about what they have read, they need to be able to give opinions of the text, to analyse text, even go to the extent of re-organising the text. It's not just a passive acceptance of what is there, it is a more active…an interaction with the reading and what the author is trying to get them to do or believe* (Teacher G).

Teacher K stated:

> *Comprehension involves students using strategies on how to use prior knowledge. It also involves decoding, looking at new words, finding out what words mean, thinking about what the author has written and getting an understanding from what the author has said. They would be able to look for information from the text, answer simple questions, inference questions and connect the information they have read to other books or resources* (Teacher K).

This teacher was also able to describe how she used visualisation, summarisation and self questioning strategies as part of her reading instruction.

Three teachers (Teachers B, E, and G) referred directly to the transactional strategies approach they were using to teach comprehension strategies. Teacher E stated: *I have lots of transactional strategies opportunities put in to place! w*hile Teacher G reported:

> *I teach the kids the strategies for working with the text, and those are really varied. I teach them how to call on their prior knowledge and use it in an active way to link with the text. I teach them to actually ask questions, and to monitor what they are doing. I teach them how to look for key messages. I teach them how to summarise and use their own words. I teach them to debate the author's point of view and give reasons why.* (Teacher G).

Theme B: Knowledge of Effective Reading Comprehension Approaches

a. Ability to explain the main teaching approaches they use to teach reading comprehension

b. Knowledge of relationship between research on reading comprehension and own practice

c. Knowledge of approaches to develop metacognitively aware readers

d. Knowledge of providing an effective and comprehensive reading comprehension instructional programme

Teacher knowledge of effective guided reading practice had changed significantly. All teachers were able to reflect on the changes they had made to their teaching. This is summarised by Teacher G who recounted:

> *Guided reading is the backbone to what I do in my classroom. And the kids love it, and miss it if they don't have it, because it breaks the text down in to manageable chunks and they don't have to be thinking about the whole text at once. They are focused on a small part of the story for the purpose. They know what the purpose is and its reasons for being there. And they realise, at this stage of the year that it is building and building on what they know. The kids always know why we are reading a particular text. They are actually starting to highlight, "Well we didn't do this very well. Perhaps we have to go find*

> *another text and try to achieve it in another way". So they are becoming more critical and more aware of what is happening with the reading* (Teacher G).

Additionally Teacher L stated:

> *With the guided reading the text is all chunked. I have been working really hard on my questioning at the end of each chunk, asking them to have to find the evidence in the text and to support their answers. It has actually been good because it is getting the students in to more discussion about the text, rather than just instructions from me or reading with no real thinking about the text* (Teacher L).

The importance of preparation for reading was prominent in the responses from all six teachers. This included both teacher and student preparation. Each teacher described how linking to, and building on, student prior knowledge of content, vocabulary and structure of text was now an integral component of preparing students for instructional comprehension lessons. All teachers used the KWL approach as one way of linking to prior knowledge and reflective comments about the use of this approach included:

> *We do a KWL chart before coming down for the lesson and we share this and questions they would like to know from the text before reading. It is really important that I show that I value it* (Teacher D).

> *One of the main things we start with is linking to their prior knowledge. That is something we have built up quite a bit this year. This has been very successful, it's tuning them in and it's something I had never thought of doing. You know, when I used to just hand them the book and read it* (Teacher E).

> *If we are looking at structure of a text we ask "What do you know about this structure? What do you expect to find in this narrative in terms of structure? What ideas do you think will be presented through this structure? What vocabulary do you think will be used?* (Teacher B).

Five teachers identified the sharing of learning outcomes and success criteria at the beginning of each reading lesson as having an impact on the way they now taught reading comprehension. Teacher D explains:

> *A main change is the learning goal at the beginning of the lesson and the success criteria. I find it really worthwhile going back during the reading to*

> *relate back to the learning goal and ask "have we been able to do this, are we doing this? You know, it just keeps me focused on the goal for that group, and I need to have it written down because if I don't. I won't keep track of it* (Teacher D).

Teacher D also described changes to her own questioning stating:

> *My way of questioning has become more focused, and more in depth. And I can see that reflected in the students when they are questioning each other and when they do their paired reading. We have just started using the technique Questioning the Author and, because they have done so much work on questioning, they have found that quite easy too, which surprised me* (Teacher D).

In addition teachers were drawing on several other approaches, namely reciprocal reading (n = 5), paired reading (n = 6) and repeated reading. Three teachers were using questioning the author. Teacher G was also using shared reading.

It was also evident that the teachers were now more aware of how to engage students in metacognitive learning; knowing and learning about what good comprehenders do, and what they themselves do. Teachers D, G and E explain what they do to support student awareness of their own learning:

> *I refer students to our "good reader" chart, and the skills that a good reader has, so that they know why they are doing what they are doing. The goal books are amazing. We have talked about what it means, taking a role in your learning, and you being part of it, knowing what you are doing and why you are doing it* (Teacher E).

> *I try and build in, every week, a time when we sit together and say, "This week we have been working on visualisation (or whatever strategy it was) and ask "When would it work? How could you use that? What sort of comprehension problems would that solve? At the beginning of the year it was totally hopeless because students couldn't see how they could use different things to help them solve problems. Now it's becoming better. They are saying "If you don't understand something when you are reading then this is something you could do. The better ones are more confident in modelling the strategy to others, the less confident ones are shy and they still need a little bit of encouragement to*

> *do this. But it's practice, and if you allow time in your classroom for them to do that, then it becomes easier, and with a buddy it is less threatening than in a group* (Teacher G).

> *I am starting to do a lot of talking with the students about what we are learning and what we are doing. And they are talking too. They will say, "We've just activated prior knowledge, we've just generated a visual image". So I'm getting them to model what they are actually doing and why they are doing it and what doing this is going to do. You know, getting the kids to actually talk about what they are doing, what it is they are doing while they are reading* (Teacher D).

This teacher also explained what she had recently started getting the students to set their own purposes for reading sections of texts and identifying questions that they would like solved through their reading. Teacher D explained:

> *That's been really fun and interesting. The kids have been really amazing with the questions they've come up with* (Teacher D).

Knowledge of How to Develop Teaching Practice Specific to Low Achieving Readers

All six teachers indicated that they were now more proficient at adjusting their instruction and selecting the teaching approach to meet the needs of their students. Teacher G exemplified this by reflecting:

> *I trialled reciprocal reading but it was not as successful with my weaker group as I would have liked it to have been. A less able group needs more independent strategies in place, I think I would need to give them more support and practice to take control of the strategies. Part of teaching strategies is the confidence building that goes with it, and the student's recognition that they are able to make decisions. They also need to be able to communicate with me when they are having difficulty; they need more confidence* (Teacher G).

Instead, Teacher G chose to stay with guided reading for the lower achieving comprehenders, supported by paired reading and repeated reading. Similarly, Teacher L was deliberately choosing to use the KWL approach as part of her teaching stating:

> *I have been using KWL, because it activates their prior knowledge and gets them to think about the vocab that they expect to be in the text when they read. This supports them with a lot of the challenges in the text* (Teacher L).

Teacher E explained how, in response to vocabulary needs of her students, she modified the KWL approach to become a KWVL. The teacher described:

> *The 'K' is what do they already know about the subject, usually I put the 'W' as what do you expect the text to be about, or what would you expect to find in the text, because if you ask them what do they want to learn they put "nothing" or "nothing thank you!"; and I slot in the 'V' for what vocabulary they will expect in the text. After the session we look at what we found out, we add to the vocab, and we list what have we learnt* (Teacher E).

Participant teachers also reported that dividing the text up in to smaller sections and making specific links to new or challenging vocabulary prior to the reading were important during comprehension instruction with their lower achieving students.

> *I put challenging words on the whiteboard even before the lesson starts, and we'll discuss what those words mean before we start reading. I'm finding that those students are now becoming more independent at reading, they didn't like to read so much silently, but now they just thrive on it, they were really comfortable* (Teacher D).

Teacher E reported being more selective and purposeful with the type of questions she asked of her students. This teacher explained:

> *Rather than saying, "Yes that was a great answer", I will now approach another group member and say, "What do you think of that answer? Do you agree with her or can you add to what she has said?"* (Teacher E).

This teacher reported that students were now becoming far more confident in discussing what they are reading with others.

Teachers reported that strategy instruction was proving equally effective for their lower achieving students as it was for other students in their class. With the lower achieving students this meant focusing on one main strategy at a time, deliberately incorporating the strategy within daily learning outcomes and success criteria and going back to the

strategy at the end of the lesson to reflect and self assess what had been achieved. Teacher B summarised this as:

> *I usually use guided reading with my lower groups and I work mainly on transactional strategies approach. We look particularly at one strategy at a time and we explain exactly what it looks like when we use the strategy as we read. At the end we go back and say "Have we succeeded? Did it look like this?"* (Teacher B).

The teachers' ability to be very clear about what they were teaching and how this would assist their students were identified as underpinning the success of this practice. Teacher B also reported that displaying the strategies, both on group and individual learning goal cards, and as part of a wall display, was effective in drawing student attention to the strategies they were using. The teacher explained:

> *So all the strategies we have been using are there all the time – prior knowledge, pictures in your mind, prediction, summarising, and when we use them the kids often say "Oh, we're doing this" or they would point to them "This is what we are doing". The different strategies are visual and there for them to refer to all the time"* (Teacher B).

All six teachers also explained that they were now finding additional opportunities to develop comprehension strategy awareness outside the instructional comprehension lesson. This included during teacher reading to sessions (Teachers D, G, and K), paired reading (Teachers B, G, D and L) and during cross curricula instruction (Teachers B, E, and G).

Teacher B also explained how she was now more deliberate in linking her writing instruction to the reading her students were doing.

Theme C: Knowledge of Analysis and Use of Student Achievement Data for Raising Reading Comprehension

a. Knowledge of assessment practices

b. Knowledge of what information assessments provide

c. Knowledge of analysing data

d. Knowledge of relationship between assessments and teaching practices

e. Knowledge of assessment properties

All teachers indicated that their assessments are more targeted and focused. They reported using opportunities within lessons and student responses to text, both orally and the follow up activities to monitor how well a student has comprehended what they have read. In addition, running records were used to monitor the progress of the lower achieving students. Teacher D explained:

> *I really know where these kids are at from the guided reading lessons we do, assessment against the learning intention and success criteria and I check these with running records for the lower students* (Teacher D).

There was some evidence that data are being better used to inform lesson purpose and content. Teacher B described her shifts stating:

> *In my planning I have a purpose that I feel that they need, that some data shows that they need, and I break that down in to learning outcomes, "we are learning to", and the success criteria – what will it look like – and we write that together* (Teacher B).

This teacher also described how she now deliberately tried to plan the follow up activities to link back to the needs of the students.

One other teacher reported taking a mini lesson as a result of assessment information. The teacher explained:

> *A lot of my assessment I find it's the vocab, understanding vocab is what is holding them back, and language structures. I do it when it's pertinent at the time. Often it's a teachable moment and then you strike then* (Teacher D).

All teachers reported that formative assessment was becoming a regular part of their reading comprehension instruction. Teacher G explained:

> *Formative assessment brings the whole learning situation to a partnership, relationship, rather than a teacher-student situation. The benefits of formative assessment is not only that I am able to see and keep on looking at where the kids are going next, and what they need next, but it's the student's*

> *participation. And their participation is an indicator of where you should be going to next and what steps need to be taken next, and what the needs for the next session are* (Teacher G).

The other teachers also described evidence that indicated students were becoming more involved in their own learning from formative assessment. They stated:

> *We always go back at the end of the lesson to see if we have achieved our goals. They are very good at saying "Oh no, we need more practice at that, we didn't do that very well". So they are becoming more critical about their self evaluating* (Teacher D).

> *I am having them self evaluate, or evaluate in pairs, what they have achieved* (Teacher K).

> *The students had to look critically at what they had done and say "well I know this, but I don't know that". I have set out to do that, to actually teach that* (Teacher L).

However, teacher confidence in their ability to analyse data was variable. Despite agreeing that they had got better at this over the project, three of the six teachers identified this as an aspect of their teaching that they were still not confident with and would like future support with. The teachers stated:

> *I still don't think I am too good on that* (Teacher B).

> *I still want to learn a bit more on that* (Teacher K).

> *I think I still have a bit of work to do on that. You might say "They did not do very well on decoding", but it is where to go from there. But I am improving* (Teacher E).

In contrast, Teacher G stated:

> *I have always known that data is for a purpose, that you take the data and use it to analyse a student's needs. Following through has not always been my strength. But now, the purpose for collecting the data is to look for the next steps for teaching. The data is really valuable, but not necessarily on its own. I have learned to combine sources of data to get a bigger picture. When I locate*

> *a student need I am more likely to go to another data source and check, does it match?* (Teacher G).

Three teachers (Teachers B, G, and L) described how they were specifically sharing the assessment data, and the implications of this for student learning, with their students. Teacher L explains:

> *The students really want to know how they have got on when we do an assessment. They want to know what they got and if they have got better. They get really rapt to see themselves going up* (Teacher L).

Teacher B described how she shared data from a running record with her low achieving year 7 and 8 students. The teacher said:

> *You've got the running record in front of you and the child is sitting beside you and you say "Look, see here, you kept putting in 'to' and 'in' and here you missed out 'about'; and then you start discussing what they did and why* (Teacher B).

Teacher G describes how assessment is shared but, in addition, also how she selects teaching approaches that enable both her own teaching, and the students themselves to respond to the data. In this example she is drawing on repeated reading when she states:

> *The students working with me have been given information about how they have done in their assessments. I often link in for them what the repeated reading will be doing to help them improve in their areas that they are having difficulty with. And they have realised that working through another task involving the same text lets them have a chance to read again and get more from the story. And it's been amazing watching the new information they bring back from a second or even third reading* (Teacher G).

Teacher Self Reflection

Teachers were also asked to describe what they thought was the biggest change they had made to their teaching over the duration of the year. The following responses were recorded from participant teachers:

Definitely the guided reading, the sharing of reading outcomes with the children, the quality of questioning, we're really working on quality teaching (Teacher B).

I think I am more explicit in what I am expecting them to do and more deliberate in teaching comprehension strategies. I just feel that my class love reading, if year 7 students are saying, "Why aren't we doing reading today?" That has got to mean they are really in to reading and wanting to comprehend (Teacher D).

The teaching is much more targeted, the focus is fine and the selection of text is very, very specific. The time spent with the group is more purposeful, there is a goal to reach and your reading is a tool to get there (Teacher G).

Teacher G also reflected on changes to her students. This teacher stated:

The biggest change I've seen with the students has been not so much in the actual data, that's been , that has changed, but the biggest change has been in attitude. Even the kids who were good readers, their attitude was low. And that really shocked me. Now they arrive at 8.30 am in the room, they want to be there, they want to do what we're doing, they want to be part of it and they most of all want to make a difference for themselves. To me, that can't be measured by data (Teacher G).

OBSERVATION ANALYSIS TIME 3

Video tapes of the teachers' 30 minute guided reading lessons were collected and analysed to coincide with data collection gathered from teacher interview at time 3. Coding categories, developed and used at Times 1 and 2, enabled evaluations of the lesson introduction, lesson body and lesson conclusion to be recorded and analysed against both the categories and the shift in teacher practice over the duration of the data gathering.

Analysis of lesson content and interactions at Time 3 indicated that the teachers were both familiar with guided reading theory and practice, and confident at using this as a vehicle for teaching comprehension strategies (MOE, 2002d, 2003). Out of a possible score of 36, the teachers' mean at time 3 was 28.5. This compares to a mean score of 8.0 at time 1 and 18.2 at Time 2.

Shifts in teacher practice was evident at each of the three lesson stages; the lesson introduction, lesson body and lesson conclusion. The mean score for the lesson introduction increased from 1.2 at Time 1 and 5.2 at Time 2 to 9.5 at Time 3. Increased mean score for the body of the lesson shifted from 5.5 at Time 1, 9.6 at Time 2 and then 15.2 at Time 3.Similarly, the mean score for the lesson conclusion increased from 1.2 at Time 1 to 3.0 at Time 2 and then 3.8 at Time 3. Table 8 summarises the ratings for each teacher at Time 3 and provides a comparison between these ratings and those collected at Time 1 and Time 2.

Table 8: Ratings of Guided Reading Lessons at Time 1, Time 2 and Time 3 for Lead Teachers

		Teachers						Mean
Component	(Max)	B	D	E	G	K	L	
Introduction	(12)							
T1		3	2	1	1	0	0	1.2
T2		6	4	8	6	3	4	5.2
T3		12	10	9	11	6	9	9.5
Lesson	(19)							
T1		5	7	5	10	4	2	5.5
T2		12	7	9	13	10	7	9.6
T3		17	15	12	18	14	15	15.2
Conclusion	(5)							
T1		1	1	1	3	1	0	1.2
T2		4	3	4	3	2	2	3.0
T3		4	4	4	4	3	4	3.8
Total	(36)							
T1		9	10	7	14	5	2	8.0
T2		22	14	21	22	15	15	18.2
T3		33	29	25	33	23	28	28.5

Lesson introduction

The introduction (maximum of 12 points) was coded for such teaching behaviours as establishing learning goals, discussing themes to activate prior knowledge and identifying potential difficulties (including unusual text features and vocabulary). The mean score for this was 9.5 out of 12. The teachers were all sharing learning outcomes and success criteria, in writing and in language understood by students, at the beginning of the lesson. All teachers except Teachers L and K were involving their students in determining the success criteria for the lesson. These latter teachers, and Teacher E, also did not check for student understanding of the criteria. All teaching focused on linking to and building on student prior knowledge before reading the text. However, neither Teachers E, K, nor L checked for student prior knowledge when focusing on unusual features or possible challenges within the text.

Body of Lesson

The lesson following was coded for aspects such as dividing the text into sections for reading, assigning specific purposes for each section prior to student reading, providing specific guidance for student strategies, use of teacher and student questioning to develop understanding and making deliberate links to the lesson outcomes as the lesson progressed. A maximum of 19 points was possible from the body of the lesson. The mean score for the lead teachers at time 3 was 15.2 out of 19. Teachers had made important changes to the way in which comprehension strategy instruction was integrated in to the guided reading lesson. All teachers made a conscious attempt to ensure that comprehension strategies were demonstrated and discussed throughout the lesson with teachers and students in four classrooms (Teachers B, D, G, and L) demonstrating that they were learning to draw on strategies depending on purpose. In addition, the nature of student conversation around text included evidence of students probing the responses of their peers, being asked to provide evidence from text to support their ideas and being required to explain how they had reached the response they had given (i.e., the strategy they had used or the reasoning they had followed). These behaviours were particularly evident when observing Teachers B and G.

Lesson Conclusion

The conclusion was coded for checking back to intended outcomes and reflection on learning. The maximum possible score was 5 points. The mean score for the lead teachers

was 3.8 out of 5. Students were re-visiting the lesson outcomes and success criteria for the purpose of self assessing, and reflecting on their own learning about content and strategy. The next step was for students to be more involved in setting their own goals for future lessons.

SUMMARY

This chapter has summarised the data collected from teachers at Time 3 Again, these data were collected through taped, transcribed and analysed interviews along with exemplification of current reading comprehension teaching practice as observed, videoed and coded.

Time 3 data indicated that there had been significant shifts in teacher knowledge and practice in meeting the reading comprehension needs of their students. Teachers were now all able to explain what comprehension strategy instruction was, and explain the practice of taking a transactional strategies approach to teaching reading comprehension. Increased opportunities for students to become metacognitively aware of their own comprehension learning, and needs, now enabled students to be more active in the process of developing their own reading comprehension behaviours. Teachers were continuing to become more aware of the different approaches to teaching reading comprehension and the reasons (based on knowledge of literacy acquisition and identified areas of student need) that they would choose a particular direction/approach/sequence of approaches

Teachers were also more confident in involving students in discussion, modelling and direct explanation of comprehension strategies.

In addition, teachers were now using formative assessment as an integral component to their comprehension teaching. This practice had enabled students to become more involved in their learning. Teachers were now sharing with their students what the purpose of the lesson is and what they will be learning if they are successful. Teachers and their students were learning to develop opportunities for self assessment, self reflection and self regulated learning.

This chapter concludes the action research cycle of data gathering and responding to data. The following chapter provides a summary of shifts in student achievement over the duration of the project and as a result of the inquiry in to comprehension achievement through the action research methodology.

CHAPTER 9: STUDENT ACHIEVEMENT

This chapter begins by providing a summary of student achievement data over the three time periods of this project using data collected from administering the Supplementary Test of Achievement in Reading (Elley, 2001a, 2001b) in 2003. This is a standardised reading test that provides raw scores that are converted to a stanine. Shifts in student achievement are able to be analysed through examining stanine gains over this time. The chapter begins by providing a picture of overall achievement gains for those students in the lead teacher group compared with those in "other" classes across the cluster (refer Chapter 5). Following this, data from the lead teacher group only is presented and discussed. This is presented for students as a whole group, by ethnicity and by gender.

DATA BY CONDITION

Participant teachers were from schools involved in a schooling improvement cluster made up of 13 schools in a low socio-economic area in the North Waikato region. This project, a partnership between the Ministry of Education New Zealand and the North Waikato community was called the Performance Enhancement North Waikato Schooling Improvement Project (PEN) (refer chapter 5). As part of this project data were collected from both the students in the lead teachers' classrooms (participant teachers) and data from all other students (other teachers) in classes across this cluster. The following data presents stanine means by condition; comparing the mean stanine gains of the lead teacher and "other teacher" groups.

Stanine scores were collected for each group of students over the duration of this year.

Figure 1 illustrates the STAR stanine means for the two conditions (lead group n = 137 and other classrooms, n = 1018) at Time 1 (February 2003) and Time 3 (November 2003). The means were calculated separately by condition - students who were part of the lead teacher condition and students who were part of the other classroom condition. Table shows the stanine means for both conditions at both points of time.

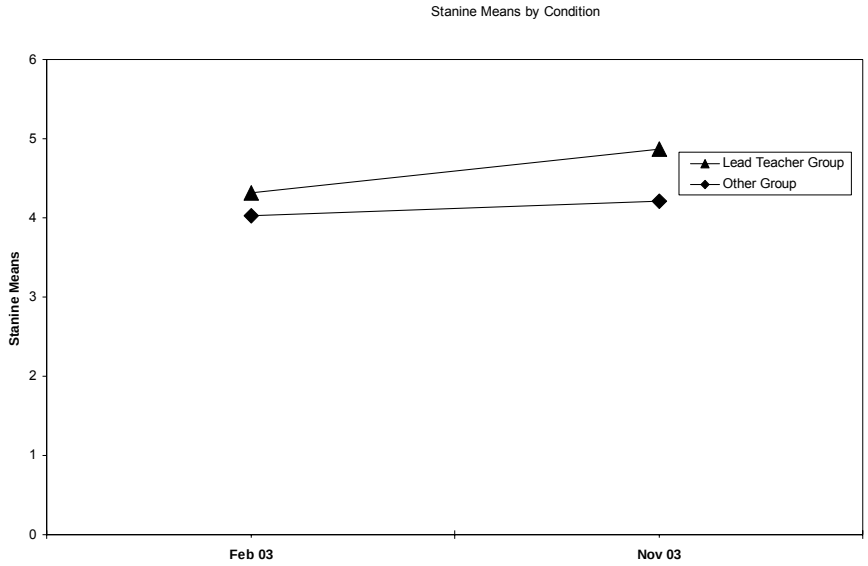

Figure 1: Stanine Means by Condition at Time 1 and Time 3

Table 1 shows the mean stanine for the students in the lead teacher group and the students in the other classroom group. An independent measures *t* test showed that there was no significant difference at Time 1 while at Time 3 they were significantly different ($t = 2.93$, $p < .01$).

Table 1: Stanine Means for Students in the Lead Teacher Group and Other Group

	Lead Teacher Group		Other Group		
	M	SD	M	SD	*t* value
Time 1 (Feb 03)	4.32	2.12	4.03	1.91	1.71
Time 3 (Nov 03)	4.87	2.25	4.21	2.58	2.93*

* $p < .01$

A gain score was calculated to measure stanine gain. The mean stanine gain score from the lead teachers group was three times that of the other group. The lead teachers' group mean stanine gain score was 0.55 compared to that of the other classrooms where the gain score was 0.18. The students in the lead teachers group showed significantly greater gains ($t = 2.03$, $p = < .05$). Figure 1 represents the stanine means by condition.

Evidence of shifts in lead teacher practice and in the knowledge they were developing about causes of underachievement and of changes in teacher pedagogy to better meet the needs of their students show that the changes made by the lead teacher group are likely to account for the improvements in achievement amongst this group. By contrast, the other teachers in the cluster were yet to begin professional development on using and analysing assessment tools and identifying what the tool actually required of students. No professional learning around comprehension strategies and comprehension strategy instruction had been provided to the teachers in this group. This is in contrast to the lead teacher group. The following section presents the data from the lead teacher group.

Data from Lead Teacher Group

Stanine Means for Students in the Lead Teacher Group

Figure 2 illustrates the STAR stanine means and standard deviations for the lead teacher group only at Time 1 (February 2003), Time 2 (July 2003) and Time 3 (November 2003).

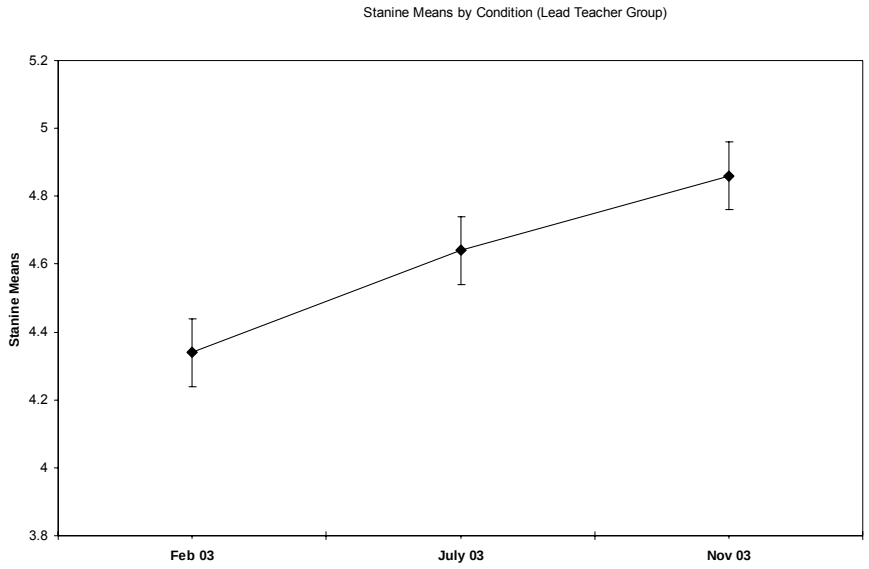

Figure 2: Stanine Means and Standard Deviations at Times 1, 2 and 3 of Lead Teacher Group

The means were calculated separately by class. At Time 1 the lead teacher condition stanine mean was 4.34 (SD = 2.13) while at Time 2 it was 4.64 (SD = 2.23). The time 3 stanine mean was 4.86 (SD = 2.25). Again, *t* tests were calculated on the means. There

were significant differences in mean stanine scores between Time 1 and Time 2 ($t = 2.5$, $p < .05$), but no significant difference between Time 2 and Time 3. Figure 2 shows that gains were made between each time point, although the greater gain was made between Time 1 and Time 2 (0.30) compared with Time 2 and Time 3 (0.22).

Stanines for Students in the Lead Teacher Group by Ethnicity

Stanine means by ethnicity for the lead teacher group at Time 1 (February 2003), Time 2 (July 2003) and Time 3 (November 2003) were collated and are represented in Figure 3. The means were calculated separately by class according to whether students were classified as Māori or Non-Māori. At Time 1, the Māori student stanine mean was 3.45 (SD = 1.66). At Time 2 the stanine mean was 3.76 (SD = 1.75). The Time 3 stanine mean for Māori students was 3.93 (SD = 1.83). At Time 1 the Non-Māori student stanine mean was 5.44 (SD = 2.09), at Time 2 it was 5.7 (SD = 2.21) and at Time 3 it was 5.9 (SD = 2.22). Figure 3 illustrates the stanine means for students in the lead teacher group by ethnicity.

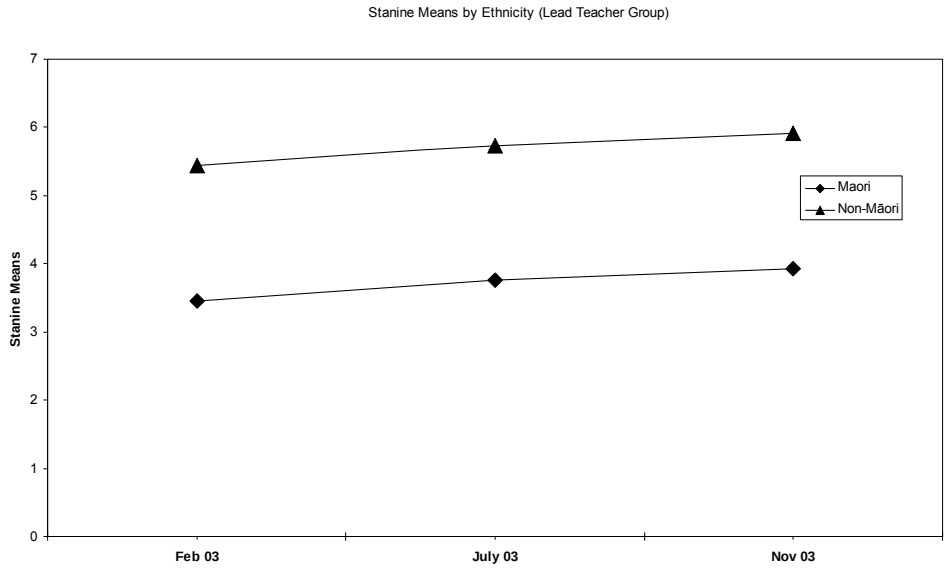

Figure 3: Stanine Means for Students in the Lead Teacher Group by Ethnicity

A mean gain score was calculated. The mean stanine gain score for both the Māori and the Non-Māori students was similar. The Māori gain score was 0.53 (SD = 1.42) and the Non-Māori was 0.50 (SD = 1.73). There was not a significant difference between the two

mean gains (t = 0.12, p < .05). However, Māori student achievement data at both Time 1 and Time 3 showed the Māori student achievement to be below that of the Non-Māori.

Stanine Means for Students in the Lead Teacher Group by Gender

Stanine means were also calculated for the lead teacher group by gender. The results are summarised in Figure 4 illustrating the STAR stanine means by gender for the lead teacher group at Time 1 (February 2003), Time 2 (July 2003) and Time 3 (November 2003). Means for male and female were calculated separately.

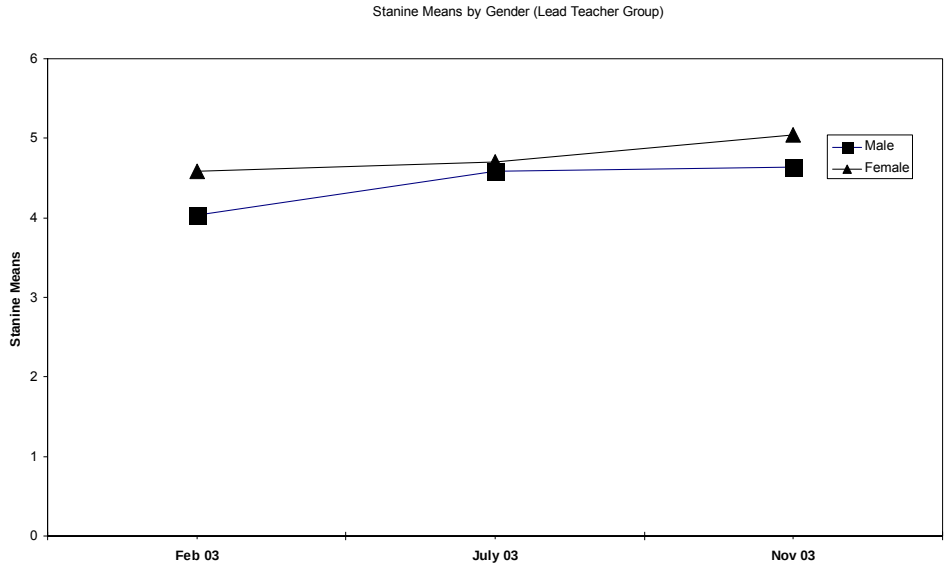

Figure 4: Stanine Means for Students in the Lead Teacher Group by Gender

At Time 1 the male stanine mean was 4.05 (SD = 2.10), at Time 2 it was 4.58 (SD = 2.32), and at Time 3 the stanine mean for male students was 4.64 (SD = 2.50). At Time 1 the female stanine mean was 4.59 (SD = 2.14), at Time 2 it was 4.70 (SD = 2.17) and at Time 3 it was 5.04 (SD = 2.02). The mean stanine gain for male students from Time 1 to Time 3 was 0.59, (SD = 1.64) and the mean stanine gain for female students from Time 1 to Time 3 was 0.51. There was no difference in the rate of gain between male and female students (t = 0.29, p > 0.05).

SUMMARY

This chapter has presented the data collected from students in the lead teachers classrooms using the STAR (Elley, 2001a, 2001b) assessment tool. These data have been collated to show shifts in student achievement between data gathered at Time 1 and data gathered at Time 3.

The following chapter provides a general discussion on the effects of shifts in teacher reading comprehension practice on student achievement.

CHAPTER 10: GENERAL DISCUSSION

This chapter provides a general discussion of the findings from this research. It discusses findings relevant to the research question identifying *'Characteristics of teacher expertise associated with raising the reading comprehension achievement of low achieving students in years 5–9'*, and the subsidiary questions *'What are the characteristics, identified by literature, of effective teaching associated with reading comprehension in years 5-9 classrooms, and can these characteristics be introduced into classroom teaching programmes to raise achievement in reading comprehension?'*

The chapter includes discussion of teacher practice in which the transactional strategies approach was used to provide a framework for explicit teaching of strategies through guided reading, including strategies to enhance student development of comprehension, decoding and vocabulary. Discussion also focuses on the importance of teacher knowledge of assessment, and, in particular, their ability to analyse and use the assessment information they gain to improve student achievement.

TEACHER CONTENT AND PEDAGOGICAL KNOWLEDGE

The aim of teaching students to read is to enable them to understand what is written in text. Pressley (2000, p. 545) argues: "Most of what matters in reading instruction matters because ultimately it affects whether the student develops into a reader who can comprehend text". Comprehension is a complex process. As readers read, a number of cognitive processes emerge. Text driven processes operate on words, clauses, sentences and paragraphs. Knowledge driven processes interact with the text processes to transform ideas into meaning. However, being a good comprehender involves metacognitive knowledge as well as cognitive. Forrest-Pressley and Waller (1984, p. v) explain:

> We don't just decode words; we also know about decoding. Skilled readers don't just comprehend; they monitor their comprehension and if something isn't working they do something about it. Skilled readers don't just read strategically; they know about and exert control over their reading.

This research project set out to explore characteristics of effective reading comprehension instruction that lead to raised achievement of underachieving students. In doing so, it

drew on research supporting a highly metacognitive approach to teaching as advocated through the Transactional Strategies Approach (Pressley, 2000, 2002a, 2002b, 2002c). The approach to teaching reading comprehension adopted over the duration of this research project supported, and developed further, the theoretical position that if students are to be successful in comprehending the text they encounter at this level, then the teaching must become more focused and deliberate. This involved participant teachers learning to make changes to their reading comprehension instruction through strategic teaching; teaching that was intentional and direct and lessons that were structured and initiated to meet student learning needs.

Furthermore, these changes also involved in-depth and on-going critique of existing teacher beliefs and practices. They probed teacher planning and organisation and took a close look at lesson delivery. In particular this included the sharing of learning intentions, the deliberate modelling and explanation by both teachers and students of strategies for comprehension along with the opportunities created for discussion, teacher and student talk, and the deliberate development of metacognitive awareness as students learned to become actively involved in the process of their own learning.

Initial data collected through teacher interviews and observations of teachers indicated that the incidence of deliberately planned and targeted reading comprehension instruction occurring in these classrooms was low. The findings confirmed that these teachers were not adequately prepared to teach reading comprehension. This meant initiating a systematic approach to teacher professional learning through which teachers would learn to understand which comprehension strategies they should be teaching their students and the best instructional methods to reach their goals. Learning of this type, and subsequent transfer into classroom practice, was initially challenging for these teachers because they were neither adequately prepared, nor had access to knowledge of or experience of this type, prior to this intervention. In addition, teachers were also required to base their teaching decisions on student achievement data and learn to talk about, and subsequently critique, the effectiveness of their own comprehension teaching. This was not something that they had previous knowledge or experience in.

Gains in the 2003 student achievement data suggest that the teachers became more effective over time. This was particularly significant when comparing the achievement gains of the students in the lead teacher group to that of students in the "other" teacher classes. The project concluded that there were 3 critical components that lead to this change. These were a focus on transactional strategy approach and guided reading, a

focus on data and data analysis and the development of a teacher professional learning community to support change. The following section provides discussion on each of these inter-related components.

A Focus on the Transactional Strategy Approach and Guided Reading

Teachers in this project learned to develop their knowledge of guided reading as an approach through which they could engage their students in transactional strategy instruction. Initially, Time 1 data showed that participant teachers needed to develop theoretically rich understanding and instructional practice of guided reading. While guided reading has been developed as a way of providing explicit comprehension instruction (Department of Education, 1983; Dowhower, 1999; MOE, 1996b, 2002d), participant teacher lack of knowledge of comprehension strategies and how to teach these was a factor in making this existing approach less in raising reading comprehension levels across participant teachers' classes. It was essential to provide initial corrective instruction of their guided reading teaching practice and to align this with teacher knowledge of how students acquire the knowledge and ability to comprehend a range of text.

Improving guided reading practice also meant integrating formative assessment practices in to the guided reading lesson. In particular, the teachers needed to learn how to begin each guided reading lesson with specifically shared learning outcomes. These outcomes were recorded in writing with the students. They were used by both teachers and students to clarify the main purpose of each lesson, to refer to, and monitor progress towards these during the lesson, to reflect upon at the lesson conclusion, to provide feedback, and to revisit during follow up activities organised to provide continued practice of the strategies students were learning to use. Similarly, the integration of the transactional strategies approach as a framework for incorporating deliberate comprehension instruction in to the guided reading teaching approach provided a further opportunity to make comprehension teaching more explicit.

Within the existing structure of a guided reading lesson, teachers needed to learn how to include direct explanations of comprehension strategies that would assist student understanding of text. This presented two challenges for professional development: the first being the low levels of teacher knowledge of comprehension strategies, what they actually were, how they assisted reading and when they could be used to develop reader

understanding, and the second, the transfer of knowledge gained so that teachers could make informed instructional decisions. The following section discusses each of these two issues.

Data collected at Time 1, and to a lesser degree Time 2, indicated low levels of teacher knowledge and deliberate use of comprehension strategies to assist underachievers to understand text. As a result, the project followed the recommendations of the National Reading Panel (2000) and focused professional learning on a small repertoire of comprehension strategies. Through professional readings, group discussion and researcher demonstration, opportunities were provided for participant teachers to develop their own prior knowledge of what reading comprehension strategies were and, how they were used by good readers, before they attempted to teach them to students. This was a critical component of the professional development of these teachers as they each learned about the strategies of linking to prior knowledge (e.g., Anderson & Pearson, 1984), constructing visual images (e.g., Sadoski & Paivio, 2000), prediction and re-prediction (e.g., Palincsar & Brown, 1984), self questioning (e.g., Palincsar & Brown, 1984; Rosenshine, Meister, & Chapman, 1996), summarisation (e.g., Rinehart, Stahl, & Erickson, 1986) and knowledge of text structure (e.g., Greenewald & Rossing, 1986; Pressley & Afflerbach, 1995).

In conjunction with growth of teacher knowledge of comprehension strategies, teachers also needed to learn about the process of mental modelling and develop expertise and confidence in its use. They needed to learn how to explain a strategy and how to demonstrate use of the strategy by thinking aloud (Duffy & Roehler, 1989). This required time and practice as teacher confidence in articulating and sharing their thinking processes with their students grew. Furthermore, once confident, teachers needed to learn how to organise instruction to support students to learn to use the think aloud strategy themselves. This involved building instructional opportunities, monitored by the teacher, for students to practice each strategy in the context of both the guided reading lesson, and through subsequent follow up activities.

In addition, there were other professional development considerations relating to integrating the transactional strategy approach in to the guided reading lesson that needed to be considered. Time 1 data showed the nature and incidence of student discussion about text to be low. Teachers did not encourage discussion and conversation between students as a way of developing their comprehension of text, nor their use of comprehension strategies to gain meaning. This required focused teacher learning to

develop the nature and type of talk that occurred inside reading comprehension instruction. As teacher knowledge and expertise grew they learned how to engage students effectively in questioning and prompting each other, giving and receiving feedback from teacher to students on the ideas they shared, being reflective towards their developing understanding, and participating in group collaborative problem solving to clarify and develop their comprehension of text.

A major focus of professional learning was on the transactions that occurred within the guided reading lesson when teachers and students engaged in dialogue about the material they had read. Aligned with teacher and student learning of how to use the think-aloud approach (Duffy & Roehler, 1989), teaching began to focus on asking students to justify their own understanding of text, to provide evidence from text to engage in discussion of text meaning, and to talk with each other and their teacher about the strategies they had used to gain meaning.

This research found strong links between teacher practice and the level of in-depth discussion students will, and can, engage in. The more deliberately a teacher encouraged students to engage in text, the higher the incidence of meaningful discussion and critique students will learn to contribute. These findings are supported by research that recommends reading comprehension teaching that demands the active involvement of students in the reading lesson (e.g., NRP, 2000; Pressley, 2000, 2002a).

The research findings support the claim that the changes these teachers made to the nature and type of their teacher-student and student-student conversation, an integral part of the transactional strategy approach to teaching, had significance for raising the reading comprehension abilities of their low achieving students. As participant teachers shifted from using a traditional initiate – response – evaluation cycle (IRE) of questioning and discussion (Durkin, 1978-79; Silliman & Wilkinson, 1991) to giving greater responsibility to their students, requiring them to respond to each other, to justify and clarify their thinking the students in this study began to engage more actively in their own learning.

This project also found Transactional Strategy Instruction to be effective in supporting student comprehension when issues of word recognition and vocabulary knowledge were found to hinder comprehension during reading. Teachers learned to provide direct explanation, demonstration and mental modelling of strategies to decode unknown words and to provide opportunities for students to demonstrate and discuss the strategies they

used with their peers in the context of initial reading, repeated reading and post reading activities. Students learned a range of strategies for decoding and word attack that they could draw from independently and in response to challenges encountered in text. Similarly, they learned to demonstrate, think aloud, encourage partner and group problem solving, mental modelling and discussion, and provide feedback for students as part of vocabulary instruction. Previously, vocabulary instruction had not been planned and explicit. Now teachers were learning to take a metacognitive approach to their vocabulary instruction that encouraged students to be active in developing their understanding of words and ways to learn words (Blachowicz & Fisher, 2000).

However, this research concurs with that of others (e.g., Allington, 2001; Allington & Cunningham, 2002; Duffy, 2002; Pressley, 2000, 2002a; Pressley et al., 1991) that students must be well practiced in the use of comprehension strategies before these become independently useful to students. Over the duration of the 2003 project the researcher observed students to be at the beginning stages of learning to use integrally the strategies they had been taught independently. This was largely due to their teachers needing to grow their own knowledge of strategies and their use before transferring this in to their teaching. Once understood and used, these students required time to practice, apply and learn about the usefulness of these strategies. Pearson, Roehler, Dole and Duffy (1992, p. 189) explain: "What changes over time is the students' level of expertise and the amount of conceptual and contextual support teachers need to provide". This will be an integral factor in sustaining shifts in achievement beyond the initial year of this research project.

A further important consideration characterising teacher effectiveness was the type of literary activity students were engaged in during the available time for reading comprehension instruction. This research concurs with the position espoused by Allington and Cunningham (2002, p. 133) who state, "It does matter what kinds of work children spend their time doing". Initially, poor classroom management and organisation affected the amount of instructional time participant teachers' students were receiving in reading comprehension. By focusing on management and organisation, both as a component of professional development and through in-class observations and buddy feedback during phase 1, participant teachers were able to increase the amount of purposeful time available to students to engage in reading instruction (Allington, 2001; Allington & Cunningham, 2002). For students in this project this included deliberately linking to student prior knowledge before beginning group instruction, engagement in repeated

reading (Samuels, 2002), partner reading for fluency and accuracy, and the provision of follow up practice activities that deliberately built on student knowledge of comprehension strategies and of behaviours exhibited by good comprehenders. A range of graphic organisers, introduced to teaching during both phase 1 and phase 2 professional development, proved useful in this respect.

This research suggests that there are strong links between raised student achievement and the "other" comprehension tasks planned outside of teacher-group instruction. This is strongly paralleled by research on effectiveness of teaching time (e.g., Allington, 2001). The researcher contends that further consideration be given to exploring the nature and type of "other" activities that add instructional value, demonstrable by evidence of student achievement gains, that students can engage in while not receiving instruction direct from the teacher. Evidenced based practice in this area is critical to ensure that instructional time is maximised.

Assisting teachers to learn about comprehension strategy instruction took time. Participant teachers needed to understand why a particular strategy was useful, and be given the time to learn to use it, adapt it to their own teaching and the needs of their students and blend it into the guided reading instructional approaches they used. These findings are consistent with the work of Joyce et al. (1989) who believe that when teachers have moved through these stages they have reached executive control over use of their new learning. Essentially, learning to use a transactional strategy approach to comprehension instruction was not a "quick fix" for either teachers or students. As teacher professional learning developed beyond the second data collection, the participant teachers needed to learn not only how to teach comprehension strategies effectively and provide independent and group follow up practice opportunities in their use but, also, to know how to make thoughtful and selective decisions about how and when to teach them, and it which combinations. At the time the project concluded, this was still an area teachers in which teachers were developing their knowledge. The issue of allocating sufficient time to teacher education for teachers to learn about, practice, apply and make evidenced based decisions when teaching comprehension strategies is of significance for future professional development projects.

According to Brown (1980, cited in Forrest-Pressley, 1984, p. 2) the ability to monitor one's cognitive processes is trans-situational: it is a sign of efficient learning in many tasks. For participant teachers to reach this point, they had to be taught the strategy first, see it in the context of their own learning, the needs of their students, and their current

knowledge of comprehension teaching (i.e., within guided reading practice) before they were completely able to practice the principles of transactional strategy instruction. Teacher confidence in their own teaching, and the deliberateness of their actions and decisions came before their interest and confidence to engage students more fully through teaching them to explain, demonstrate, and model strategy use for each other.

This project has shown that Transactional Strategy Instruction can be used to strengthen the degree of explicit comprehension instruction teachers can provide within the guided reading approach. The researcher contends that there would be merit in undertaking further research, based on a larger teacher student and student sample, exploring the deliberate integration of transactional strategy instruction within guided reading. The researcher also suggests that exploratory work be undertaken to explore the integration of transactional strategy instruction within the shared reading instructional approach (MOE, 1996b, 2003). Shared reading, when used to provide group instruction, provides a way of supporting student comprehension of text in which students benefit from demonstration, modelling and in-depth discussion to make meaning. On each of these teaching occasions there would be benefits in exploring the benefits of direct explanation of comprehension strategies, teacher and student demonstration, modelling, and explanation within the shared reading approach.

There is also need for research to provide more in-depth support to assist teachers to know when a particular strategy needs to be taught to a particular student. This research would need to research profiles of underachievement of students and investigate indicators that particular strategies are not well used or understood by these students. Research of this type is necessary to ensure that teachers do not develop a 'one-size fits all' approach to strategy instruction, providing instruction to all students without identifying first that there was a need to do so.

The researcher also recommends that further research be conducted to explore the successful transfer of comprehension strategies, once used independently in the reading lesson, to new academic tasks and contexts for both teachers and students. This was not done in this study, but evidence of the effectiveness of strategy instruction would suggest that students would benefit from a cross – curricula approach to this learning. For teachers this should include transfer in to cross curricula studies (e.g., science, health, social studies) as well as development of knowledge of when strategies need to be applied and the type of teaching that most ly does this in these contexts. For students this would include researching their knowledge and ability to transfer new learning in to other

curricula areas, along with their knowledge and ability to select and use a range of comprehension strategies according to the demands of the text. Such research should include evidence of outcomes in terms of reading comprehension achievement of students.

Summary

This study concludes that Transactional Strategy Instruction is useful in providing a framework for varied comprehension instruction. It has, through this study, been adapted as a way of deliberately working with students and teaching them strategies for learning how to decode unknown words, how to work out the meaning of vocabulary they are unsure of, and how to use a variety of comprehension strategies to gain meaning from text.

As in other previous studies (e.g., Duffy et al., 1987; El-Dinary et al., 1992; NRP, 2000; RAND, 2002), this study affirms the effectiveness of teachers providing direct explanation and modelling of strategies for comprehension as an essential component of comprehension instruction. Ideally, this instruction should be embedded within approaches to teaching reading comprehension that are highly metacognitive and involve active participation by students for small group comprehension instruction.

However, in addition to the integration of a Transactional Strategies Approach to teaching, the impact of well analysed data, and on-going use of formative assessment, and the impact of this on the achievement of the pupils in this study, cannot be overlooked. The researcher believes that embedding formative assessment into participant teachers' daily Transactional Strategy approach has strengthened this approach and that, together, they have contributed both to changes in teachers' ability to understand the reading comprehension needs of their students and to foster student understanding of their own learning. The next section of this discussion relates to teacher analysis and use of student achievement data as a characteristic of effective reading comprehension instruction.

A FOCUS ON DATA AND DATA ANALYSIS

This research centred on two aspects of teacher learning about and through assessment sources. The first was the use of a norm referenced reading comprehension assessment tool the Supplementary Tests of Achievement in Reading, STAR (Elley, 2001a, 2001b). The second was the introduction of formative assessment in to participant teachers' daily

comprehension teaching. Analysis and use of the data collected, both from the STAR test and from formative sources, were central to the professional learning of the teachers in this project.

At the commencement of this research, teacher knowledge of assessment in general, and of the standardised STAR assessment tool and formative assessment in particular, was extremely weak. Of particular concern was participant teacher's knowledge of how to analyse and interpret data. Similarly, at Time 2 data collection, while some improvements in teacher knowledge and ability were noted, participant teachers as a whole were still weak in this area. Initially, the teachers struggled to understand what analysis actually was and the types of questions they needed to ask of student data in order to make sense of it and use it to improve student achievement. These findings were consistent with other research findings, both within New Zealand and internationally, that showed that despite assessment becoming more integral to school programmes teachers are not well enough trained or prepared in their use (Gusky, 2003; Stiggins 1999, 2002; Timperley, Robinson, & Bullard, 1999; Timperley & Symes, 2003).

To understand the achievement problem within the six classes as a whole, and within each of the six individual class, teachers began by administering the STAR (Elley, 2001, 2001b) assessment tool. Once gathered, the data needed to be disaggregated by gender, ethnicity, and sub test in order to discover areas for improvement. At each of the three times of data gathering, the STAR results were useful in providing a picture of, and to monitor, the trends of achievement and areas of concern across the student population in each of the six classes. Data provided a snap shot of the reading development of the students in participant teacher's classes. The data also provided an opportunity for comparing groups of students, in particular the achievement of Māori and Non-Māori students across the six classes.

The STAR tool provided participant teachers with information on where students needed to improve at three points of time. Participant teachers need to learn the value of the STAR assessment data as providing a means to an end. However, in order to do this, the teachers needed to learn what information this tool actually did provide for them, how to analyse and interpret the scores and how to respond to the scores in a timely and informed manner so that results could be used to identify strengths and weaknesses to enable teachers to target instruction to meet the needs of all students. This required considerable researcher and teacher time as teachers learned the value of spending the time studying, discussing and reflecting on the results of the data.

The data collected from the STAR assessment tool (Elley, 2001a, 2001b) information provided one basis for evaluating the effectiveness of the teaching and for informing the content of professional development for participant teachers. However, the STAR assessment is not intended to measure everything a student would need to be able to know or do to be a good comprehender. Therefore, developing teachers' knowledge of appropriate selection of other tools (e.g., the running record) and of formative assessment was an essential element of teacher learning about and through student achievement data.

Formative assessment has been defined as assessment that takes place during teaching with the express purpose of improving pupil learning (e.g., Black & Wiliam, 1998; Torrance & Pryor, 1998). It involves such approaches as teacher observation and questioning, anecdotal records, teacher-student conferences, partner conferences, self assessment and peer assessment. A number of researchers (e.g., Black & Wiliam, 1998; Clarke, 2001; Clarke, Timperley & Hattie, 2003; Crooks, 1993; Torrance & Pryor, 1998; Tunstall & Gipps, 1996) have presented research supporting the use of formative assessment approaches specifically aimed at raising student achievement. This research project drew on the findings of these studies and deliberately set out to include formative assessment as a way of informing reading comprehension instruction.

This study found formative assessment to be beneficial in a number of ways. Drawing on a range of approaches (e.g., focused observation of student discussion, observing independent work, discussing and, latterly, reflecting upon, learning intentions and success criteria) assisted teachers to assess the degree towards which students were learning to use a range of strategies for comprehension, strategies for word attack and strategies for reading fluently and accurately. The regular sharing of comprehension lesson outcomes and success criteria focused both teachers and students on key learning goals and made lessons more deliberate and aligned to student need. Information gathered through questioning, discussion, observation, conferencing and self assessments monitored achievement against these goals. Deliberate sharing of these strategies by the teachers with their students meant that students themselves were privy to knowledge of what success would look like.

Additionally, teachers needed to learn that for formative assessment to be most useful, it too had to be analysed. Again, teacher lack of understanding of analysis initially proved problematic. Professional development in each of the three phases aimed at supporting teachers in the process of learning about student achievement through analysis and collaborative problem solving. This in turn, led to increased teacher understanding of

what comprehension underachievement might look like in their classroom and the implications of this for their instruction. Furthermore, as teachers learned to ask questions to assist their analysis (refer to Table 7 in chapter 7) they also learned to critique the effectiveness of their own teaching.

This research also found strong links between improved teacher content knowledge, pedagogical approaches and teacher ability to analyse assessment data. In particular, the increased nature and type of discussion students engaged in as they developed comprehension of a range of text, enabled teachers to listen and observe student understanding as it developed—the degree to which students could discuss, summarise, synthesise, draw conclusions, the evidence they could give to support their responses and ideas

While there is still limited research on the impact of deliberately using evidence from student achievement to raise student achievement in reading comprehension, this study, like some other recent studies (e.g., Newman, King, & Rigdon, 1997; Timperley& Symes, 2003; Wenglinsky, 2003) has shown that schools can lift student achievement when teachers engage in in-depth analysis of assessment information to assist them to learn how to modify their teaching programme to better meet the needs of their students. As advocated by Fullan (1999), we must ensure that our teachers put achievement, and knowledge of student achievement, to the fore of their work. Fullan (1999, p. 32) explains:

> What happens in these schools is that the teachers as a group and as subgroups examine together how well students are doing (i.e., they study student work and assessment data), they relate this to how they are teaching (i.e., to instructional practice), and they make continuous refinements individually and with each other (i.e., as a professional community).

This study has confirmed that this is, indeed, an essential characteristic of effective reading comprehension instruction, and is critical to teacher decision making about most suitable content and approach for instruction.

The STAR student achievement data collected within a quasi experimental design format showed that the students in the classes of participant teachers did make significant gains in reading comprehension scores over the duration of this project. This evidence, shown through an increase in raw score and mean stanine norms score shows that the shifts in teacher practice have raised achievement of both Māori and Non-Māori achievement.

While the mean stanine for Māori students was still below that of Non-Māori students, both groups made similar and significant gains over the year. Similar trends were evident for mean gain scores by both gender and ethnicity. This is in contrast to national achievement data that indicates that Māori students are not making the same gains as Non-Māori, and the achievement gains of boys is below those of girls (Campbell, Kelly, Mullis, Martin, & Sainsbury, 2001; Flockton & Crooks, 1997, 2001; Wagemaker, 1993).

However, the STAR assessment tool (Elley, 2001a, 2001b) in itself did not provide sufficient data to alter teaching practice and raise student achievement. It was the on-going use of formative assessment, informed by analysis of STAR data, on-going teacher observation, specific learning intentions and student involvement in self assessment and goal setting, that had the greatest day to day impact on classroom teaching. In addition, practice was changed as a result of heightened teacher knowledge of the actual tasks that the STAR tool assessed and the skills, strategies and reading behaviours assessed through appropriate use of running records, structured teacher observation and formative assessment.

This research has also uncovered the emergence of strong links between teacher knowledge of literacy acquisition and teacher ability to analysis and use assessment data. At the commencement of this study, participant teachers did not have a strong knowledge of what reading comprehension actually was or how students acquire reading comprehension ability. Consequently, they were not able to analyse student learning needs from data effectively or to make informed decisions based on data. Analysis required teachers to know what to look for in data and how to look for it. Analysis was informed by a teacher's knowledge of the student and a deep knowledge of how literacy is acquired and what good readers actually do when they comprehend. The researcher contends that lack of knowledge of literacy acquisition is, potentially, a highly significant reason behind reading comprehension underachievement in schools. Moreover, when teachers do not have strong knowledge they are not likely to know how to analyse achievement, what to look for and what to do with the data once it indicates achievement problems.

This research found that, within a region identified as having low levels of student achievement in reading comprehension, the teachers had little knowledge of how to assess, analyse and use achievement data for the specific purposes of improving their own teaching, and raising student achievement. Neither did the teachers view themselves as problem solvers, being prepared to search further, ask questions, read, talk and seek

assistance to learn more about the achievement problems of their students. This raises questions as to whether this was localised, or whether it might be a trend across larger populations of teachers. The researcher suggests that further study in this area would be both useful and worthwhile in assisting teachers and professional developers to understand better the reasons behind student underachievement.

Summary

Analysis of student achievement data, both through the use of the STAR assessment (Elley, 2001a) and through formative assessment processes was one of the integral in components developing effective teacher practice in reading comprehension. Shifts in teacher practice associated with knowing about assessment, included knowing how and when to select the right tool for the right assessment purpose, knowledge of what the tool actually does assess (and does not assess) and knowledge of how to administer the assessment accurately.

Across the six classrooms, classroom assessments provided meaningful sources of information for the teachers, helping them to identify what they taught well and what they needed to learn in order to increase levels of student achievement. The challenge within this for teachers was to learn to turn their attention away from what the students did not learn to what they did not teach effectively. The action research model proved useful in developing teacher understandings as they learned to underpin their action with theory. Gusky (2003, p. 8) argues "Can teaching take place in the absence of learning?' and replies 'Certainly not!" The following section discusses the ways of working through action research and professional development that were integral to the outcomes of this research.

WAYS OF WORKING: A COMMUNITY OF PRACTICE

This action research project brought together a range of professional development activities aimed at strengthening teacher knowledge about teaching reading comprehension in order to critique and modify practice in the light of this critique of identified student need and of reading comprehension research. The research was based on student and teacher data as it was collected at three time intervals (Times 1, 2, and 3), with actions reviewed in relation to the results of analysis of data at each point of time. Using data to support professional development was critical in effecting change over time. Teacher data, gained from observations and interviews, assisted the researcher to

work out what teachers needed to learn to make their teaching more responsive to student needs. The importance of learning from teacher data can not be underestimated in this process. Bernhardt (2003, p. 28) explained, "People act according to what they believe about different topics, so if you want to change a group's perceptions, you have to know about their beliefs". Teachers in this project learned through action research methodology to address comprehension teaching and achievement issues that were of concern to the group. The underpinning of action with theory was a significant factor in shifting teacher practice and raising student achievement. As teachers learned to draw on theoretical knowledge from research, accompanied by their own experiences and knowledge from their own teaching, they began to build an informed rationale for the decisions they made about their teaching, why they were doing what they were doing. For practice to be sustained and transferred to other contexts, the ability to explain why something is done is imperative. This research suggests the potential of action research, based on achievement data, to translate research into teacher practice, to strengthen teacher content and pedagogical knowledge and provide a powerful agent of educational change and school improvement.

It seems important to re-emphasise, however, that exposure to alternative practices and ideas on their own will not lead to sustained changes in teacher practices and improved student achievement. This action research project deliberately drew on a range of professional development opportunities aimed at strengthening teacher understanding and practice of effective reading comprehension instruction. Many of these activities, deliberately targeted to teacher learning, were new to the participant teachers (e.g., critique of recent research, buddy mentoring, observation, feedback from peers and collaborative problem solving). Teachers consistently pointed to observation and feedback activities which had a large impact on their learning. In doing so, they referred not just to themselves being observed and receiving feedback, but to the value of opportunities to observe and share instructional practices and learn from others. Similarly, buddy mentoring, while initially challenging, was not only in growing the professional expertise and knowledge of participant teachers, but in initiating a network of support for teachers within the project.

A further critical component of the way teachers learned to work was the development of regular collaborative problem solving sessions that provided opportunities for teachers to engage in talk about learning. These sessions were deliberately established to enable teachers to learn in an ongoing way about the effectiveness of their own teaching through

situational decision making and inquiry (Hopkins, 2002). They got to the heart of student achievement problems through examining results, modifying teaching practice, collectively sharing teaching approaches and collaborating on teaching techniques. Initially, researcher expectations that teachers would engage in problem solving and be open to talk about issues of underachievement proved challenging for group members. However, as they learned to trust each other, and give regard to the suggestions made by their peers, the value of this type of learning became evident. Whilst the beginning stages of the research meetings on achievement issues were led by the researcher, the researcher's role changed over the course of the year. Over time, a higher degree of teacher participation and ownership of the processes meant that the researcher was able to take a supporting and inquiring role, facilitating rather than instigating the process of learning talk. As found in other studies (e.g., Annan, Lai, & Robinson, 2003; Earl & Katz, 2002; Fullan 1999; Gusky, 2003; Symes & Timperley, 2003; Timperley & Parr, 2003) the role of expert support in leading participant teachers through the process of learning talk was a critical component in eradicating teaching practices, challenging teacher assumptions and beliefs about student achievement and improving teaching to impact on, and raise student achievement.

This project concurs with findings of others (e.g., Fullan & Hargreaves, 2003; Harris, 2002; Stoll et al., 2003; Timperley & Parr, 2003) that professional development must be linked to student achievement data, be sustained and focused on student learning and, generate high expectations about student achievement. If schools and clusters of schools are to concentrate upon enhancing teaching skills, knowledge and competency they must provide comprehensive professional development opportunities. Furthermore, teachers involved must understand why professional development is occurring and why it is important (Brody & Davidson, 1998; Fullan & Hargreaves, 1996; Hargreaves, 2003; Harris, 2002). This, the researcher contends, is a vital element of schooling improvement.

LIMITATIONS OF THIS STUDY

The findings of this research project are specific to a small scale research study undertaken with six teachers. There remains a need for large scale studies to determine whether the same characteristics associated with raised student reading comprehension achievement indicated through this study would apply on a larger scale.

Additionally, this study did not capture the voices of students in their process of learning about reading comprehension. Future studies, that explored both the changes to teacher

knowledge and the changes to student knowledge, based on achievement data, are recommended. This would include collecting data from students via interviews, observation during instructional lessons, observation during follow up activities based on instruction, and discussion with students about the cognitive strategies they use as they make meaning from text and about their own developing metacognitive awareness.

Furthermore, this study took place over the duration of one school year. However, to teach students to monitor their reading comprehension independently and to draw on a range of comprehension strategies in doing so requires a much longer-term process. The researcher recommends that further research be conducted into the long term effects of such instruction on raising and sustaining levels of student achievement. Similarly, there would be benefit in future longitudinal studies that explore the relationship between teacher learning, shifts in teacher knowledge and practice, and subsequent improvements in student achievement.

CONCLUSION

Fullan and Hargreaves (1996) argue for teachers to be involved in the improvement of their schools, both a classroom and a school wide level. But, they add, involvement itself it not enough; it is the kind of involvement and the way that teachers work together that makes the greatest improvement within schools. In the context of this research, teachers were required not only to examine student achievement data, but data related to the effectiveness of their own practice through the three phases of this research. They needed to learn about how and what to teach as a result of their analysis and adapt their teaching in response to this analysis and new learning. Gaining in-depth information of their own teaching needs and of the reading comprehension needs of their students and carefully analysing this data on a regular basis has enabled teachers participating in this project to enhance the reading comprehension achievement of low achieving students.

This chapter has discussed findings from the study *'Characteristics of teacher expertise associated with raising the reading comprehension achievement of low achieving year 5-9 students'*. Discussion has included analysis of evidence from data on teacher content knowledge, teacher pedagogical knowledge and practice, and of teacher knowledge of analysis and use of student assessment information. The study has found that when ongoing professional learning that is based on evidence, feedback and analysis is provided, changes can occur in both teacher instructional practice, that result in improved levels of student achievement.

The RAND report (2002, p. 29) stated: 'instruction is the most powerful means of developing proficient comprehenders and preventing comprehension problems'. The report further states: 'The explicitness with which teachers teach comprehension strategies makes a difference to learner outcomes, especially for low-achieving students' (RAND, 2002, p. 33). This study supports both of these statements. Raised achievement in reading comprehension cannot be attributed to one single factor. Rather, it is the development of teacher expertise through the accumulation of a range of skills, knowledge and understandings, combined with knowledge of the most effective ways of working, both professionally with other teaching colleagues and with students in the classroom that leads to improved achievement for students. Teacher expertise in literacy acquisition and pedagogy, in analysing and using data, and in working collaboratively with other teachers as they engage in evidenced informed professional learning does improve the reading comprehension abilities for their students.

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APPENDIX A. RAW SCORE TABLES

Table 1: Raw Score Means for Lead Teacher Group and Other Group

	Lead Teacher Group		Other Group			
	M	SD	M	SD	t value	ES
Time1 (Feb 03)	41.99	19.63	34.35	6.91	4.99*	0.29
Time 3 (Nov 03)	48.14	20.20	37.22	16.65	7.2*	0.42

* $p < .01$

Table 2: Raw Score Gains for Lead Teacher Group and Other Group from Time 1 (Feb 03) to Time 3 (Nov 03)

	Lead Teacher Group		Other Group			
	M	SD	M	SD	t value	ES
Raw Score Gains	6.16	9.42	2.87	10.02	3.73*	0.34

* $p < .01$

Table 3: Raw Score Gains for Lead Teacher Group by Ethnicity from Time 1 (Feb 03) to Time 3 (Nov 03)

	Māori		Non-Māori			
	M	SD	M	SD	t value	ES
Raw Score Gains	6.33	9.62	5.30	8.33	0.68	0.11

Table 4: Raw Score Gains for Lead Teacher Group by Gender

from Time 1 (Feb 03) to Time 3 (Nov 03)

	Male		Female			
	M	SD	M	SD	t value	ES
Raw Score Gains	5.94	9.06	6.35	9.78	-0.26	-0.04

APPENDIX B: TEACHER INTERVIEW THEMES

Theme A: Knowledge of literacy learning in comprehension

Ability to articulate and explain what they believe reading comprehension actually is.

Knowledge of what good comprehenders do.

a. Use of processing strategies

b. Use of comprehension strategies

Interviews will explore teacher knowledge of what comprehension is and what student strategies, skills, behaviours and attitudes being able to comprehend involves. This includes teacher ability to:

- provide a definition of what comprehension is
- describe the characteristics of a student who is a good comrepehender
- describe what it is that students need to know in order to become good comprehenders
- demonstrate knowledge that comprehension is an active process and involves the interaction of a number of behaviours, and knowledge

Theme 2 – Theme B: Knowledge of reading comprehension approaches

a. Ability to explain the main teaching approaches they use to teach reading comprehension

b. Knowledge of relationship between research on reading comprehension and own practice

c. Knowledge of approaches to develop metacognitively aware readers

d. Knowledge of providing an and comprehensive reading comprehension programme

Interviews will investigate teacher knowledge of approaches to teaching reading comprehension (supported by research) with view to raising student achievement in reading comprehension. This includes teacher ability to:

- articulate and provide examples of teaching approaches that can be applied to teach reading comprehension
- articulate and provide examples of teaching strategies that can be applied to teach reading comprehension
- articulate and provide examples of how their teaching provides students with knowledge and use of specific reading comprehension strategies
- provide independent and follow up reading tasks that support and reinforce what is taught in reading comprehension lessons
- demonstrate understanding of what metacognition is and describe approaches to teaching reading that enhance metacognition – with view to raising student achievement in reading comprehension

Theme C: Knowledge of analysis and use of student achievement data for raising reading comprehension

a. Knowledge of assessment practices

b. Knowledge of what information assessments provide

c. Knowledge of analysing data

d. Knowledge of relationship between assessments and teaching practices

e. Knowledge of assessment properties

Interviews will investigate teacher knowledge, understanding and practices in assessing student achievement in reading comprehension and use of formative assessment as a component of raising student achievement. This includes teacher ability to:

- demonstrate knowledge of selection and use of reading comprehension assessment tools
- demonstrate ability to analyse the assessment information to inform their teaching and student learning in reading comprehension
- describe how they to use assessment information they have gathered and analysed to raise student achievement in reading comprehension
- describe what formative assessment is
- provide examples of how they integrate formative assessment as part of the teaching and learning in reading comprehension lessons
- provide examples of how they deliberately involve students in the process of assessment and of understanding and monitoring their own learning goals

APPENDIX C: GUIDED READING OBSERVATIONS

Lesson Introduction

● Teachers develop routines to enable students to be aware of purpose of lesson, i.e., lesson outcome(s) and success criteria have been shared with students

0. Lesson outcomes not shared with group at beginning of lesson. Success criteria not shared with group at beginning of lesson. Either lesson outcomes or success criteria are shared – but not both

1. Lesson outcomes and success criteria are shared orally with group but are not written down for future reference. Lesson outcomes and success criteria are shared in adult language rather than kid speak – either in oral or written form

2. Lesson outcomes and success criteria are shared in writing with the group at the beginning of the lesson. The teacher takes responsibility for this and does not involve students in determining outcomes or success criteria. Outcomes and success criteria are written in kid speak – using terms and phrases that students are able to understand

3. Lesson outcomes and success criteria are shared in writing with the group at the beginning of the lesson. Students are involved in determining and giving suggestions for either the lesson outcome and/or the success criteria. Writing is in kid speak. The teacher checks student understanding of the outcome and the success criteria as they are shared

- Students indicated they were aware of the purpose of the lesson (e.g., Through a comment, question, reflection, behaviour)

    0. Purpose of lesson was not shared clearly with students and students were not made aware of the purpose. As the lessons commences, students may still be unclear of the purpose of the lesson

    1. Purpose was shared clearly and students were asked if they understood the purpose. They were asked in a general way and as a group. No students, or only one, responded to demonstrate their understanding. The teacher or students did not go back to the criteria to check their understanding

    2. Purpose was shared and students were asked if they understood. The Teacher enabled discussion as to whether students understood and clarified problems when they arose, e.g., through use of criteria, demonstration

    3. Purpose was shared. The teacher checked that each student understood the purpose through questioning or asking for examples. Examples of the purpose was discussed or demonstrated to clarify the purpose when/if students were uncertain or asked for clarification.

- Teacher has introduced the content and/or form of the text to the students and has related the main theme / and at least one key idea to the students' prior knowledge

    0. There is no introduction to the text or introduction is limited to sharing/drawing attention to the title. No attempt is made to relate the theme or main idea to what the students may already know – their prior knowledge. No mention is made of text structure/type.

    1. Teacher introduces the title and asks one or two questions that encourage students to predict what the text might be about. The teacher makes reference to the text structure/type of text students will be reading but this is not elaborated on. The teacher does not elaborate on their responses in such a way that she makes deliberate links to prior experience.

    2. Teacher introduces the text and reminds students of previous experiences/prior knowledge that may be linked to the theme, text structure

or a similar type of text. There is some discussion around the theme and this is linked back to student prior knowledge.

3. Text is introduced to the students. The teacher deliberately links to student prior knowledge (both of content and text structure/type) and encourages discussion and or exemplification to build on this. Students have clear links and expectations about what they are about to read and what they might already know and what they expect to find out

- Any unusual features or possible challenges (i.e., in vocab or text structure) are shared and explained to students

0. The teacher does not introduce new vocabulary, any unusual or new text feature or possible challenge to the students prior to beginning the text

1. The teacher introduces one or two challenges. This is done verbally and without any direct reference to the text, or to student prior knowledge. Limited explanation accompanies teacher telling students

2. The teacher has told students of any new vocabulary and potential challenges within the text and has explained these to students as required. This has meant going to the text to initiate/support explanation

3. The teacher has ensured that students are familiar with any new vocabulary and students have been introduced to any unfamiliar features of the text. This has been linked to prior experience and/or extracts within the text. The teacher has checked student knowledge of these through teacher pupil interaction – e.g., asking questions, group discussion and/or demonstration

Introduction to guided reading

Indicators – we should be seeing:

The teacher begins the lesson by sharing the lesson outcome(s) in writing with the

students. The learning outcome(s) will state what the students should learn as a result of this lesson (as opposed to what they will do). The teacher then develops success criteria for the lesson with the students. These are agreed upon and recorded in writing alongside the lesson outcomes.

Teachers tell/explain students the theme (narrative), relate the text content to the student's prior knowledge and introduce students to particular challenges they may encounter in the texts (this may include unusual text features, proper nouns, key subject specific language). Students have been equipped with knowledge of how to deal with difficulties that they may encounter and have a sense of expectation and anticipation about what they are about to read.

Guided Reading Observations

Body of Lesson

(NB. Prior to this the teacher has divided the instructional text into pre-planned chunks/sections for reading)

- The teacher divides the text into chunks/sections for students to read. The teacher sets a purpose for reading each section of text with the students prior to their reading (i.e., I want you to read to discover/find out…….)

    0. The teacher does not set the students a definitive section of text to read. They are able to read the whole text or read on uninterrupted until the teacher requests the students to stop

    1. The teacher sets a definitive section of text for students to read (e.g., I want you to read the next 2 paragraphs until you get to "each") but does not set a purpose for reading the section prior to commencing reading (e.g., I want you to read the next 2 paragraphs to find out if…)

    2. The teacher sets a definitive section of text for students to read and establishes a purpose for reading this section prior to students starting to read. The purpose may be a problem, or a question to find out about, or related to a challenge within the text

- The students read the text themselves, individually (Fluent students are encouraged to read silently).

    0. Students do not all read the text themselves. Some are distracted and others are unable to read the section

    1. All students read the text independently

- Strategies for comprehension are made explicit to students and are reinforced throughout the reading on at least one occasion

    0. Teachers do not teach strategies for comprehension in a clear way as students read through the text

    1. Strategies are clearly shared with the students on one or two occasions but without deliberate explanation or exemplification from the text. (e.g., they are told but not taught or deliberately practised)

    2. Teachers make a conscious attempt to ensure that students aware of strategies for comprehension throughout the reading. They attempt to demonstrate the strategy (s) with the students and involve students in discussion of strategies in use. The strategy(s) are pre-determined by the teacher, rather than being in response to difficulties encountered by students as they read. (i.e., The teacher does not change focus in response to student need as it arises)

    3. The teacher responds to problems encountered by students as they read by making explicit those strategies that will assist comprehension. To do so, they draw on a range of strategies dependent upon purpose. At the same time the teacher will deliberately choose to teach and/or reinforce specific strategies with the students

    4. As for three. In addition, deliberate instruction is provided on the strategy (s) through which the teacher demonstrates and explains how use of the strategy assists better comprehension. Strategies are linked to, or in response to, student learning outcomes and success criteria. Students are able to talk about their own use of strategies to assist comprehension

- Conversation/discussion

    0. There is no conversation or discussion between teacher and student as the reading progresses

1. Discussion takes the form of questions by the teachers and answers from the students. On most occasions these are closed questions and students are not required to elaborate

2. The teacher is beginning to ask a wider range of questions and encourage students to respond to the ideas of others. In doing so there are 2-3 instances of developing conversations about what they have read, rather than merely responding to questions. Teachers do not answer their own questions and do not ask a second question immediately following a first – and before students have the opportunity to respond. (the exception to this is when the second question is aimed to clarify the first)

3. As above – but there is at least one instance where the teacher probed students' understanding, e.g., by either asking for clarification, reasons to support their answer, evidence from the text

4. At least four instances of literate conversations to explore text features, key ideas and identified challenges take place. These conversations are related to lesson goal(s) and/or the purpose set for reading the section of text and/or in response to student need as the lesson develops (formative assessment). There are questions and answers leading into more in depth discussion – teachers use a range of questions ensuring that not all questions are 'closed'. Wait time will be used to encourage student participation and response. There is at least one occasion where students are asking further questions themselves. Questioning will go beyond IRE cycles (initiate, respond, evaluate). Teachers will not be answering their own questions

● Questioning

0. Questions are asked only by the teacher

1. Teacher provides some opportunity for students to ask their own questions of text. On at least 2 occasions students initiate their own questions/discussion

2. Teacher and students share responsibility for asking questions with at least 3 occasions when students generate their own questions/discussion

- Teachers' use of formative assessment to inform the lesson as it progresses

    0. There is no evidence of teachers responding to student need as the lesson progresses

    1. The teacher asks questions aimed to assess students developing comprehension of the text and/or assist individual students throughout the reading as required

    2. The teacher asks questions aimed to assess students developing comprehension of the text and assist individual needs and requires students to support their responses (e.g., by returning to the text, by explaining a strategy they used)

    3. As above (1) plus – The teacher models, scaffolds, and/or conducts a "mini lesson" on at least one occasion in response to challenges students encounter through their reading

- Relationship to lesson outcomes and success criteria

    0. The teacher does not refer to the lesson outcome(s) and success criteria as the lesson develops

    1. The teacher refers to the lesson outcome and success criteria at least once during body of the lesson

    2. The teacher refers to the lesson outcome and success criteria at least twice during the lesson, integrating the outcomes with the lesson content

We should be seeing:

The purpose for reading each chunk of text is clearly identified for students

Opportunity for independent reading

Following the reading, a wide range of questions asked including open and closed questions. The teacher will be probing student's responses and will ask students to support their ideas with evidence from text or other sources. Students will be active in asking their own questions – (in particular to clarify or contribute further to the discussion) and active in initiating discussion.

Deliberate integration of one or more comprehension strategies within the lesson will be evident (visual images, prediction, prior knowledge, synthesis, summarisation, self questioning etc.)

Teachers asking questions to assist their teaching – formative assessment in action!

(Watch for teachers who answer their own question, who jump in too quickly or who ask a second question too fast. Also watch for think time and use of buddy – tell your buddy, ask your buddy – TPS – think pair share.)

Lesson Conclusion

- Relationship to lesson outcomes and success criteria

    0. Lesson outcomes and success criteria are not referred to as the lesson concludes

    1. Lesson outcomes and success criteria are briefly revisited but students are not involved in self assessment/reflection of any sort

    2. Lesson outcomes and success criteria are discussed with the students. The teacher initiates an opportunity for students to assess how well they achieved in relation to outcomes and criteria

    3. As above (2), but self assessment is initiated by students

- Opportunities for self reflection

    0. Students do not self reflect on learning – either content or strategies used to develop understanding

    1. Students are asked to self reflect. This process is initiated by the teacher

    2. As above (1). In addition there is at least one instance where students initiate a reflection on their learning (unprompted by the teacher) or students are given the opportunity to discuss their learning together and identifying a focus for subsequent lessons based on the work undertaken to date (either from this lesson or from a serious of related lessons)

We should be seeing:

That the lesson actually did relate to the lesson outcome while at the same time teachers responding to student need that may have arisen as the lesson progressed.

The teacher is referring back to the lesson outcomes and involving the students as part of the on-going lesson – asking such questions as "How are we going so far? What do we now know? What information would help us now? This is also done at the lesson conclusion - Did we learn this? Did we achieve this? What do we need to do next?"

Students are reflecting on the success criteria for the lesson and where appropriate identifying a goal for the following lesson (eg. if they did not meet the success criteria, if more practise is required or in response to something that arose during the course of the lesson)

Reflection is occurring both as a result of teacher prompting, and as a result of unprompted student initiation.

A mini lesson that is related to a teaching point/ the learning outcome/ an issue that arose throughout the reading, may be planned in response to the lesson.

APPENDIX D. GUIDED READING SCHEDULE PEN LITERACY PROJECT 2003

Prior to reading:

Ask for a copy of the text

Clarify selection of text – why this text was selected for the lesson

During reading:

Record observations of guided reading lessons to provide teachers with specific feedback after the lesson has been completed

_____

Teacher's name _____ Class_____ Date_____

Observer's name _____

Lesson Introduction

- Teacher is clear on purpose for the lesson
- Student aware of purpose of lesson, i.e., lesson objectives and success criteria have been shared with students
- Teacher has introduced to students and related the main theme / key ideas to the students' prior knowledge
- Any unusual features or possible challenges (i.e., in vocab or text structure) and shared and explained to students

Indicators – we should see:

1. *When we ask the teacher what the key purpose of the lesson is they should be able to tell us. We are aiming for what students will learn (as opposed to do)*

2. *The teachers should begin by sharing the lesson outcomes with the students. Then they should be developing success criteria*

3. *Teachers tell students the theme, relate to their prior knowledge and introduce them to any challenges*

Comments

Lesson Body

- The teacher sets the purpose for reading each section of text (larger texts chunked), i.e., I want you to read to discover/find out…….
- The students read the text themselves, individually (fluent students are encouraged to read silently)
- ***Teacher models, scaffolds, conducts "mini lesson" to prepare students for reading – extra component for junior school – emergent/early readers***
- Discussion is focused and related to lesson goal(s). There will be questions and answers leading into more in depth discussion – teachers will try to use a range of

questions ensuring that not all questions are 'closed'. In this way the discussion may explore text features, key ideas and identified challenges

- The teacher probes the students' understanding – asking for clarification , reasons why, evidence from text and other ideas
- The students are encouraged to think and talk about what they are reading

We should be seeing:

Purpose really clear and chunks very clear

A wide range of questions being asked including open and closed –watch for teachers who answer their own question, who jump in too quickly or who ask a second question too fast. Also watch for think time and use of buddy – tell your buddy, ask your buddy – TPS – think pair share

Teacher asking the students WHY when they give an answer (getting evidence from the text) – how do you know, what makes you think that…..

In junior texts – very deliberate teaching prior to <u>all</u> students reading the text <u>on their own</u>

Comments

Lesson Conclusion

- Purpose of the lesson is revisited
- Students reflect about what they have learned
- Opportunities for further reading are provided
- Follow up activities are related to the learning outcome and success criteria shared at the beginning of the lesson

We should be seeing:

That the lesson actually did relate to the lesson objective

Teacher referring back to the lesson outcomes and involving the students – did we learn this, did we achieve this?????????????

An activity that relates to the objective

Comments