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**EXPECTING THE BEST: INSTRUCTIONAL PRACTICES, TEACHER BELIEFS
AND STUDENT OUTCOMES**

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**A thesis submitted in partial fulfilment of the requirements for the degree of Doctor of
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Abstract

The current study explored whether there are more pervasive teacher-centred expectations than the typical studies that find specific teacher-student expectation effects. Groups of teachers who had uniformly high or low expectations for their students were identified, and their instructional practices, beliefs and effects on the academic and social outcomes for their students were explored in four studies.

Study One explored the academic outcomes for students in the high and low expectation teachers' classrooms over a year. Students in the classes of teachers with uniformly high expectations for their students made significantly greater progress in reading than their counterparts in the classes of teachers who had low expectations for their students.

Study Two involved observations of the instructional and interactional practices of the different groups of teachers. Those with high expectations for all their students spent more time instructing their students, more frequently provided their students with a framework for their learning, questioned their students more and provided them with more feedback on their learning than the teachers who had uniformly low expectations. It also appeared from the observational data that the teachers who had uniformly high expectations for their students' learning provided a more positive socioemotional climate in which instruction took place.

In Study Three the different groups of teachers were interviewed regarding their beliefs about how learning should be provided to students with high or low ability. It was found that the high expectation teachers believed there should be less differentiation in the learning opportunities provided to their low and high ability students than did the low expectation teachers. The former group of teachers also reported providing their students with more choice in their learning than did the latter group of teachers.

Study Four focused on the academic and social self-perceptions of the students. The academic self-perceptions of the students who were in the classes with teachers who had high

expectations for their learning increased across the school year while those in classrooms with teachers who had low expectations for their learning decreased.

A model is built whereby it is suggested that teachers' expectations for their classes can have major effects on opportunities to learn, instructional practices, interactional patterns, student self-perceptions and academic outcomes.

Dedication

I dedicate this thesis to my husband, Jeff, without whom arrival at the final result would have been a far more tortuous journey. Jeff's gentle patience and encouraging manner have kept me on track from stumbling beginnings through to the completed result.

Throughout this academic journey Jeff was:

My computer genius, calmly taking a blithering technophobe apt to let loose with unusual adjectives directed at her computer to someone who now believes that mostly these machines can be tamed.

My counsellor, ensuring my spiritual, social and emotional well being by listening and providing the necessary shoulder massage at just the right moment.

My computer consultant, writing a program for my research which saved me many weeks of laborious data entry.

My programme manager, requiring the setting of target dates and then ensuring that all were met on or before the due time, spurred on with Bart Simpson-like comments: "Is it ready yet? Is it ready yet? Is it ready yet?" Enough to inspire anyone to complete in the shortest possible time!

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My walking dictionary when the Thesaurus could not cope. My proof reader.

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CHAPTER ONE

INTRODUCTION

The impact of teacher expectations on student learning has intrigued researchers for a number of years. The major argument of the 1960s and 1970s was that when teachers believed that students could achieve well at school then they did (Clark, 1963; Rosenthal & Jacobson, 1968). Such a concept had enormous implications for teachers and their instructional practice since this idea placed the responsibility for student learning firmly with the teacher. It is not surprising then that the original, and aptly named, Pygmalion study (Rosenthal & Jacobson, 1968) sparked vigorous debate in the academic world and also saw the flourishing of a new and fruitful field of research.

There has been active research in this important area ever since. Following the initial experimental studies, some researchers have concentrated on investigating the dyadic interactions of teachers with their low and high expectation students, in natural classroom settings (Brophy, 1985; Cooper & Good, 1983; Good & Weinstein, 1986; Jussim, 1989). Other researchers have looked at the student perceptions of teacher expectations (Weinstein, Marshall, Brattesani, & Middlestadt, 1982). More recently Rosenthal (1991) has suggested that the socioemotional climate of the classroom may be a more important mediator of teacher expectations than individual feedback. This has led Babad (1998) to more closely examine teacher affect and the nonverbal messages that teachers unwittingly provide to their students.

There has also been the suggestion that the expectations teachers have for their classes and the consequent daily interactions with the class may have more significance in mediating teacher expectations than the individual feedback that occurs (Brophy, 1982a). One reason for this is that students spend more time as passive listeners in the classroom than they do in one-on-one engagement with the teacher (Blatchford, Burke, Farquhar, Plewis, & Tizard,

1989). The research in this thesis integrates and complements that of previous researchers by incorporating the various components mentioned above into one investigation. Hence the same group of teachers are studied in relation to their expectations for student achievement, the accuracy of their expectations, actual student achievement, teacher interactions with students in the classroom, their pedagogical beliefs, and the students' self-perceptions at the beginning and end of the year of the study.

Purpose of the Research

This thesis has five propositions. The first proposition is that some teachers will have uniformly high or low expectations for their classes and this may result in differential academic outcomes for their students overall. The claim is that, rather than considering individual teacher-student interactions (e.g. some teachers have varying expectations for different types/groups of students), it is more likely that some teachers can be classified as having overall high or low expectations – and these expectations affect all students in their classes. No empirical investigations have been located that examine differences and similarities between teachers who have high expectations for their whole classes versus teachers who have uniformly low expectations for their classes. This research is designed to examine the effects over one-year for students who are placed with these different types of teachers. It will also aim to analyse any differences in instructional practices between these types of teachers.

The second proposition of the thesis is that teacher expectations will mediate the effects between the classroom climate and student outcomes. Babad (1998) and Rosenthal (2002) have signalled the significance of the classroom climate in mediating teacher expectations and hence some attempt will be made to determine any differences in the classroom climate provided by teachers with uniformly high and low expectations for their students.

The third proposition of this thesis is that the instructional behaviours of teachers with high expectations for all their students and those of teachers who have low expectations for their students will differ. This proposition has yet to be tested by empirical research but given the research into teachers who more or less actively discriminate in their behaviour towards high and low expectation students (Babad, 1998; Babad, Inbar, & Rosenthal, 1982; Brattesani, Weinstein, & Marshall, 1984) it is anticipated that some differences will be found in the instructional practices of teachers who have contrastingly either high or low expectations for their classes.

The fourth proposition of the thesis is that the beliefs that the teachers with uniformly high and low expectations have about how learning should be delivered to students may differ, and that this may contribute to differential learning opportunities being provided to their students.

The final proposition of the current research is that high or low expectation teachers' attitudes and practices may affect student academic self-perceptions. These effects could be mediated by differing teacher interactions with the class and a differing socioemotional classroom climate. The outcomes for students have not often been included in teacher expectation research and hence the current investigation aims to examine student self-perceptions over one year for students in the classes of teachers who have uniformly high or low expectations for the classes in which they find themselves.

Significance of the Research

While determining teachers' expectations for their classes rather than for individuals has been recognised as potentially having greater effects on student achievement, this proposition has not been researched. The identification of teachers who have respectively uniformly high and low expectations for the learning of the students in their classes would enable their instructional practices to be researched and outcomes for student achievement to

be monitored. Low expectation teachers could then be assisted to develop teaching strategies that could improve and enhance student learning. Timperley and Robinson (2001) have shown how professional development in some South Auckland schools assisted teachers with low expectations for their students to challenge their beliefs about what the students in their schools could learn, provided them with alternative instructional practices and resulted in significant improvements in the reading levels of their students.

High expectations have long been associated with enhancing student learning (Good, 1987; Good & Brophy, 1997) and the differing dyadic interactions of teachers with their high and low expectation students have been identified as contributing to the enrichment or retarding of student learning. It is possible that those teachers who have uniformly high or low expectations for their classes may have such effects on their whole classes. Research which contributes to a deeper understanding of the teacher practices that can lead to improved academic performance for children is important in the quest for high educational achievement for all students.

Design of the Research

Approval to undertake the current research was obtained from the University of Auckland Human Subjects Ethics Committee (ref 2001/007) which complies with a strict code of ethics pertaining to the conducting of research involving human participants. Copies of all participant information sheets, consent forms and assent forms are contained in Appendix A.

The research in this thesis is comprised of four studies. Study One was designed to survey teachers' expectations for their students in reading and physical skills and to investigate the possible relationship between their expectations and student learning. Three groups of teachers could be formed from the data: one group who had expectations for their students' end of year performance in reading that were significantly above their beginning of

year performance, and whose students made significant achievement gains over the year; one group who had expectations for their students' end of year performance in reading that were significantly above their beginning of year performance, but whose students did not make significant achievement gains over the year; and a third group who had expectations for their students' end of year performance in reading that were significantly below their beginning of year performance and whose students did not make significant gains over the year.

These three groups formed the basis of the second study which looked closely at the classroom interactions of these separate groups of teachers. This study was designed to explore the classroom interactions of these separate groups of teachers in an attempt to unravel possible instructional practices that may result in the varying learning gains uncovered in the previous study.

Study Three used structured interviews with each group of practising primary school teachers identified in the initial study to gain an understanding of the pedagogical beliefs that these different teachers held about how learning experiences should be designed for high and low ability students. Specifically the interviews were designed to ascertain how the teachers' beliefs could ultimately impact on the learning opportunities that were provided for their students.

Study Four investigated student academic and social self-perceptions for those children in the classrooms of the aforementioned groups of teachers by surveying their self-perceptions across different curriculum areas and their peer relationships, at the beginning and end of the year.

The focus of this research was on practising primary school teachers in the Auckland area. The group was selected to provide a broad cross-section of teachers practising at a range of schools in varying socioeconomic areas, at both junior and senior levels of the primary school and with varying amounts of teaching service.

The following chapter is dedicated to a critical review of the literature on teacher expectations and teacher expectation effects. An overview of the history of the expectation construct is firstly discussed and some of the earlier studies are critically reviewed. The Pygmalion study of Rosenthal and Jacobson (1968) and some critiques of this study are discussed in some detail. Some of the underlying models of teacher expectation effects are described and reviewed. This is followed by a critical review of the research related to the formation of teacher expectations and teacher interactions with their students. The literature review then discusses differing teacher beliefs and their implications for student learning. The final section of the literature review considers the research related to student perceptions of teachers' expectations for their learning. While extensive literature searches have been conducted and up-to-date literature included where possible much of the expectation research was conducted in the 1970s and 1980s and hence a substantial component of the literature review includes a discussion of these studies. Recently Brophy (1998) wrote: "In the 15 years since 1983 we have seen an apparent reduction of scholarly interest in the expectation phenomenon in classrooms ..." He does add that: "...the time is right for a reemphasis on expectation phenomena in thinking about schooling ..." (p. xiv). The current research reflects that renewed interest.

The subsequent four chapters present the four studies previously described while the final chapter presents a discussion of the educational significance and implications of the study as a whole.

CHAPTER TWO

LITERATURE REVIEW

The pedagogical decisions that teachers make and the learning opportunities that they provide often are based on their expectations for children's achievement. These expectations are comprised of teacher beliefs, teacher behaviour and student outcomes (Good & Brophy, 1997). All teachers have expectations for their students' learning and these expectations may form the basis of teachers' planning and instructional decisions. Teachers endeavour to structure learning opportunities for children for whom they have differing expectations in ways that will promote their success on activities provided for their learning, and which will promote their cognitive development. Teacher expectations may have immediate effects on student achievement by influencing the opportunities to learn that are provided. Variations in teacher expectations can lead to variations in what is taught which ultimately will lead to variations in what is learned (Brophy, 1982b). A focus on these teacher-student interactions, however, reveals that the research to date has mainly concentrated on the proximal or interactive behaviours of teachers towards high and low expectation students and researchers have identified observable and differing behaviours towards these groups of children. But there are also less direct or distal behaviours which are not always apparent and these may have an impact on teaching practice leading to the limiting or enhancing of opportunities to learn.

Beliefs about teaching and learning can influence teachers' expectations for student performance and, in turn, these beliefs and expectations will be employed to group children, to plan for their learning and in due course to deliver lessons. They may influence the feedback provided by the teacher and their interactions with their students. Classroom interactions reflect teacher expectations and beliefs. An understanding of the processes of

these different forms of interactions may assist in the development of enhanced teaching practice.

The following sections will explore the history of the teacher expectation construct, will review the findings from relevant experimental and naturalistic studies up until the present day, will explore teacher beliefs in relation to teacher expectations, will detail findings from research related to the proximal behaviours of teachers in the classroom and will look at the role of students in this process.

A History of the Expectancy Construct

The sociologist Merton (1948) first defined and developed the concept of the self-fulfilling prophecy in 1948. He described how a false explanation of a particular situation could evoke a novel behaviour which could, in turn, make the originally false conception become true. He exemplified the construct with reference to a diverse range of social and economic phenomena, including test anxiety, racial and religious prejudice, and discrimination. One example he gave to illustrate his concept centred on an imaginary bank called the Last National Bank. This particular bank was in a healthy economic state but a rumour began that it could be in financial trouble and about to collapse. All the depositors rushed to the bank to withdraw their money. Of course the bank could not sustain such an enormous volume of withdrawals all at once and so the bank did collapse. Thus the originally erroneous rumour led to a self-fulfilling prophecy: the bank became insolvent.

Merton's ideas (Merton, 1948) initiated psychological research into the expectancy construct in various social situations including the doctor-patient relationship and the ways in which judges directed juries. It did not seem unreasonable that his concept might be applied to teachers and their expectations for students. Hence fifteen years after Merton originally proposed the concept Clark (1963) suggested that low teacher expectations might be one determinant of the poor academic performance of children from socioeconomically deprived

backgrounds. Around this time Rosenthal had conducted a series of experiments with animals, mostly rats, which seemed to clearly indicate that when an experimenter believed that his animals were intelligent they did, in fact, learn more quickly than the other animals in the same study (Rosenthal, 1963, 1964, 1966).

Hence it did not seem too illogical to suppose that the same might be true of children. This was untested however until the Pygmalion experiment of Rosenthal and Jacobson (1968). These two researchers saw the beginning of a new area of investigation by creating interest in, and inspiring enormous academic debate about, self-fulfilling prophecies. Their book “Pygmalion in the Classroom” (1968) described an experiment where the children in grades one to six of Oak School were all given a test which the teachers were told would predict children who were all likely to suddenly bloom academically and that therefore these children could be expected to make large achievement gains during the school year. In fact the test used was an intelligence test. A few children in each class were randomly selected to be those who would show an academic spurt. And, indeed, after end-of-year re-administration of the same test these selected children did show an improvement in IQ scores according to Rosenthal and Jacobson (1968). The premise was simple: if we expect that something will happen, we behave (often unconsciously) in a manner that will make it happen (Spitz, 1999). This study, however, caused enormous debate both in the public sphere as well as in the academic world.

Impact of Pygmalion

The Pygmalion experiment (1968) resulted in headlines in some prominent United States newspapers when it was first published and it is still favourably included in some education textbooks (Spitz, 1999). Moreover the study was cited in several American court cases resulting in the elimination of tracking in one state, a ban on the use of intelligence tests

to identify students for special education classes in another state, and the initiation of desegregation in one southern city (Spitz, 1999).

Some academics were enthusiastic about the study causally implicating teacher expectations in the racial, social class and gender injustices and inequalities of society (Jussim, Eccles, & Madon, 1996). Others advocated utilising teacher expectancy to raise intelligence and tackle poor educational performance (Spitz, 1999). But many of these claimants misinterpreted or exaggerated the effects that Rosenthal and Jacobson (1968) had found. For example, their experiment involved manipulating positive expectations; the effect of negative expectations was left as a question for future research. Secondly they did not consider racial or social class issues; again this was an empirical question left for further investigation. Finally the effects they reported were not nearly as large as claimed by some enthusiasts and furthermore these effects dissipated with time (Jussim, Smith, Madon, & Palumbo, 1998).

The Oak School experiment, however, did have its critics. Thorndike (1968) initiated the unfavourable critical reviews. He questioned much of the data gathered during the Pygmalion study. His analysis of the results showed that the mean Reasoning IQ on the TOGA (Tests of General Ability), the test used in the experiment, was 58 across all children beginning first grade. This prompted Thorndike (1968) to comment that these students “barely appear to make the grade as imbeciles!” (p. 709). Conversely for six bloomers in one class, their post-test Reasoning IQ scores of 150 meant that every student must have obtained perfect scores on the TOGA.

Snow (1969) was even more disparaging in his examination of the testing procedures and results. He pointed out that the TOGA was not normed for the youngest children and hence that the results would have had to have been extrapolated, making their validity questionable. Snow (1969) also provided specific examples of scores that seemed

improbable. For instance, he cited one child with a Reasoning pre-test score of 17 and subsequent IQs during later testing of 148, 110 and 112. He also pointed to the grade one classes where the mean Reasoning IQs were 31, 47 and 54.

Shortly afterwards Elashoff and Snow (1971) produced an equally damning review. Once again they discussed the validity and inadequacy of the TOGA citing the large variations of several individual scores over the four testing sessions and the conspicuous deviations from the distribution of scores normally found. They added to the arguments about methodology by commenting that the interpretation of results was somewhat misleading in that throughout his book Rosenthal (1968) referred to significant increases in IQ for the experimental group as a whole whereas significant differences were only found for Grades One and Two classes. Indeed in some of the higher grades the control group outperformed the experimental group. Other researchers have proffered similar concerns (Brophy & Good, 1970; Spitz, 1999).

Another censure relates to an equivalence that Rosenthal (1968) appeared to place on IQ scores with intelligence, intellectual growth, academic ability and intellectual competence. Researchers point out that such equivalence cannot be assumed and that Rosenthal (1968) did not provide any independent evidence of intellectual improvement (Elashoff & Snow, 1971; Spitz, 1999).

A further area of discussion concentrated on the mediation of effects which was not investigated in the Pygmalion study (Brophy & Good, 1970; Cooper, 1985). In order for an expectancy effect to have occurred there must be intervening variables. In the classroom these may be found in differential teacher behaviour. In the Grade Two class where increases in IQ for the experimental group were largest the teacher was unable to name any of the original children on the list of bloomers she received. This complicates any cognition of how teacher interactions based on expectations might have contributed to the escalation of scores.

Beyond Criticism

Nevertheless even the most disparaging critics of the Pygmalion study all acknowledged the existence of expectancy effects (Snow, 1995; Thorndike, 1969) although they argued that teacher expectations were likely to influence learning and teaching in the classroom rather than IQ which was what Rosenthal and Jacobson originally claimed (1968). Brophy (1982b) suggested that the Pygmalion study was useful if only to increase teachers' awareness and understanding of the possible impact of expectations on student performance. It might also be suggested that the call for a description of the mediating variables in the original study was an acknowledgement of the existence of expectation effects in the classroom and a request for future empirical studies to investigate and explicate these intervening teacher behaviours.

Hence the academic debate about the original study by Rosenthal and Jacobson (1968) has continued to simmer for over thirty years. Whatever its merits it launched a new and productive area of educational and psychological research resulting in hundreds of studies. These empirical investigations have consistently identified the existence of teacher expectation effects and thus the debate about Pygmalion while unresolved is perhaps now redundant.

Defining Expectations in a Pedagogical Context

Teacher Expectations

Teacher expectations may be defined as the notions that all teachers hold about the current and future academic performance and classroom behaviour of their students based on their interpretation of available information. Teachers generally form expectations for their class as a unit as well as for each individual within the group. These may be based on information from a previous teacher and may be discernible through aspects such as how the

teacher groups the students, what learning experiences are provided for the students, how likely the teacher believes it is that the students will achieve the learning outcomes planned, whether or not the teacher feels s/he will be able to effectively teach these students and what type of behaviour management plan is to be instituted.

The ways that teachers interact with groups and individuals can be affected by their expectations and these interactions in turn may affect the responses of students (Good & Brophy, 2000). Teacher expectations may be conveyed to students through differential teacher behaviour, especially with regard to low and high ability children (Darley & Fazio, 1980) and these may be expressed in the form of variations in learning opportunities, dyadic interaction patterns, and differences in the socioemotional climate provided for students of differing abilities (Kuklinski & Weinstein, 2001). Hence when teachers have expectations for a student's performance this intensifies the likelihood that the student's behaviour will become more aligned with the expectation rather than progressing in a contrary fashion (Brophy, 1982b).

Of course all teachers do hold expectations for their students' future classroom performance and indeed they should as these expectations underlie teachers' planning for student learning, the goals they feel students are capable of achieving, and the assessment tasks used to monitor progress, in line with the teachers' expectations.

Teacher Expectation Effects

Interpersonal expectancy effects refer to the impact of one person's expectations on the behaviour of another person (the target) which cause the target to act in the expected manner (Rosenthal, 1985). Translated into the classroom this means that teacher expectation effects, according to Good and Brophy (2000), are the results of differential interaction with students according to the beliefs held about the students. This differential interaction may affect student learning. For example, teachers may interact differently with students for

whom they hold high expectations than they do with students for whom they hold low expectations. So it is not just the expectation alone that causes the expected behaviour, it is also the way the teacher interacts as a result of the expectation. This interaction, in turn, affects the students making it more probable that they will act according to the teacher's expectation.

There are several types of expectation effects described by different researchers. Four of these will be described: self-fulfilling prophecy effects, sustaining expectation effects, perceptual biases and accuracy.

Self-fulfilling prophecy effects.

Self-fulfilling prophecy effects occur when an initially erroneous belief leads to its fulfilment (Brophy, 1982b). When inaccurate expectations are preserved by the teacher despite contradictory evidence a self-fulfilling prophecy effect may result. Such expectations must alter student performance in some way (Jussim, 1989). In a classroom these may be evidenced when an originally inaccurate expectation leads the teacher to behave in certain ways that cause the expectation to become true (Jussim et al., 1998). For example, based on having taught an older and well-behaved sibling a teacher decides that a younger sibling will also be well behaved despite evidence to the contrary. At the beginning of the year the teacher frequently interacts warmly with the student, often tells him how pleased she is with his behaviour, reinforces instances of good behaviour and ignores occurrences of misbehaviour. Gradually the student models the expected behaviour on a daily basis so that the teacher's expectation becomes fulfilled. Self-fulfilling prophecy effects are the most striking of expectancy effects since they involve transformation of student behaviour or performance (Good, 1987).

The major self-fulfilling prophecy effects are known as Golem effects and Galatea effects. Golem effects are undesirable, negative effects that are the result of low teacher

expectations which impede student academic achievement. Galatea effects on the other hand are desirable, positive effects that are the result of high teacher expectations which augment student academic achievement.

Sustaining expectation effects.

Some researchers in the expectancy field differentiated between self-fulfilling prophecy effects and sustaining expectation effects (Cooper & Good, 1983; Cooper, 1985; Good & Brophy, 2000). Sustaining expectation effects occur when teachers expect students to continue to act or perform according to previously established patterns and may disregard contradictory evidence of change (Cooper & Good, 1983; Good & Brophy, 2000). Cooper and Good (1983) argued that it is likely that sustaining expectation effects occur more often in classrooms than self-fulfilling prophecies since it is unlikely that teachers would continue to hold significantly inaccurate expectations when they were faced with daily evidence to the contrary. The difficulty faced by researchers, however, when investigating sustaining expectation effects is in showing that one has occurred since the prediction is supported by no change in student performance levels. Hence self-fulfilling prophecies create change in student performance whereas sustaining expectations thwart the potential for any change (Good, 1987). Researchers must argue that particular aspects of teacher behaviours act to sustain student performance levels by interfering with the teachers' ability to perceive changed student behaviour. It is unfortunate that the expectation effect which may be most common in classrooms is also the most difficult to measure (Cooper & Baron, 1977).

Perceptual biases.

Similar to sustaining expectation effects are perceptual biases identified by Jussim (1989) and Jussim, Smith, Madon and Palumbo (1998). When teachers notice what they expect to perceive this may be evidence of a perceptual bias. Teachers may be more alert to

particular behavioural cues from students, ignore behaviour that is not consistent with their expectations and require less evidence to confirm than to disconfirm their expectations. Such expectations may be evidenced in grades given by a teacher that do not match standardised test results. These may be based on a subjective reality rather than on objective data.

Accuracy.

Of course teacher expectations may also be accurate and adjusted in line with performance. Jussim et al. (1998) identified two types of accuracy: impression accuracy and predictive accuracy. Impression accuracy refers to the extent to which teachers use reliable information in forming their expectations. Such information may include standardised test results, in-class behaviour, comments from a previous teacher and an individual portfolio of work samples. Predictive accuracy refers to the degree to which teacher expectations predict student performance without actually causing it so that teachers can plan appropriate individual learning for student needs.

While self-fulfilling prophecies, sustaining expectation effects, perceptual biases and accuracy may be conceptually discrete they will not always be mutually exclusive (Jussim et al., 1998). For example, low expectations of a below average student may be based on accurate information. But when these expectations lead the teacher to provide continually unchallenging tasks for the student in line with expectations, despite easy and early completion by the student, performance is likely to be sustained. Disruptive behaviour due to boredom may lead the teacher to expect even less of the student so that performance slips even further (a self-fulfilling prophecy). Such unsatisfying interactions with the teacher may mean that the student is even more harshly graded than is deserved (a perceptual bias). Teacher expectation effects, therefore, may be difficult for educational psychologists to unravel and to explore not only because of the melding and interaction of various types of

effects but also because they are reliant on and will vary according to individual teacher and student characteristics.

Experimental and Naturalistic Studies

Experimental Studies

The initial study into teacher expectations by Rosenthal and Jacobson (1968) was experimental in that teachers were given false information about a random selection of students and the impact of this information on those students' IQs was monitored. This investigation created such a storm of controversy that many researchers conducted similar experiments in an attempt to replicate the results (Claiborn, 1969; Grieger, 1970; José, 1971). Rosenthal himself was involved in three replication attempts immediately following the Oak School experiment (Anderson & Rosenthal, 1968; Conn, Edwards, Rosenthal, & Crowne, 1968; Evans & Rosenthal, 1969). While each of these differed in some way to the original study, all reported some variations in IQ at retesting. Some of these, however, were in the opposite direction to what was expected and none were significant.

One of the criticisms of the Pygmalion study had been that the mediating processes, the differential interactions of teachers that caused the changes in IQ, had not been documented. Some of the replication attempts by researchers exclusive of Rosenthal attempted to address this gap. Claiborn (1969) had observers periodically documenting teacher-pupil interactions. He found that his teachers did not behave differently towards the students who had been selected to blossom and there were no significant differences in IQ between the experimental and control groups at the end of the study. His teachers were able to recall the names of the potential bloomers. This investigation, however, was carried out after the students had spent two months with their teacher so Claiborn (1969) reasoned that

perhaps the teachers had already formed impressions of their students and that maybe these were not readily altered by false information.

In 1971 José and Cody (1971) attempted to conduct a further replication of the Pygmalion study but controlled several of the variables previously discussed by critics. For example assistants rather than the classroom teachers administered the TOGA. These people were not aware of who were the potential bloomers. Again though, the expectancy information was given to teachers two months after school had begun. Some teachers did report that they thought their identified students would improve (seven of 18) but the only statistically significant effects were for grade. No differences were reported in the teacher behaviour toward the experimental and control groups.

Raudenbush (1984) conducted a meta-analysis of 18 experimental studies where effects of teacher expectation on pupil IQ had been investigated. He hypothesised that the longer the teachers had known their students before the expectancy was introduced the smaller the experimental effect would be. His hypothesis was strongly supported by the data. Experiments where teachers had had no prior contact with their students revealed a mean effect size of .32 whereas for studies where teachers had had two or more weeks of contact with their students the expectation effect seemed to dissipate as the mean effect size found was -.04. Overall the mean effect size on IQ was .11. This meta-analysis did lend some support to teacher expectation effects on IQ where the students were unknown to the teacher. It further showed how early in the school year teachers form their expectations for their students and how later conflicting data may not so readily alter their expectations.

The detailed review of Pygmalion replications by Spitz (1999) included 19 experimental studies completed between 1966 and 1974 where the manipulation of IQ was investigated. Only one of these provided unqualified support for the Pygmalion experiment (Maxwell, 1970). Spitz did not, however, separate studies by time of introduction of the

expectation information. Nevertheless as mentioned earlier, even the staunchest critics of the original experiment did acknowledge that while teacher expectations may not have self-fulfilling prophecy effects on IQ they could affect other areas of school performance (Snow, 1995; Thorndike, 1969). Indeed hundreds of experimental studies have provided unquestionable support for the existence of the self-fulfilling prophecy effect.

A meta-analysis of the first 345 experiments into expectation effects undertaken in the laboratory, the workplace and the classroom demonstrated clear evidence that self-fulfilling prophecies do exist (Rosenthal & Rubin, 1978). More than one-third (37%) of these studies reported results providing support for the idea of the self-fulfilling prophecy and the percentage of positive findings for the experimental studies undertaken in classrooms was similar. The studies were separated into eight groupings and effect sizes were calculated for all studies in each group. The median across all eight groups of the effect sizes was .70 which meant the probability that the expectancy effects had occurred by chance was most likely zero. Across the studies included related to learning and ability the estimated effect size was .54.

Good and Brophy (2000) concluded that such experiments had produced supportive findings with enough regularity to show that teacher expectations can have self-fulfilling prophecy effects on student achievement. Experimental studies have some limitations, however, mainly related to their internal and external validity. In such experiments, ethically, only positive expectations can be manipulated and researchers cannot therefore justify assuming that negative expectations would simply produce the opposite results to positive expectations. Moreover, experimental controls in the classroom can be difficult to manage. One example of this is that the experimenter assumes that the teacher assimilates the false information into their understandings and in turn into their teaching practice but this may not be the case. Another is that teacher-student interactions proceed over a period of months with

many positive and negative transactions unrelated to the experimental variable. These may impact on the overall result yet cannot be isolated by the researcher.

In laboratory experiments it may be possible to more fully control the internal validity but external validity is at risk. Successful experiments do not guarantee translation into natural situations. Both the “teachers” and “students” may not perform as they would in the classroom and they may not adequately represent the population that the researcher is interested in generalising to (Mitman & Snow, 1985).

Naturalistic Studies

To overcome some of the shortcomings of experimental studies both in the laboratory as well as in the classroom, researchers began conducting their investigations into teacher expectations in normal classroom situations. One of these early observational studies was conducted by Rist (1970). He observed one class of kindergarten students. Within the first week the teacher had divided the class into ability groups which aligned with her expectations for their achievement except that the children were actually divided by social class. The teacher seated the middle-class children closest to her and then proceeded to spend most of her time teaching these children and interacting with them in a warm and friendly manner. Rist interpreted his investigation as revealing self-fulfilling prophecy effects but actually provided no performance measures on which to base this conclusion. Differential treatment alone does not show the existence of a self-fulfilling prophecy. He did provide IQ scores for the children but there were no differences in IQ scores between the students seated at the different tables by the end of the year.

Brophy and Good (1970) developed an observational instrument to record the dyadic interactions of teachers and students in order to more clearly identify differential teacher behaviours that may contribute to a self-fulfilling prophecy effect in the classroom. Their investigation was conducted in four first-grade classrooms and while they did not report any

observer reliability procedures they were able to identify 17 different behaviours associated with particular expectation groups. Despite the lack of observer reliability data, this was the first empirical study providing useful data detailing the ways in which dyadic teacher-student interactions could differ for low and high expectation students. It was implied that such differential interaction could result in a self-fulfilling prophecy effect. These differing behaviours will be introduced in more detail in a later section.

In a meta-analysis of 47 early experimental and naturalistic expectation studies Smith (1980) detailed the effect sizes of various variables. She found that teacher behaviour was influenced to a moderate degree by expectations (mean effect size .30) and that specifically teachers tended to provide more learning opportunities for high expectation students and to ignore low expectation students on more occasions than they did high expectation students. She further reported that teacher expectations had more effect on student achievement than they did on intelligence with mean effect sizes of .38 and .16 respectively.

Both experimental and naturalistic studies have confirmed the existence of self-fulfilling prophecies in the classroom environment. Although the manipulation of negative expectancies is not possible in an experimental design, naturalistic studies have allowed evidence of both negative and positive interactions and effects on student performance to be systematically recorded and described. A closer understanding of the classroom processes mediating teacher expectation effects has led to attempts by some researchers to explain these interactions through the development of theoretical models. The more familiar of these will be described in the following section culminating in an explanation of a model recently developed by the author of the current research.

Theoretical Models of Teacher Expectations

Brophy and Good (1970)

Brophy and Good put forward the first model designed to explain the classroom expectation processes. Their model proposed that teachers formed differential expectations for the behaviour and academic performance of individual students and that as a result they behaved differently towards various students in the class. They argued that this differential behaviour conveyed expectations to the students about the kinds of behaviour and academic performance expected which in turn affected the student's self-concept, achievement motivation and degree of aspiration. Provided that this teacher behaviour was sustained and the student accepted the teacher's expectation then Brophy and Good (1970) proposed that the student's behaviour would become aligned with the teacher's expectation more than might otherwise have occurred. This model showed how the differential proximal behaviours of teachers might impact on student learning. This prompted researchers to focus on observable teacher behaviours in the classroom in the quest for an understanding of expectation effects. Brophy and Good (1970) specifically designed their observation schedule so that dyadic teacher-student interactions could be recorded and later analysed to determine the differential behaviours of teachers that might impact on students. Their own investigations revealed the teacher mediation behaviours mentioned earlier that were carried out differentially with high and low expectation students. Another important contribution of this model was its recognition of the student mediation role in the expectation process. The Brophy and Good model, however, concentrated on the proximal behaviours of teachers; there was no recognition of the role that distal behaviours may play. Moreover their model related to teacher interactions with individual students whereas later models also allowed for teacher expectations of the class as a whole.

Rosenthal's Four-Factor Theory (1974)

Rosenthal identified four main ways in which teachers differentially interact with high and low expectation students: climate, feedback, input and output (Rosenthal, 1974). Climate was defined as the warmer socioemotional environment that teachers create for high expectation students compared to low expectation students. This was portrayed through both verbal and nonverbal behaviours such as additional encouragement for high ability students, and more nodding and smiling than the low expectation students would experience.

Feedback referred to the differential types of feedback that low and high expectation students received. High expectation students were praised more often than low expectation students and more frequently given clear feedback about their academic performance. In contrast low expectation students were criticised more often than high expectation students and their feedback was more often related to behavioural issues than to academic achievement. The third category in Rosenthal's groupings was input. He suggested that teachers spent more time teaching high expectation students, presented them with more material and with learning experiences that were more difficult than those experienced by the low expectation students.

Output concerned providing high ability students with more opportunities to respond to questions than were offered to low ability students, providing support when they were having difficulty and giving them more wait time than low expectation students.

As with Brophy and Good (1970) Rosenthal's categories focused on teacher behaviours towards individual students in the communication of expectations but he emphasised the affective aspects of classroom interactions and suggested that non-verbal behaviours were as important as verbal interactions in informing students of their expected behaviour and performance. Hence his theory added a social perspective to teacher

behaviour. Each component of Rosenthal's Four-Factor Theory contained elements of both verbal and non-verbal interactions.

More recently Rosenthal (1991) amended his four-factor theory to become a two-factor theory. Rosenthal conducted a meta-analysis on the behaviours identified as contributing to the mediation of teacher expectations. He found that climate and input factors produced the strongest effect sizes ($r = .35$). Output behaviours produced significant but smaller effect sizes ($r = .20$) while the effect size for feedback was quite small ($r = .07$). In the light of his findings feedback was eliminated. His analyses showed that the socioemotional environment of the classroom was an important component of differential teacher behaviour and so he renamed this category "affect." He further combined input and output into one grouping which was called "effort."

Hence Rosenthal recognised the importance of the socioemotional environment for the child as mediating teacher expectancies. His findings that teachers dispensed feedback equitably in the 1980s, which was contrary to the earlier findings, perhaps showed that teachers had successfully controlled their feedback behaviour in light of the well-published expectation findings. The feedback component was the one many researchers had focused on and was the most salient. It was also the one most open to teacher control. Rosenthal's theory, though, continued to focus on the individual rather than considering the impact of the socioemotional environment of the whole classroom as a possible mediating variable.

The Expectation Communication Model

The Expectation Communication Model of Cooper (1979) further advanced understanding of the expectation process by applying social theory to the procedure. Cooper drew on the work of Lefcourt (1981), Seligman (1975) and Weiner (1977) in formulating his model which focused on the ways in which teacher behaviour might influence the self-concepts of students. Furthermore the model was noteworthy in placing significance on the

circumstances surrounding the teacher interactions which Cooper suggested could be as important as the frequency of particular behaviours (Cooper, 1985). The model proposed that teachers formed differential expectations for their students which led them to endeavour to control the timing, duration and content of their interactions with students. Moreover teacher perceptions of control were affected both by whether the interaction setting was public or private and whether the teacher or the students initiated the interaction. Cooper (1979) hypothesised that in order to feel control over their interactions with low expectation students teachers may discourage public interactions and initiate more interactions with low expectation students in private. He also expressed the idea that teachers may discourage initiations from low expectation students through creating a less positive socioemotional environment for them, by praising them less and by criticising them more for their efforts. In this way the teacher used the affective climate of the classroom and feedback to control their interactions with students. Cooper (1979) viewed the circumstances surrounding feedback as being of greater significance than the quantity and argued that it was these contingencies which served to sustain low academic achievement by low expectation students.

In 1983 Cooper and Good revised the original model following their own research as to its applicability by including student perceptions of differential teacher behaviour. It was not just the teacher behaviour that was significant but also the ways in which students interpreted this communication. The meaning students attached to teacher behaviour affected their own self-efficacy and ultimately their academic performance.

The Expectation Communication model contributed to further understanding of the expectation process by recognising the importance of the affective environment of the whole class as having an impact on the transmission of teacher expectations. It also provided recognition that it was the quality of the interactions rather than purely the quantity of particular interactions that were important. Moreover, it placed importance on student

interpretation of the signals which teachers transmitted. The model, however, relied heavily on an assumption that all teachers had a need to control the classroom environment and that every interaction reflected this need. Teachers, for example, discouraged public interactions with low expectation students because of their need to control when such students were able to interact with teachers which, according to Cooper and Good (1985) was in private. This assumes firstly that all teachers have a strong need for controlling the affective classroom environment and secondly that all teachers have the same need. This does not take account of variations in teacher personalities and personal attributes which would likely mediate this need for control. It also assumes that this need is pervasive in that teachers control every individual interaction according to their expectations for student performance.

Darley and Fazio Model (1980)

Darley and Fazio (1980) recognised the significance of the student role in mediating teacher expectation effects and utilised attribution theory in the formulation of their model to explicate these outcomes. Their model began with similar stages to those of Brophy and Good (1970) whereby the initial stages had the teacher forming expectations based on the previous performance of the students as well as on their individual characteristics such as ethnicity and social class, and then these characteristics influencing their interactions with students. Next the student interpreted the teacher's expectations based on his or her attributions and assessments of the teacher. The student then responded according to how the interaction had been understood. The teacher would in turn interpret the student response according to whether or not this conformed to the teacher's expectation. These interactions with the teacher would lead the student to further self-understanding and if the student accepted the teacher expectation their future behaviour would move more in that direction than might otherwise have been the case.

Whilst this model placed more emphasis on the student role in the expectation process than there had been previously, it did focus firmly again on the dyadic teacher-student interactions as the mediating instrument for teacher expectancies. The affective climate of the classroom as a contributing factor in the mediation process was ignored.

These models, however, have contributed to our understanding of the expectation process, and the empirical testing of Brophy and Good (1974), Cooper and Good (1983) and Rosenthal (1991) of their own models provided additional insights. It is of note, however, that all of the original models are now over twenty years old. This may partially be explained by the recent observation of Brophy (1998) that there has been a decline in the volume of research into the expectancy construct over the past twenty years with only a handful of researchers continuing to be active in this field. This is not to say that the expectancy issues have been fully resolved and as interest in this area undergoes a revival there is a need for a new model that integrates and complements that of previous researchers. It is important that any such new model would take account of the as yet unresolved issues in the teacher expectation area of research. For example, the role of less immediate or distal behaviours has not been so clearly evident in former models. A model incorporating these distal behaviours in the expectation process could support and complement the work of previous researchers (Brophy & Good, 1970; Cooper, 1979; Cooper & Good, 1983; Darley & Fazio, 1980; Rosenthal, 1974) while also providing additional insights into understanding the complexity of behaviours that may contribute to the actualisation of teacher expectations.

Distal behaviours that may contribute to the communication of teacher expectations include the beliefs that teachers hold about teaching and learning. Such beliefs may underpin their expectations, and are likely to influence not only the ways they interact with students but also other aspects such as the ways in which teachers plan and deliver their lessons, the socioemotional climate they create for their students and the grouping decisions that they

make. Such indirect interactions may have the effect of limiting or enhancing learning opportunities. How do teachers translate their expectations for students into the planning and delivering of instruction? How is the selection of material to which students will be exposed aligned with teachers' beliefs about their learning? Are the kinds of activities which children will be cognitively engaged in planned on the basis of expected performance? There is a paucity of research into the influence of these distal behaviours on teacher expectations and student learning. Brophy (1985) discussed the importance of teacher expectations when they were used as a funnel through which learning opportunities must pass before they were implemented in the classroom. When expectations mould what is taught then this ultimately determines what will be learned (Brophy, 1985). Hence any new model would need to take account of teachers' pedagogical beliefs as contributing to the planning and delivering of lessons for students for whom teachers had differing expectations.

Whilst several researchers have previously alluded to the probable significance of teacher expectations for whole classes as well as individuals this aspect has not been investigated in previous research. Are there teachers who have uniformly high or low expectations for their whole classes? If so what are the implications for student academic progress when children are placed in the classes of teachers who have respectively high or low expectations for their classes? A new model of the teacher expectation construct would need to place some credence not only on the expectations for individual students within classrooms but also on teachers' expectations for their whole classes. The relevance of this aspect of teacher expectations could then be empirically investigated.

Previous models have mostly focused on the dyadic teacher-student interactions whereas the research of Rosenthal (1991) illustrated the importance of the socioemotional climate of the classroom as a mediating variable for teacher expectations for all students within each classroom. Indeed his meta-analysis showed this aspect to be the most powerful

mediator leading to the design of his two-factor theory. Hence a new model would also need to explicate the importance of the socioemotional climate of the classroom as a further means by which teacher expectations may be transmitted to pupils. Whether or not the classroom climate varied in substantive ways for students in the classrooms of teachers who held uniformly high or low expectations for their learning could then be investigated.

The concentration of earlier models on the dyadic teacher-student interactions in the classroom has led to the identification of a number of behaviours which may transmit teachers' expectations to individual students (Brophy & Good, 1970). If a new model were to incorporate the proposition that teachers may have uniformly high or low expectations for their classes then such a model would also need to include the idea that the instructional practices of such teachers may vary. The identification of such pedagogical practices could have important implications for student learning.

One further aspect in any model of teacher expectations that needs to be included is the role of the student in the process. Recent research by Kuklinski and Weinstein (2001) has shown the student to have a less significant role in the teacher expectation construct than the teacher but nevertheless the student is an important component. Student outcomes have not often been included in the expectation research despite the discussion that these are likely to be affected by teacher expectations. Moreover there has been even less research into how varying teacher qualities may influence the self-perceptions of students. Do student self-perceptions change over time when they are placed with teachers who have uniformly high or low expectations for their classes? Again the inclusion of this aspect in a new model of the teacher expectation construct could provide interesting data were it to be empirically investigated.

A model incorporating these five aspects along with those already reported to be of significance in the mediation of teacher expectations may facilitate our understanding of these

as yet unresolved issues in this field of research. Such a model could make a useful contribution to furthering our understanding of the teacher expectation construct.

A New Model

A conceptual model of teacher expectations incorporating proximal and distal behaviours might contain the following steps:

1. The teacher holds beliefs about teaching and learning and about children. These beliefs are both implicit and explicit and will shape their decisions about appropriate learning opportunities for children of differing abilities and for whom they have differing expectations. Teacher beliefs tend to be robust even in the face of contradictory evidence. Teacher beliefs are related to individual characteristics of the teacher.
2. Based on early information such as student achievement of learning outcomes at the beginning of the year, classroom behaviour and motivation, and information about prior learning, the teacher forms expectations for individual students' academic performance and behaviour. At the same time expectations for the performance of the class as a whole are framed. The socioemotional climate of the classroom is structured. With each new cycle of teaching and learning expectations will be based on student success with previous learning and teacher recognition of the need to modify instruction accordingly. Rigidity of teacher expectations and adherence to stereotypes may be a factor.
- 3a). The teacher communicates expectations to individual students and the class through verbal and non-verbal interactions. The affective environment of the classroom further enhances the representation of these expectations.

- 3b). The teacher plans and delivers opportunities to learn based on expectations for student learning. The appropriateness of the learning opportunities may be affected by teacher beliefs about the types of activities suitable for children of differing abilities.
- 4a). The students interpret the teacher verbal and non-verbal interactions and behaviours. The emotional climate of the classroom will contribute to this interpretation.
- 4b). The students participate in the opportunities provided for their learning.
- 5a). The students may or may not act on the teacher's interactions indicating expectations for academic performance and behaviour. The student's self-efficacy and motivation may mediate their response to teacher expectations and such responses may not be deliberate.
- 5b) Student learning is enhanced, restricted or maintained according to the opportunities provided for learning, student motivation and the socioemotional climate of the classroom. Self-fulfilling prophecies may result depending on the accuracy of teacher expectations and student conformity to teacher interpretation of ability.
6. Student performance will result from the opportunities they have experienced for learning, the expectations of their teachers and corresponding proximal and distal behaviours indicating their expectations and the degree of their acceptance of these expectations and alignment of their behaviour with these.

Figure 1 provides a visual representation of the steps outlined above. It should be noted that the arrow from student performance to teacher expectations is designed to indicate that while teacher expectations may influence student performance, equally student performance may impact on teacher expectations. Aspects of this will be investigated in the current study.

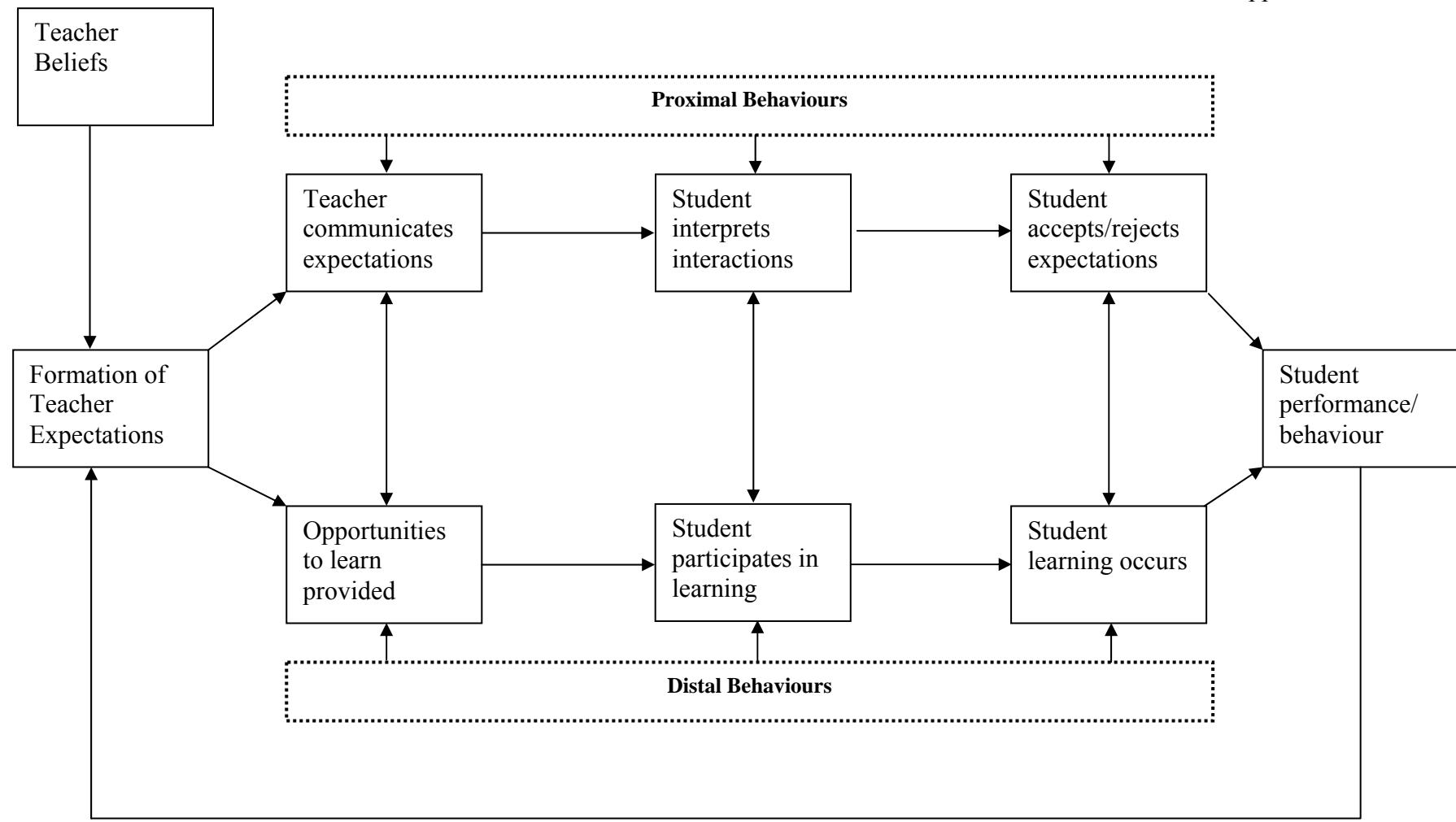


Figure 1. The role of proximal and distal behaviours in the communication of teacher expectations

The following five main sections of the literature review will be framed around the steps in the above model, particularly highlighting the teacher role in the expectation communication process. Hence the section immediately following will explore the role of teacher beliefs in providing opportunities for student learning. In this context how teachers plan to deliver the curriculum and if, how and why teachers group students by ability will be discussed in terms of the effect of these practices on the learning opportunities provided for students. This discussion will highlight the fourth proposition of the current research that the beliefs that teachers with uniformly high and low expectations have about how learning should be delivered to students may differ and that this may result in differential learning opportunities being provided to their students.

This will be followed by a discussion of the teacher expectation literature in relation to teachers who have uniform expectations for their classes. This discussion will underscore the first proposition of the thesis that some teachers will have uniformly high or low expectations for their classes and that this may result in differential outcomes for their students overall. As no empirical investigations have been located that examine any differences in student outcomes for such teachers (if they exist) the literature in this section will also consider the research around teachers who differentiate more in their interactions with students for whom they have correspondingly high or low expectations, in contrast to teachers who do not discriminate to the same degree. This section of the literature review will also discuss some of the previous studies related to teacher expectations and the influence of certain student characteristics on teacher expectations but because individual traits are not being considered in the current research this section will be brief.

The third section of this part of the literature review will explore the research to date centred on the affective environment of the classroom. The work of both Rosenthal (1991; Rosenthal, 2002) and Babad (1993b; Babad, 1998; Babad, Bernieri, & Rosenthal, 1987,

1989a, 1989b) in particular will form a major component of this section which relates to the second proposition of the thesis that teacher expectations will mediate the effects between the classroom climate and student outcomes.

The ways in which teacher expectations are communicated to students in the classroom have been commonly identified in the literature and this aspect will form a further section of the literature review. The third proposition of the thesis is that the instructional behaviours of teachers with high expectations for all their students and those of teachers who have low expectations for their students will differ but as this has yet to be investigated by empirical research the differing ways in which teachers have been found to interact with high and low expectation students will be included in the current discussion as a guide to some possible differing instructional behaviours that may be uncovered in the current study of high and low expectation teachers.

The final section of the literature review will explore student interpretations of teacher behaviour and expectations. This component in the expectancy construct has been identified as one significant aspect but with the exception of Weinstein and her colleagues (Kuklinski & Weinstein, 2001; 1989; Weinstein & McKown, 1998) and Babad (1990a; Babad, 1996; Babad, Bernieri, & Rosenthal, 1991; Babad & Taylor, 1992) few researchers have investigated this aspect of teacher expectations. Even fewer have explored the social outcomes for students of differential teacher interactions. This section of the literature review aligns with the final proposition of the current research that high or low expectations teachers' attitudes and practices may affect student academic self-perceptions, and that these effects may be mediated by differing teacher interactions with the class and a differing socioemotional climate.

The literature review will conclude by re-visiting the propositions of the thesis and showing how these will be investigated in the current research.

Teacher Beliefs and Opportunities to Learn

In order to understand teacher behaviour in the classroom it is not sufficient simply to examine the personal characteristics and expectations of teachers; the beliefs of teachers need also to come under scrutiny (Brophy, 1985). The ways in which teachers believe their role should be fulfilled, their underlying philosophies and their implicit theories about teaching and learning can guide their behaviour in the classroom (Brophy, 1982b; Clark & Lampert, 1986; Shavelson, 1983). Studies of teachers' beliefs enable a much deeper understanding of the behaviours of teachers than is possible from observations of behaviour. Their beliefs affect the ways in which information about learners is encoded, how that information is remembered and the utilisation of that information in making instructional decisions (Dusek, 1985). There has been little attention, however, given to the role of teacher beliefs in the expectation literature. The role of teacher beliefs and their contribution to teacher expectations is an emerging field which has much to contribute to our understanding of pedagogical practice. Hence the literature on teacher beliefs is important in order to gain a more comprehensive picture of teacher expectations.

The following section will explore and discuss the significance of teacher beliefs as part of the expectation process. This will be followed by a discussion of the ways in which the differing personal characteristics of the teacher may relate to their personal beliefs and expectations. The ways in which teacher beliefs can affect instructional implementation and the opportunities to learn that are provided for students will also be explored.

The Significance of Teacher Beliefs for Classroom Practice

Teachers may behave differently towards different learners depending on the beliefs and expectations they have for their learning. Olson and Bruner (1996) describe this as 'folk psychology' whereas Sternberg (1982) termed such beliefs 'layperson's implicit theories.' The relationship between teacher beliefs, implicit theories and instructional practice has been

well documented (Borko & Shavelson, 1990; Fang, 1996; Genishi, 1992; Pajares, 1992; Shavelson, 1983; Spodek, 1988) and it may be this understanding that led Salonen (1998) to write: “the choice of pedagogy inevitably communicates a conception of the learner. Pedagogy is never innocent” (p.23).

In a review of the literature around teacher beliefs Fang (1996) documented several ways in which teacher beliefs had been shown to impact on instruction and therefore on the learning opportunities provided for high and low expectation students. For example, the researcher found several studies reporting teaching approaches that differed in both reading and writing according to the implicit beliefs of the teachers. As a result Fang (1996) concluded that “teachers’ thinking about their roles and the beliefs and values they hold shape their pedagogy” (p.53).

Some researchers have hypothesised that the most significant beliefs that teachers hold about their students are those that relate to teachers’ perceptions of the causes of student behaviour and achievement (Clark & Lampert, 1986; Peterson & Barger, 1985). In a recent study Zohar, Degani and Vaaknin (2001) for example, interviewed teachers about the suitability of a higher order thinking approach for students of low and high ability and also about the ways in which they might teach new concepts to students of differing abilities. Almost half of the teachers (45%) believed that higher order thinking was not suitable for low ability students and almost one-third (30%) reported that they never used higher order questions with low ability students. Similarly many of the teachers (45%) reported that low ability students should be taught by a transmission of knowledge approach despite acknowledging that this approach was boring for students. Zohar et al. (2001) concluded that many teachers reported providing quite different learning opportunities for the students for whom they had differing expectations.

In a study of teacher attitudes and practices in schools with differing poverty levels Solomon, Battistich and Hom (1996) found that teachers had lower expectations of the students in high poverty schools even when achievement had been partialled out. Teachers also believed that such students needed more explicit control and management and the researchers reported that classroom observations showed they gave these students less autonomy in their learning and used more formal approaches than in the schools with low to moderate levels of poverty. Again in this study teacher beliefs and teacher expectations resulted in differing learning opportunities for the students in the high poverty schools compared to the students in schools with less poverty. It seems that teacher beliefs as well as teacher expectations may lead to instructional differences which ultimately will affect what can be learned (Brophy, 1982b). Such pedagogical decisions may expand, create or restrict the opportunities to learn so that different students experience differential educational opportunities (Weinstein & McKown, 1998).

Page and Rosenthal (1990) conducted an investigation where white male and female teachers were paired with male and female Asian and white students. The teachers had to work through a mathematics and vocabulary task with the students. The results appeared to show that teachers acted according to expected stereotypes about male and female students and about Asian and white students. When instructing male and Asian students in the quantitative task the teachers taught at a brisker pace and included more content than they did when the students were female or when they were white. The opposite occurred with the vocabulary task although the differences were not so marked in this context. The researchers reasoned that this could set in train a self-fulfilling prophecy effect.

Several researchers have demonstrated that teachers' expectations for children's learning are currently closer to the floor than they are to the ceiling (Bishop, 1989; Hilliard III, 1991; Timperley, Robinson, & Bullard, 1999). In 1970 Pidgeon (1970) described how

students in Year Four in Great Britain were achieving at considerably higher levels in mathematics than their counterparts in the United States. His investigation revealed that the curriculum designers in Great Britain held different beliefs about the capabilities of children at that age to the beliefs of their counterparts in the United States. As a consequence the curriculum the teachers implemented for the children in Great Britain meant that they were taught more content and at a faster pace than the students in the United States following a less demanding curriculum.

In a recent study in a low decile South Auckland school Timperley et al. (1999) suggested that the teachers' expectations of the students were closely related to the educators' beliefs about the students' levels of achievement rather than the actual levels that testing showed. A group of four teachers in the school identified twenty-five skills considered important for children at the new entrant level to have attained before they began to learn to read. These same teachers then tested beginning students when they arrived at the school to assess their attainment of the specific skills. Even after completing the testing themselves most teachers thought the children would have achieved 30-40% of the skills whereas testing by the researchers showed that the teachers in this particular school were expecting far less of their students than the children could actually produce. Students had an average of 74% of the skills on arrival at school. The teachers, however, planned their instruction on the basis of their own expectations and beliefs about these students' lack of preschool learning opportunities, rather than on the children's actual level of performance. One teacher was an exception, however. She accurately assessed her students' learning and the students in her class had reached a higher level of achievement when tested later in the year than those where teachers had inaccurate expectations (Timperley, 2003).

The Impact of Deficit Theory on Teacher Beliefs

A large number of researchers have found evidence that some teachers believe that student home background may create a barrier to learning and that therefore such students cannot be expected to make the academic progress of other students without these deficits (Arabsolghar & Elkins, 2001; Delpit, 1995; Dirkx & Spurgin, 1992; Ennis, 1998; McNaughton, Phillips, & MacDonald, 2000; Timperley et al., 1999; Timperley, Phillips, & Wiseman, 2002; Timperley & Robinson, 2001; Warren, 2002; Zohar et al., 2001). In such instances expectations for achievement are lowered. Teachers may alter their instructional practices in accordance with their beliefs so that they may teach such students less or modify the curriculum according to what they may believe are the children's needs with the result that such students are given less opportunity to learn when they possibly need more (Arabsolghar & Elkins, 2001; Ennis, 1998; Timperley et al., 1999; Timperley et al., 2002; Timperley & Wiseman, 2002; Warren, 2002; Zohar et al., 2001).

Related to beliefs about the supposed deficits that some children bring to school are beliefs about social class and ethnicity. In New Zealand McLachlan-Smith and St George (2000) have discussed the ways in which teacher beliefs about Maori students may impact on their learning. They were unsure, however, about whether or not the beliefs were strictly related to the children's ethnicity or were more closely aligned with their social class. Wigfield et al. (1999), though, reported that the beliefs of the teachers in their study did differ in line with the children's ethnicity. Students in their study were from a variety of socioeconomic backgrounds but it was only the African-American students for whom teachers held lowered expectations. The teachers also expressed their lack of enjoyment in working with the African-American students compared to the white students.

Personal Characteristics of the Teacher

Teachers differ in their personalities, social skills, attitudes, motivation and beliefs as well as in the degree of attention paid to individual student differences and in the expectations they have for children's behaviour and academic achievement. They also differ in the extent of their subject knowledge, in their instructional practices, in the credence and emphasis placed on information they receive about students, and in the ways they organise their classrooms. Further differences will be found in teachers' general intelligence, in their locus of control, beliefs about their role, and in their coping mechanisms (Brophy, 1982b, 1985; Brophy & Good, 1970; Cooper, 1985; Flowerday & Schraw, 2000; Good, 1987; Good & Brophy, 1997; Keogh, 2000; Mitman & Snow, 1985). Some of these differences may enhance student learning, others may enhance student difficulties. To date, however, there has been little research into the role of these personal characteristics and beliefs in mediating the effects of teacher expectations and opportunities to learn for students (Babad, 1993a, 1998). One area that has been investigated in relation to teacher expectations and opportunity to learn for students is self-efficacy theory.

Self-efficacy theory and instructional practice.

Teacher expectations for student learning may be influenced by the teacher's self-efficacy for their teaching abilities, by their beliefs in their own abilities to make a difference for children. Teacher efficacy includes beliefs about the ability of teachers in general to influence the achievement of students as well as personal beliefs in their own ability to positively influence student learning (Bandura, 1997). Soodak and Podell (1996) distinguished between two factors of personal efficacy: teacher's beliefs about their ability to enhance student learning and to manage student behaviour and teacher's beliefs about how their behaviour can influence specific student outcomes. Woolfolk and Hoy (1990) identified

a third factor: teachers' beliefs about personal responsibility for both positive and negative student achievement.

Such beliefs can play an important part in the instructional decisions that teachers make and may affect student achievement and opportunity to learn. When teachers have high expectations of themselves they will persist at an instructional task until they are successful, they are more likely to have high expectations of all students, they may influence the effort that they devote to instruction, and the teachers' accomplishment in the classroom will then increase in frequency, leading to feelings of success about their efforts and ability which may further contribute to even higher teacher self-efficacy (Ross, 1998; Tschanen-Moran & Hoy, 2001).

Teacher self-efficacy is one characteristic that may distinguish those teachers who produce Golem effects in their students as opposed to those who produce Galatea effects. It is unfortunate that Golem effects appear to be more common than Galatea effects (Babad et al., 1982; Brophy, 1982a; Cooper & Good, 1983; Good, 1987). A recent study determined that only 28% of the teachers in that investigation demonstrated beliefs consistent with high teaching efficacy (Warren, 2002) and high expectations for their students.

In contrast Warren (2002) reported that teachers with low self-efficacy tended to be less motivated to improve student learning particularly with students for whom they held low expectations. Because such teachers felt less able to have an impact on the academic achievement of their low expectation students Warren suggested that they might spend more time with their high expectation students where they felt more successful. Spending reduced time with the low expectation children may mean that the students make even less progress than might have been possible (Jussim et al., 1996) and may experience reduced opportunities to learn. Teachers with a low sense of personal efficacy may also succumb to deficit theories as discussed above. Feeling unable to make a significant impact on the learning of the low

expectation students they may explain the lack of student progress by referring to deficits in the students' families and cultures. They may believe that no teachers would be able to teach such students successfully or they may believe that some teachers could be successful but that they could not (Ashton & Webb, 1986). Perhaps for this reason teachers with low personal efficacy tend to refer students to special education more frequently than those with high teacher efficacy (Soodak & Podell, 1998).

Teachers also differ in the degree to which they take personal responsibility for student learning. Cooper (1983) reported that teachers assumed responsibility for the failure of children for whom they had high expectations and the success of students for whom they had low expectations but not the reverse. Meyer (1985) found evidence that teachers who believed they could have an impact on student learning regardless of ability used less negative behaviours in the classroom. Some teachers appear to make additional efforts with low achievers believing that they are responsible for their learning (Soodak & Podell, 1998). Babad (1993a) contended that this was particularly so since teachers became aware of the expectation literature and of the ways that teachers in the 1960s and 1970s interacted with students for whom they held low expectations. In the classrooms of these teachers students may experience increased opportunities to learn. Eccles and Wigfield (1985) reported that teachers who were successful in teaching low ability students considered themselves to be in control of the children's learning and more importantly they believed that these students were capable of achieving the learning. The teachers believed they could make a difference to children's development and such teachers had less rigid expectations adjusting these as children progressed.

It seems that teacher attitudes and beliefs can affect both their expectations and their teaching efficacy and in turn student opportunity to learn. Beliefs about the ways in which instruction should be delivered, beliefs about how and why students should be grouped and

beliefs about the types of lessons that should be planned for students for whom teachers have varying expectations may also impact on student opportunity to learn. These factors will be explored in the following sections.

Teacher Beliefs and Instructional Implementation

Several researchers have established a link between teacher beliefs and instructional practice (Bawden, Buikie, & Duffy, 1979; Charlesworth, Hart, Burts, & Hernandez, 1991; Peterson, Marx, & Clark, 1978; Vartuli, 1999). Teachers differ in their beliefs about a wide range of classroom phenomenon. For example, some teachers' beliefs may lead them to see students as stereotypes rather than as individuals. Warren (2002) found that teachers may hold views supporting those of the dominant culture which may restrict their acceptance of the diversity of views and cultures which students bring to the classroom and may lead to them forming lower expectations for these students. Such differing views and beliefs may also result in students being given differential opportunities to learn.

Teachers who are less tolerant of a range of student behaviours are more likely to have low expectations for the learning of such students and to refer them to special education agencies in greater numbers than might be anticipated (Shinn, Tindal, & Spira, 1987). Again such students may experience reduced opportunities to learn. In a study where 186 teachers were all shown the same video of a classroom in action (Taylor, Gunter, & Slate, 2001) the researchers reported that male teachers were less tolerant of the behaviour of African-American female students than were the female teachers. These differences were not found for White students or for males.

Fixed and incremental notions of intelligence.

The teacher's conception of ability as a stable or unstable trait has important implications for instruction as this conception may influence their behaviour towards students

as well as the opportunities that are provided for their learning (Wigfield & Harold, 1992).

When teachers believe that all children can learn this shifts the responsibility for student learning to the teacher. Such teachers are more likely to produce Galatea effects in their students (Eccles & Wigfield, 1985). Wilkinson and Townsend (2000) reported that the best-practice teachers in their study held a developmental notion of ability. The teachers believed it was up to the educator to provide learning experiences that would assist each student to progress. Tunstall and Gipps (1996) also depicted the culture of infant schools in the United Kingdom as showing more concern for student effort than student ability. On the other hand Lumsden (1998) reported that ability was considered the main criterion for academic success and that this was viewed as fixed. Teachers who have fixed notions of intelligence and believe that some children simply lack ability tend to have low expectations for their students and are likely to allow their negative beliefs to act as self-fulfilling prophecies (Brophy, 1982a; Dusek, 1985; Jussim, 1989; Maltby, Gage, & Berliner, 1995; Meyer, 1985). Eccles and Wigfield (1985) suggested that such beliefs are so pervasive that they are the main underlying factor in Golem effects because they impact on teacher behaviour so markedly.

On the basis of the results of teacher interviews Jordan and Stanovich (2001) classified the nine teachers in their study as having fixed notions of intelligence or incremental notions. The researchers reported that those teachers with incremental notions of intelligence interacted more often with all their students whereas those with fixed notions of intelligence did not interact often with their low ability students. Moreover while those with incremental notions frequently interacted at high cognitive levels with all their students, when those with fixed notions did engage their low ability students, this was most often at low cognitive levels. When the self-concept of the students was tested, the students who were in the classes of the teachers who had incremental notions of their intelligence had significantly

higher scores than did the students who were with the teachers who had fixed notions of their intelligence.

Instructional decision-making and choice.

One instructional decision that teachers make is in the degree of choice that students will be given. It has been reported that teachers give students more choice in curriculum areas where they themselves feel more confident and at ease. Flowerday and Schraw (2000) found that teachers gave high expectation students more opportunities for choice than they did their lower achieving counterparts. The teachers believed that such students were more able to make sensible choices. It seemed that “teachers believe(d) that choice causes self-determination but paradoxically act(ed) as if self-determination should be rewarded by choice” (Flowerday & Schraw, 2000, p.643).

Summary.

The instructional behaviour of teachers may be guided by their underlying beliefs about pedagogy. Hence studies of teachers’ implicit theories and the impact of these when lowered expectations in particular are considered provide additional clarity to the study of instructional performance. Examination of behaviour alone provides an incomplete picture of the act of instruction. Beliefs about pedagogy may closely guide teaching behaviour and therefore may have a significant effect on the opportunities to learn that are provided to students for whom teachers have alternately high or low expectations. The following section will consider the ways in which teacher beliefs may be translated into the planning of learning opportunities for students.

Teacher Beliefs and Planning for Student Learning

Planning for instruction forms the foundation of every child’s success since planning and the decisions teachers make regarding the ways in which learning opportunities will be

implemented impact directly on the learning experiences to which children will be exposed.

Beliefs and expectations at this level may have a profound impact on student achievement since they often determine student opportunities for learning. These may then have more significance than the differential expectations that teachers have for individual students.

Planning for instruction is an area in which teachers make a variety of significant decisions that may have far-reaching consequences. Indeed instructional planning is the point at which teacher beliefs about learning and their expectations for students are translated into opportunities to learn.

Planning for student learning.

Teachers make decisions about the instructional methods that will be used in the classroom and the materials and resources they will select to improve learning. They make decisions about how the learning environment will be arranged to meet the individual needs of students and work out how the pacing of a lesson can be adjusted to suit individual abilities and interests. This accumulation of pedagogical choices, partially based on teachers' beliefs and expectations, may result in differing teacher orientations.

This planning can be moderated by many student factors such as gender, ethnicity, ability, achievement, self-esteem, class participation, classroom behaviour, social skills, independence, and work habits (Shavelson & Stern, 1981). The student characteristic that has the most significant impact on planning decisions, however, is ability. In studies by Borko and Niles (1982; Borko & Niles, 1983) they consistently found that teachers formed groups primarily on the basis of ability, and other characteristics such as motivation, work habits, maturity and class participation were only taken into account when decisions about the placement of particular pupils could not easily be made based solely on the students' ability.

Beliefs about students thought to be high or low ability that may affect planning.

When teachers believe that students have not been successful because they explained a concept inadequately then they are likely to rephrase their explanations but when the lack of student success is explained by a lack of ability the teacher is more likely to cease trying (Brophy, 1985; Eccles & Wigfield, 1985; Jussim et al., 1996; Wigfield et al., 1999).

Moreover it has been suggested that it is the low expectation students who may experience less consistency in teaching methods since teachers have more varied beliefs about how they should respond when students do not learn new concepts quickly (Cooper & Good, 1983).

Weiner (1992) suggested that students who were believed by the teacher to be expending effort were rewarded more and criticised less than the students who were perceived as lacking ability but Jussim (1989; Jussim & Eccles, 1992; Jussim et al., 1998) reported that teachers' perceptions of students' efforts, particularly with regard to homework, were inaccurate. Teachers believed that students who were successful had expended more effort and this produced a biasing effect on grades since teachers further rewarded successful students with even higher grades than they deserved because of the perception that they must have tried harder.

A further way in which teacher beliefs may impact on the learning opportunities provided for their students relates to teachers' questioning of students and in the levels of language used. Zohar et al. (2001) reported that teachers questioned students differently depending on whether they were high or low expectation students (Zohar et al., 2001). Low expectation students experienced a lower cognitive level of instruction which failed to foster higher order thinking and problem solving skills. When Ennis (1998) interviewed 40 teachers she found that only 20% believed that questions requiring higher order thinking were appropriate for children of any ability. A further 45% consistently reported a belief that higher order thinking should be reserved for high ability children. Further Arabsolghar and

Elkins (2001) reported that teacher' beliefs about student metacognitive levels and appropriate instruction did not vary across grade levels three, five and seven. They described how low ability students experienced similar low-level learning opportunities regardless of their grade and hence may never have had the opportunity to develop higher order thinking. Because of such practices low expectation students may receive less opportunities to assimilate their ideas and to articulate these (Cooper & Good, 1983).

Similarly teachers appear to associate students who speak languages other than English with lowered academic ability (Maltby et al., 1995; Verplaetse, 1998; Warren, 2002). When Verplaetse (1998) observed and spoke with teachers of students for whom English was their second language he found that the teachers held lowered expectations for these children's language skills and that they directed them far more often rather than questioning them as they did for students for whom English was their first language which Verplaetse suggested restricted their language growth. He also found that teachers who believed that the language of the English second language students was insufficient to respond curbed interaction opportunities for these students, and so the teachers endeavoured to protect them from the embarrassment of having to respond publicly. These students were not asked questions which required higher order thinking (see also Warren, 2002).

Huss-Keeler (1997) examined the ways in which low expectations for Pakistani students in one school in the United Kingdom were played out, in contrast to the experiences of white and Afro-Caribbean children in the same classrooms. She reported that the teachers in the school she studied viewed the parents of the Pakistani students as not being interested in their children's education. This was despite most of the parents involving themselves in school activities and attending parent interviews. She found that the teachers viewed the Pakistani students' homes as being deprived and then limited the literacy learning of the students. Huss-Keeler (1997) reported that the teachers often did not recognise the

achievement of these students and would delay reading instruction until the teachers considered them to be ‘ready.’ Moreover their access to literacy materials and opportunities in the classroom was restricted compared to that of the other students and they were not allowed to borrow books from the class library to take home.

Planning for students of differing abilities.

While there is a large body of studies detailing the ways in which teachers interact with students of differing abilities there is far less research into how teachers actually plan for students of differing abilities. The judgements that instructors make at the beginning of a school year may translate into expectations for performance and these initial expectations may become rooted in subsequent estimates of student ability (Shavelson & Stern, 1981). Brophy and Good (1970) suggested that initial assessments were difficult to put aside even in the face of future conflicting evidence. Teachers attributed particular qualities to students which they believed related to the probable academic outcomes that they expected.

In an investigation of planning for differing abilities in reading Shavelson (1981) found that instructional planning for low ability children differed considerably from that for high ability students in that plans for the former children emphasised procedures, decoding skills and structured tasks whereas there was far more flexibility in the procedures and tasks planned for high ability students coupled with an emphasis on comprehension not evident in the planning for low ability students. Other researchers have identified differentiated learning experiences designed for low and high ability students, in reading, as well (Allington, 1983; Good, 1987; Good & Brophy, 2000). These include, for low ability students as opposed to high ability students: being asked to read aloud more frequently; reading words without a meaningful context; being asked simple recall questions rather than questions requiring more thought; receiving a more structured organisation where decoding skills take precedence over meaning; an emphasis on correct pronunciation; few opportunities for self-correction.

Teacher Beliefs and the Grouping of Students

The degree of student diversity in the classroom presents a continual challenge to the beliefs of educators. Depending on their beliefs one decision that teachers may make is to place students in within-class homogeneous ability groups. Teachers who support ability grouping believe that they are able to make accurate judgements about their students' abilities as they place them into relatively homogeneous groups (Barr & Dreeben, 1983). One reason given by teachers for homogeneous grouping is that it better enables them to manage the student diversity in their classrooms; the teaching task becomes considerably more manageable (Davenport, 1993; Mills, 1998; Oakes, 1985; Rosenbaum, 1980; Slavin, 1987).

A further reason is their belief that students learn more effectively when they are grouped with those of similar ability (Cahan, Linchevski, Ygra, & Danziger, 1996; Fuligni, Eccles, & Barber, 1995; Hoffer, 1992; Kerckhoff, 1986; Slavin, 1988). Some teachers believe that such grouping enables them to better adapt the content to suit the readiness and needs of various students particularly in curriculum areas commonly thought of as hierarchical such as reading and mathematics. Hence proponents of ability grouping believe this increases student learning because an appropriate pace and level of instruction can be provided (Slavin, 1988).

Opponents of homogeneous ability grouping, however, claim that teachers tend to form low expectations for students in the lower groups in their classrooms which may result in a slower instructional pace, repetitive activities, constant review of prior learning and the denial of a stimulating learning environment (Fuligni et al., 1995; Oakes, 1992; Slavin, 1988).

When low ability students are grouped together especially in classes streamed by ability they may be denied high-quality peer modelling (Fuligni et al., 1995). Students with behavioural difficulties may be placed with low ability students regardless of their actual ability (Oakes, Gamoran, & Page, 1992) just because teachers may also have low expectations for their achievement as well but this may result in the classroom teacher spending important

instructional time dealing with management issues. Moreover there is the further contention that the grouping practices themselves may contribute over time to peer groups that demonstrate increasingly negative attitudes towards their education (Obiakor, 1999; Rosenbaum, 1980).

Some teachers believe that rather than improving the self-esteem of low ability children, when placed in within-class ability groups they are publicly labelled and categorised (Oakes, 1988). They are grouped according to a criterion that is socially valued – ability – and hence their grouping brings with it a status hierarchy (Gamoran, 1986; Rosenbaum, 1980).

Differential opportunities to learn.

One important component of any form of grouping is that it often results in the provision of differential opportunities to learn. Children may attain differing knowledge and skills simply because they are given differing learning experiences. When students who are considered low ability are never given the opportunity to work on more cognitively demanding tasks a lower level of achievement is likely to result (Graham, MacArthur, & Swartz, 1995; Knudson, 1992; Kuklinski & Weinstein, 2001).

The learning experiences delivered to upper ability groups are characterised typically by more independent learning with a focus on developing a range of cognitive processing skills. On the other hand the students in low ability groups often receive a more limited curriculum, are given less cognitively demanding work, less variety in the types of tasks they are asked to complete, slower-paced instruction, fewer choices of learning experiences and far more repetitive skill practice exercises (Hacker, Rowe, & Evans, 1992; Leder, 1987; Marcon, 1992; Timperley et al., 2002).

Streaming, teacher beliefs and teacher expectations.

Gregory (1984) considers that low teacher expectations for low ability students are the most pernicious problem associated with streaming. Oakes a leading researcher in, and strong opponent of, streaming (Oakes, 1985, 1988, 1990a, 1990b, 1992; Oakes et al., 1992) would concur. Her research has shown how streaming may negatively impact on not only the learning opportunities provided for students considered low ability but ultimately and more importantly on their life opportunities. Oakes' research and that of others in the area showed that this was particularly true for children from ethnic minority groups and those from low socioeconomic groups who tended to be unequally distributed in the lower streams and to receive a 'dumbed-down' curriculum compared with middle class students of similar ability (Carnegie Council on Adolescent Development, 1989; Virginia State Department of Education, 1992; Jussim et al., 1996; Persell, 1977; Winn & Wilson, 1983).

Researchers who have placed lower ability students in higher streams than their achievement would indicate they were capable of succeeding in, have found that in fact these students have performed at higher levels than their counterparts placed in lower streams (Fuligni et al., 1995; Linchevski & Kutscher, 1998; Mason, Schroeter, Combs, & Washington, 1992). At times they have exceeded the children previously categorised as having more ability (Mason et al., 1992). For these reasons and because of the socially divisive effects of streaming that have been reported several researchers advocate within-class ability grouping (Cahan et al., 1996; Harlen & Malcolm, 1997; Hoffer, 1992; Linchevski & Kutscher, 1998; Oakes, 1985; Slavin, 1990, 1993).

Within-class grouping.

In New Zealand primary schools within-class grouping is a common form of grouping. In a study of grouping practices in the classrooms of New Zealand teachers identified as excellent, Wilkinson and Townsend (2000) concluded that low-ability students

did not appear to be at any disadvantage. They reported that teachers often ensured that more instructional time was spent with these children rather than with those who were considered more able. Weinstein (1976) reported similar teacher practices with young students learning to read in the United States when students were in heterogeneous classes.

Other researchers are not as enthusiastic about within-class ability grouping as Wilkinson and Townsend (2000), however. By tracking a group of students over a number of years Good (1987) reported that the streams that students were placed in at the secondary school level could ultimately be traced back to the within-class ability groups students were placed in at elementary school. Good and Thompson (1998) showed that higher degrees of teacher expectation effects were evident in classes that used within-class ability grouping than in those classes using between-classroom ability groups. Hence the debate around the effectiveness of grouping students by ability for the purposes of improving learning has not yet been resolved.

Beliefs Summary

The beliefs that teachers hold about students, about how they learn and about how they should be taught may have significant implications for teachers' instructional design and in particular for the opportunities that are provided for their students' learning. Coupled with teacher beliefs are the expectations that teachers hold for differing students. A range of individual student characteristics including ability, gender, ethnicity, social class, first language and personality may influence both teacher beliefs and their pursuant expectations. Teachers may take these factors into account as they create the socioemotional environment in which students will learn and they will teach. These beliefs are likely to influence their instructional style; the types of grouping arrangements that are provided in the classroom and the flexibility of these; and the ways that teachers plan the opportunities that are provided for children to achieve success and make progress in their learning.

The following section will mainly consider the literature in relation to the expectations that teachers have for their classes. While the uniform expectations that teachers may have for their classes have previously been identified in the literature as possibly being more salient than those they have for individuals within their classes there has been little empirical research identifying any effects on student outcomes where different teachers hold uniformly different expectations for their classes. For this reason the following section will also explore the literature related to teachers who differentiate more in their interactions with students for whom they have correspondingly high or low expectations in contrast to teachers who do not discriminate to the same extent.

Uniform Teacher Expectations and Outcomes for Students

Several years of research into teacher expectations and teacher expectation effects has provided evidence that expectations do exist in regular classroom situations and that they can influence student performance and achievement (Babad, 1993b; Brophy, 1982a; Cooper & Good, 1983; Good, 1987; Jussim, 1989; Timperley et al., 1999). Such expectations may be exemplified in the learning opportunities provided, in the affective climate created and in the interactional content and context of the classroom. These experiences may differ for students within the same classroom environment or they may differ for students across different classrooms and may lead to differential learning.

Brophy (1982b) contended that expectations generally make an overall positive or negative difference to student achievement of five percent and asserted that while this may be small the accumulation of such an effect over a number of years could have marked effects on student achievement. Blatchford, Burke, Farquhar, Plewis and Tizard (1989) reported rather larger effects for teacher expectations on student achievement in Great Britain. They tracked over 300 students from the beginning of infant school until the end of their third year. They reported effect sizes of 0.4 to 0.8 of a standard deviation for teacher expectations after they

had controlled for beginning of year achievement. They further reported that teacher expectations and actual coverage of the curriculum were the two main contributors to student progress. Other researchers have reported similarly large effects (Brattesani et al., 1984) particularly for the grades that teachers assign to students on their reports (Jussim & Eccles, 1992). These may represent both self-fulfilling prophecies as well as perceptual biases. Teachers identified as discriminating more between high and low expectation students in their instructional practices and student interactions may also have greater effects on their students than others who do not differentiate to the same extent (Babad et al., 1982; Brattesani et al., 1984; Brophy & Good, 1974).

Expectations for the Class

Besides the expectations that teachers hold for individual students researchers have found that teachers hold expectations for their classes as well. These may intersect with the expectations that they have for individuals but they may also operate separately. These expectations for the class may be more salient than the expectations they have for individuals although these have not been fully investigated to date.

Expectations for the class may result in the teacher forming normative expectations of achievement for that particular class. This may influence the learning opportunities that are provided by the teachers. For example, expectations for the class may affect the types of learning tasks that are presented and the level and quality of completion that is accepted before the teacher moves on to new concepts. Expectations may be affected by the beliefs that teachers hold for learners in particular communities. They may also be framed around stereotypes for learners in particular communities and in turn affect the learning opportunities provided by the teacher (Pellegrini & Blatchford, 2000b). Lowered expectations for classes have been associated with schools in lower socioeconomic areas in New Zealand (McNaughton, 2001; Timperley et al., 1999) and with both low-income and schools attended

by ethnic minority groups in the United States (Ennis, 1998; Solomon et al., 1996; Taylor et al., 2001). Where teachers hold lowered expectations for learning they may present less cognitively demanding learning experiences to the class, they may accept a lower standard of task completion from students and may move to new material and concepts before current student learning is secure (Ennis, 1998).

Ennis (1995) described the effects she found of lowered expectations for classes in urban schools in the United States. She suggested that because of the teachers' expectations of the students they created classroom environments where behaviour was carefully controlled. Students were given little independence, few cognitively demanding tasks and limited opportunities to work with their peers. Teachers in these urban schools adhered to the deficit theory explaining consequent low levels of achievement by the students in terms of their home background. Because the teachers then felt unable to overcome these student background variables their own self-efficacy for teaching declined and they were less willing to introduce innovative programmes that were designed to improve the students' learning (Ennis, 1995, 1998).

Lowered expectations in poor socioeconomic communities have also been identified in New Zealand (McNaughton et al., 2000; Timperley et al., 2002; Timperley & Robinson, 2001). After identifying low teacher expectations in one South Auckland school, however, Timperley and her colleagues (2002; Timperley & Wiseman, 2002) challenged teachers' beliefs and expectations with clear data and also provided the teachers with professional development showing how learning opportunities could be provided differently for their students. As a consequence the teachers' expectations altered and subsequent student learning improved. These studies illustrated that when teacher expectations for student learning increased there was a consequent change in teacher attitudes, beliefs and teaching practices

for the class that more closely resembled the practices evident in classes where teachers have high expectations for their students.

While there has been some research, therefore, investigating the effects of lowered teacher expectations for students in particular communities there has been little examining the effects of uniformly high teacher expectations for the achievement outcomes of students. Moreover there has been very little research undertaken which examines the effects of uniform teachers' expectations for their classes on student achievement despite the assertion of Brophy (1985) almost twenty years ago that "Differential teacher treatment of intact groups and classes may well be a much more widespread and powerful mediator of self-fulfilling prophecy effects on student achievement than differential teacher treatment of individual students within the same group or class" (p. 309). This may be because students spend more of their time interacting with their teachers as part of the class than they do in individual interactions (Pellegrini & Blatchford, 2000a). There has been no research located where the practices of teachers who have uniformly high expectations for their whole class have been compared with the practices of teachers who have uniformly low expectations for their whole class. What are the effects (if any) for the overall achievement of students in classes where their teachers have high expectations for their performance as opposed to the opposite scenario? If the consequent achievement of students in the classes of high and low expectation teachers does differ despite initial similarities, what are the teaching practices that may contribute to these differences? Is student self-perception affected by being in the classrooms of high expectation versus low expectation teachers? These questions have yet to be answered by empirical investigations.

Nevertheless some clues to answering such questions may perhaps be found in the investigations that have been undertaken where the effects on student outcomes of teachers

who discriminate more towards high and low expectation students have been compared with the effects of teachers who make less differentiation.

Categorising Teachers and Their Expectations

Brophy and Good (1974) classified teachers as proactive, reactive or over-reactive depending on their susceptibility to teacher expectation effects. Proactive teachers developed their own beliefs about students and used these to decide what types of instruction were appropriate. This group of teachers were those most likely to have positive expectation effects on their students. Reactive teachers, the majority, did not cling to their initial expectations and adjusted these as they received new information about their students' progress. They tended to have sustaining expectation effects on their students thus maintaining the existing differences between high and low achieving students rather than having self-fulfilling prophecy effects on their students. Over-reactive teachers were those who tended to treat their students as stereotypes rather than as individuals and developed rigid expectations. These were the teachers Brophy and Good described as having negative expectation effects on their students. Although these particular groups of teachers were proposed by Brophy and Good (1974) whether or not these categories of teachers actually exist has not been empirically tested. So the role of such teacher characteristics in the communication of expectations remains unclear.

Similarly, Babad, Inbar and Rosenthal (1982) were able to categorise teachers who differentiated in their beliefs and interactions with students, when given false information about some students, as high and low bias teachers. High bias teachers were defined as those who showed noticeable differentiation in their behaviour and attitudes towards high and low expectation students whereas low bias teachers did not appear to take the false information into account in their interactions and treated all students in a similar manner. Babad et al. (1982) observed these teachers during a physical education lesson after giving them false

information about the abilities of some of the students. They found no differences on various self-report measures but their classroom observations and interviews showed that the high bias teachers were far more autocratic and dogmatic in their classroom behaviour and in their interview statements than the low bias teachers.

Brattesani, Weinstein and Marshall (1984) called such teachers high and low differentiating according to their interactions with high and low expectation students. In their first study they asked students to identify the ways in which teachers interacted with them personally. Categories such as the ways their teachers provided them with supportive help, what kinds of positive and negative feedback they received from the teacher and what emphasis the teacher put on learning, completing work and following rules were included. From this data the researchers identified the high- and low-differentiating teachers. In their next study they observed the interactions of these two types of teachers with individual students. They found that the high-differentiating teachers produced sizeable expectation effects in their students while the low-differentiating teachers did not. In high differentiating classrooms teacher expectations explained 14% of the variance in end of year achievement whereas in low differentiating classrooms teacher expectations explained only 3% of the variance. Cooper and Good (1979) suggested that teachers who needed to maintain control in the classroom were more likely to convey expectation effects to their students and that these would most likely be negative effects.

Good and Weinstein (1986) described a study in which low expectations for the whole class were very evident in several quite dramatic ways although their evidence was anecdotal. They were observing the teacher interacting with students of high and low ability but were struck by how pervasive the teachers' low expectations were for the whole class. The classroom environment was barren, the teacher stressed rules and procedures, the lesson pace was extremely slow and there was no discussion with the students who were obviously bored

according to the researchers. The teacher explained the students' lack of progress by attributing this to a lack of ability.

Apart from the empirical studies by Babad et al. (1982) and Brattesani et al. (1984) as well as some later experimental studies by Babad and his colleagues (included in a later section) (1990a; Babad et al., 1989a, 1989b, 1991; Babad & Taylor, 1992) there have been no other empirical teacher expectation studies located where teachers having particular characteristics have been identified and then their interactions with students observed in order to establish any differences, nor have the students of teachers with differing expectations been tracked in order to establish any longer term outcomes.

Teacher Expectations for Individual Students Within a Classroom

Most of the research to date has focused on teachers' differential expectations of individual students within their classrooms. This is not to suggest that every student's classroom experiences should be identical, however. Quite clearly there may need to be some differential experiences for low and high achieving students. Several investigations, however, have shown that as well as ability there are both contextual factors and individual student characteristics that may influence teachers' expectations for their students. Teachers assimilate and integrate various pieces of information about students and their classes as they form their expectations for student academic performance and students' social skills. The contextual factors that have been identified by previous researchers as impacting on the expectations that teachers form for the learning of the individual students in their classrooms include their perceptions of the effort that students make (Hall & Merkel, 1985; Jussim, 1989; Jussim & Eccles, 1992; Jussim et al., 1996; Jussim et al., 1998; Muller, Katz, & Dance, 1999), the information they receive on the previous performance of their students (Alexander & Entwistle, 1988; Dusek & Joseph, 1985; Entwistle & Alexander, 1988; Gill & Reynolds, 1999; Jussim et al., 1996), the time of the year (Brophy & Good, 1970; Cooper, 1985; Jussim,

1989; Jussim & Eccles, 1992; Raudenbush, 1984), the class level of the students (Brophy, 1982b; Cooper, 1985; Weinstein & McKown, 1998) and the particular curriculum area (Coladarci, 1986; Harold et al., 1989; Smith, 1980). Of these the one of interest in the current study is the way in which the particular curriculum area being considered may affect teacher expectations.

Curriculum area.

There has been little research into whether teacher expectations vary across different curriculum areas or whether they have more or less effect on students depending on the curriculum area. Given that teacher efficacy has been portrayed as being influential in the formation of teacher expectations (Ross, 1998) and that teacher efficacy may vary across curriculum areas it seems possible that teacher expectation effects may correspondingly vary.

Moreover given the differing interaction contexts implied by various curriculum areas, more or less interaction with the teacher in particular curriculum areas may also serve to enhance or stultify teacher expectations. Smith (1980) reported greater expectation effects on reading achievement than on maths achievement although she did not attempt to explain why this might have occurred. Coladarci (1986) found that teacher judgements of student achievement were more accurate for mathematical computation than for mathematical concepts. He reasoned that this was because there was more direct instruction for computation and that teachers had more data available in this area. This is one possible explanation for the variance. While in this study the curriculum area is the same Coladarci's study (1986) does provide some support for the notion that the type of academic task may contribute to the accuracy of teacher judgements and therefore of perceptual biases. Where accuracy is lower there is more chance of perceptual biases and self-fulfilling prophecy effects becoming an issue since if teacher judgements of student achievement are inaccurate

they may plan and provide opportunities to learn that relate more closely to their own expectations than to actual student achievement.

In one study where teachers were asked to rate their students in reading, mathematics, sports, music and art (Harold et al., 1989) the researchers reported that the teachers were more confident in rating their students' achievement in reading and mathematics than they were in the other curriculum areas. In reading and mathematics the teachers' judgements were closely correlated with test results. The teachers reported being confident to judge their students in maths and reading because they had on-going assessment information available. In physical education, however, the teachers would have direct information available as they took each lesson. This could mean that although they were not so confident at judging their students' abilities in this area, they were able to do so. In this study the researchers (Harold et al., 1989) did not determine how accurate teacher judgements actually were. Comparisons of teacher expectations and teacher expectation effects across curriculum areas could provide a broader picture of whether or not these do vary across curriculum areas and also whether or not expectations for individuals vary across different curriculum areas.

There are numerous studies related to the influence of particular student characteristics on teachers' expectations for individual students. Those that have most often been found to influence teachers' expectations include ethnicity (Baron, Tom, & Cooper, 1985; Cooper, Baron, & Lowe, 1985; Dusek & Joseph, 1985; Entwistle & Alexander, 1988; Jussim et al., 1996; Jussim et al., 1998; Masten, Plata, Wenglar, & Thedford, 1999; Muller et al., 1999; Peterson & Barger, 1985; St. George, 1983; Stoddart, 1998; Swann, 1985; Wigfield et al., 1999; Wiley & Eskilson, 1978), social class (Alexander & Entwistle, 1988; Baron et al., 1985; Dusek & Joseph, 1985; Entwistle & Alexander, 1988; Entwistle & Hayduk, 1978; Jussim et al., 1996; Jussim et al., 1998; Muller et al., 1999; Taylor & Campbell, 1995; Timperley et al., 1999; Timperley et al., 2002; Timperley & Robinson, 2001; Timperley & Wiseman, 2002;

Wigfield et al., 1999; Wilson & Martinussen, 1999), stereotypes (Entwistle & Alexander, 1988; Jussim, 1989; Jussim & Eccles, 1992; Slaughter-Defoe, Nakagawa, Takanishi, & Johnson, 1990; Steele & Aronson, 1995; Wilson & Martinussen, 1999), gender (Clark, 1990; Dusek & Joseph, 1985; Dweck, Davidson, Nelson, & Enna, 1978; Eccles (Parsons) et al., 1983; Gill & Reynolds, 1999; Good & Findley, 1985; Hatchell, 1998; Jussim & Eccles, 1992; Jussim et al., 1996; Laker, Laker, & Lea, 2003; Palardy, 1969; Peterson, 1998; Phillips, 1992; Wigfield & Harold, 1992; Yates, 1993) and diagnostic labels (Harris, Milich, & McAninch, 1998; Jussim et al., 1998; Stinnett, Crawford, Gillespie, Cruce, & Langford, 2001; Verplaetse, 1998). Those which have been researched less frequently and have been found to have less effect on teachers' expectations include physical attractiveness (Dusek & Joseph, 1985; Entwistle & Alexander, 1988; Jussim et al., 1996; Jussim et al., 1998), language style (Cazden, 1988; Entwistle & Hayduk, 1978; Kerin, 1987), personality and social skills (Babad, 1998; Crano & Mellon, 1978; Dusek & Joseph, 1985; Entwistle & Alexander, 1988; Jussim et al., 1996; Keogh & Burstein, 1988), teacher-student backgrounds (Alexander & Entwistle, 1988; Cazden, 1988; Kerin, 1987; Taylor et al., 2001), names (Dusek & Joseph, 1985), other siblings (Dusek & Joseph, 1985; Jussim et al., 1998) and one-parent families (Dusek & Joseph, 1985). It is evident from the number of studies listed above that a vast array of individual characteristics have been identified as possibly impacting on teacher expectations. The current research, however, is mostly concerned with the uniform expectations of teachers for their whole classes rather than the role of such individual student characteristics in the mediation of teacher expectations. Hence, despite the large number of studies undertaken related to student characteristics and teacher expectations, these will not be discussed further.

Expectation Summary

We have seen that expectations for students may be formed and expressed at an individual, class or school level. Where different teachers hold contrasting but uniform

expectations for their classes this may result in differing opportunities to learn for their students which may in turn result in differential outcomes for their students. This has yet to be investigated by researchers. While there have been some studies investigating low teacher expectations for particular communities none have been located which closely examine the outcomes for students in the classes of teachers who have uniformly high expectations for their students' achievement. Contextual factors such as the particular curriculum area may also be salient to the formation of teacher expectations and outcomes for students. Few systematic comparisons have been made between different curriculum areas.

The section which follows will explore and discuss the importance and relevance of the socioemotional climate in the portrayal of teacher expectations for student achievement and behaviour.

The Socioemotional Climate of the Classroom

Classroom teachers have responsibility for a complex social system. They must work with the social behaviours of students as well as their academic needs. Hence the teacher needs to establish classroom relationships where students want to achieve what their teachers see as important for them. A significant part of what guides the process of planning and decision-making is the development of a productive classroom climate (Clark & Lampert, 1986).

A meta-analysis by Harris and Rosenthal (1985) (which will be discussed in more detail in the following section) found the socioemotional climate of the classroom to be of such consequence in the expression of teacher expectations that following their findings researchers began investigating the role of affective behaviours in the mediation of teacher expectation effects.

The socioemotional climate in the classroom probably partly depends on the expectations the teacher communicates about the ways students are expected to cooperate and

on their expectations for classroom interpersonal relationships. Moreover the ways in which students respond to classroom learning experiences are probably also related to the expectations the teacher has about their relevance and interest value (Brophy, 1982b). Weinstein and McKown (1998) suggested that when teachers created a socioemotional climate that provided challenging learning experiences and clear learning goals, students were likely to respond with high intrinsic motivation and a determination to be successful in their learning. Moreover when students were given a wide range of alternative learning experiences where they could experience success the affective classroom environment was warmer and more supportive (Butterworth & Weinstein, 1996).

When Dirkx (1992) interviewed teachers about their adult students who were learning to read he found that the teachers considered students' psychosocial needs as barriers to their learning and felt that unless these were met then they would not be successful academically. Wigfield et al. (1999) described how teachers reported that they enjoyed working with White and Hispanic children more than they did with African-American children. Similarly Solomon et al. (1996) reported that teachers in lower socioeconomic areas saw the climate in such schools as being less positive and stimulating. But the researchers reported that the teachers were less warm and supportive towards the students. Keogh (2000) further suggested that teachers were more likely to provide a positive socioemotional environment for students with temperaments that made them easy to relate to. This may explain why disruptive students are often found in the lowest ability groups regardless of their actual test scores (Taylor, 1993).

Much of the research evidence into teacher affect and the classroom climate has found evidence of discriminating behaviour towards low and high expectation students. Much of this is non-verbal or emotive and teachers may not be fully aware of the differentiation. For example Jussim (1989) reported that teachers tended to provide high expectation students

with more emotional support than they did low expectation students. Proctor (1984) suggested that low-expectation students experienced less positive nonverbal interactions with the teacher. Educators were less warm and friendly towards these students. Cooper and Good (1983) called such differences “wholly undesirable” (p. 15).

Teachers, however, have become acutely aware of the expectation research and the findings about the instructional support given to high and low expectation students. This may be why the later research has tended to uncover teachers spending more time with low-expectation students than with highs (Babad, 1993b, 1998; Good & Thompson, 1998; Jussim et al., 1998). Babad (1998) has suggested that the quantity of time engaged with low expectation students appears to have increased but the quality of the socioemotional interactions do not appear to have similarly improved. He found that while teachers could control their verbal interactions they were far less adept at controlling their body language and facial expressions (Babad & Taylor, 1992). Furthermore Pellegrini and Blatchford (2000b) indicated that because teachers were frequently concerned about the behaviour of the low expectation students that often their interactions were related to behaviour management rather than being learning related.

Much of Babad’s work has been in exploring the subtle verbal and non-verbal cues that teachers provided which in turn led students to interpret these as expectations for their achievement (Babad, 1993b, 1998; Babad & Taylor, 1992). His investigations have shown that whereas teachers reported providing more emotional support to low ability students, students perceived the opposite (Babad, 1990b, 1995). This is not to say that low expectancy students received negative emotional support. On the contrary Babad reported that teachers did endeavour to display warmth and emotional support to low expectation students. Students were able, however, to determine that such displays were not genuine because they were exaggerated whereas teachers’ natural affection for the high expectation students was

interpretable by students despite teacher attempts to control this (Babad, 1998). Babad reported that students resented this differential emotional support and in classrooms where this was more obvious the students expressed a desire not to remain with that same teacher for the following year (Babad, 1995). This was particularly so in the classrooms where teachers reported having ‘pets’ (Babad, 1995; Tal & Babad, 1990).

Babad and his colleagues have also conducted a series of studies investigating student interpretations of teacher behaviour from small video clips (10 seconds) (Babad et al., 1987, 1989a, 1989b, 1991; Babad & Taylor, 1992). These studies were carried out both in Israel as well as in New Zealand. The researchers provided judges (who were students and teachers) with clips of teachers speaking to or about high and low expectation students. In most of the studies (Babad et al., 1989a, 1989b, 1991; Babad & Taylor, 1992) the teachers who were filmed in the video clips had been divided into biased and unbiased teachers. This difference had been established by asking teachers to rate students’ drawings when they were told that the drawings had been prepared by high and low ability children. The biased teachers were more likely than the unbiased teachers to rate the drawings according to the information they had been given. Students as young as 10 years old were able to tell when the biased teachers were talking to or about high as opposed to low expectation students even though the students involved in the interactions were not seen and the clips were only 10 seconds in length.

Babad et al. (1989a) concluded that the biased teachers were not as able to control their affective responses as they thought they could. These studies also provided evidence that the genuine feelings of the teachers could be detected through their facial expressions and body language as they interacted with their students (Babad et al., 1989b, 1991). In order to more fully establish the role of these nonverbal channels, in their final study Babad and Taylor (1992) showed the same video clips of Israeli teachers to students and teachers in New Zealand. These judges were unable to understand the verbal interactions and hence had to

rely on the nonverbal cues. Again students as young as 10 years old were able to signal whether the unseen child the teacher was interacting with was a student for whom the teacher had alternately high or low expectations. This study not only showed the strength of these nonverbal channels in transmitting the teachers' affect towards the student but also showed that such nonverbal affective responses were cross-cultural.

As Rosenthal (1991) intimated and Babad (1998) concurred, the privileged affective environment of the high expectation student is at the core of the expectancy issue. A supportive, socioemotional environment is important for any student's sense of security and self-worth (Wentzel, 1997). A warm affective classroom provides the secure environment necessary for students to take risks with their learning, to be motivated to achieve, to be successful at their level and to want to continue to learn.

The socioemotional climate of the classroom may be framed within the context of classroom expectations rather than through the dyadic teacher-pupil interactions (Babad, 1998; Eccles & Wigfield, 1985). Indeed any positive expectations expressed to individuals may be lessened by an interpersonal atmosphere portraying lowered expectations (Good & Thompson, 1998). The classroom climate communicates to students expectations for the interpersonal relationships in the classroom and expected levels of student cooperation and peer support. It may also affect student motivation for and interest in learning experiences. A socioemotional climate that emphasises cooperation rather than competition and individual learning goals rather than comparative achievement creates quite different classroom expectations to an affective environment that focuses on the counterpart of these (Weinstein & McKown, 1998).

Whilst Babad and his colleagues are the only researchers located who have specifically investigated teachers' affective responses to high and low expectation students, other researchers have investigated the important role of the socioemotional climate that the

teacher provides in enhancing student learning. The findings from studies such as these also provide useful clues as to the importance of the emotional responses in the classroom in the portrayal of teachers' expectations for the learning of students.

Wentzel (1991, 1997, 1999) has shown that the perceived caring of teachers towards their students has been linked to students' reported internal motivation and to their effort in academic tasks. In a longitudinal study of students from sixth to eighth grade Wentzel (1997) reported that student pursuit of prosocial and social responsibility goals and academic effort were strongly related to perceptions of their teachers as caring. The students defined such teachers as those who modelled caring attitudes, whose expectations were based on actual student individual differences, and who provided constructive and nurturing feedback (Wentzel, 1997, 1999). Nieto (1996) and Noddings (1992) also described teacher caring as being a crucial component for students' academic success. Murdock (1999) conducted a study of middle school students to ascertain children's perceptions of their teachers' expectations for their academic performance and their behaviours towards the students. The researcher reported that the largest correlations were between students' reports of their motivation and their perceptions of their teachers' expectations and between these same expectations and their own behaviour in class. Murdock (1999) suggested that these appraisals may reflect perceived interest and respect by the teachers and that perhaps students responded to such appraisals with a corresponding lack of motivation and poor behaviour when they perceived low teacher expectations for their future academic achievement.

In one study Baker (1999) reported a relationship between student satisfaction with school and a caring supportive socioemotional environment in the classroom. She further reported double the number of negative behaviour management statements in the classrooms of students whose satisfaction with school was low compared with their high satisfaction peers. In a review of three separate studies Muller et al. (1999) reported that when students

felt that their teachers cared about them this was a moderately strong predictor of their own expectations for their learning.

It would seem possible then that in classrooms where teachers have uniformly high expectations for all their students that this may be reflected in a more supportive socioemotional climate and consequent higher academic achievement for such students compared with those for whom teachers have low expectations for their achievement. In this way the teachers' expectations would mediate between the classroom climate which they had established for their students and the outcomes that were achieved by the children.

Socioemotional Climate Summary

The socioemotional climate has been found to be a significant contributor to the portrayal of teacher expectations. The affective environment may communicate to students expectations about their behaviour and their learning achievement. The socioemotional climate of the classroom provides the framework for the interpersonal relationships of the classroom and may influence student perceptions of teacher caring and their own motivation to succeed. Teacher behaviours, particularly their affective responses, may be interpreted by students as revealing how their teachers feel about them and their learning. It is possible that in classrooms where teachers have uniformly high expectations for student learning that these are portrayed through the socioemotional climate created by the teacher and may affect student responses and academic progress.

The socioemotional climate created by the teacher is one aspect of the distal behaviours of teachers. These may be defined as those that occur outside the day-to-day interactional classroom context. Such behaviours include the ways in which lessons are planned and delivered for particular students, the grouping decisions that teachers make and the way in which the classroom climate is initiated and maintained by the teacher. The distal behaviours of teachers are those that can enhance or constrain the opportunities for learning

that the teacher provides. They communicate teacher expectations indirectly and have been discussed in the previous sections. The following section will consider the significance of proximal interactions of teachers with their students. While the current investigation will mainly consider the interactions of teachers who have uniformly high or low expectations for their students as this has yet to be empirically investigated the review of the literature that follows will concentrate on the ways in which teachers have been found to interact with high and low expectation students within their classrooms.

Teacher-Student Interactions

In the search for ways in which teacher expectations may be communicated to students much of the earlier literature concentrated on the direct exchanges that occurred in the classroom. The following section will begin by exploring some of this earlier work of Brophy and Good (1974) and Cooper and Good (1983) whose empirical investigations initially identified some specific proximal behaviours of teachers towards their high and low expectation students.

The proximal behaviours of teachers may be defined as the direct exchanges that occur between teachers and students. Such communications include verbal interactions such as the types of questions used by the teacher with particular students, or providing feedback in specific ways to different students. They may include nonverbal exchanges such as smiling, leaning towards or away from certain pupils, nodding or frowning. Proximal interactions may also include physical behaviours such as frequent movement to particular students to monitor engagement. Proximal interactions include the dyadic interactions that occur between one child and the teacher but may also include the interactions between the teacher and the class or the teacher and a particular group in the classroom. Proximal interactions are those that communicate the expectations of teachers directly.

Brophy and Good (1970) designed their classroom observation instrument to record dyadic teacher-student interactions (Brophy & Good, 1970) and the researchers conducted observations in four classrooms. These observations enabled them to identify 17 differing behaviours that teachers used with high and low expectation students. They found, for example, that teachers were more likely to praise correct answers from high expectation students than they were to praise such answers from low expectation students even though the latter occurred less frequently. They further reported that low expectation students were criticised more often when answers were incorrect and that teachers more often accepted poor performances from these students than they did from the high expectation students. Moreover low expectation students were less frequently provided with any feedback on their answers than were high expectation students. In contrast teachers more often rephrased questions for high expectation students when they had answered incorrectly and provided reading support for them that the low expectation students did not receive to the same degree. The researchers also reported less warm nonverbal interactions with low expectation students, less friendly interactions with them, and the ignoring of low expectation students more often than highs when they sought attention. Brophy (1985) contended that these differential proximal behaviours may have affected the progress of students and therefore acted as self-fulfilling prophecies.

Cooper and Good (1983; Cooper, 1985) identified similar behaviours as contributing to teacher expectation effects but also showed that teachers interacted more frequently with high expectation students in public and with low expectation students in private. They contended that teachers actually discouraged low expectation students from making public responses which served to inform the students of the teacher's expectations for them.

Neither Brophy and Good (1974) nor Cooper and Good (1983) however provided effect sizes that would enable other researchers to determine the relative significance of these

various behaviours as contributing to self-fulfilling prophecy effects. Their research though provided the impetus that meant that many researchers concentrated on further investigating the dyadic behaviours of teachers in their endeavours to unravel the consequences of teacher expectations for student learning. Such behaviours were readily observable and could be recorded relatively easily. Evidence allowed these teacher behaviours to be scrutinised and focused teacher attention on the possible behaviours that could be contributing to self-fulfilling prophecy effects.

A few years later Harris and Rosenthal (1985) identified 31 different teacher behaviours that had been categorised by researchers in 136 investigations as contributing to teacher expectation effects. Their meta-analysis across all studies showed that many of the proximal behaviours identified in previous studies and which researchers and teachers had concentrated on altering, actually had less impact on student outcomes than others not so frequently focused upon. For example, Harris and Rosenthal (1985) provided the following effect sizes for some of the behaviours identified above: wait time, .18; praising high expectation students more, .12; smiling more at these students, .19. On the other hand behaviours that appeared to mediate teacher expectations to a greater extent included: creating a friendlier classroom climate, .32; teaching high expectation students more concepts or more difficult concepts, .29; creating a warm socioemotional climate, .29; having longer interactions with high expectation students, .28. It was these findings that led Rosenthal (1991) to alter his four-factor theory to the two-factor theory, mentioned earlier. It seems from this meta-analysis that the dyadic teacher-student interactions were of less significance in the mediation of teacher expectations than were the whole-class factors such as the classroom climate. Moreover this meta-analysis revealed some distal factors to be of at least equal if not greater significance than the proximal behaviours. One explanation is that teachers in the 1970s did distribute their feedback unequally and this did mediate the teacher

expectation effects but the identification of variable feedback resulted in teachers altering their behaviour so that by the mid-1980s when Harris and Rosenthal (1985) conducted their meta-analysis the previously identified variations in feedback were no longer so poignant. Feedback factors were readily identifiable by teachers, salient, and also the most easily controlled.

The issue of accumulation.

Of course one of the arguments that has centred around the issue of teacher expectancy effects on students is that of accumulation. Even small effects could be quite dramatic if they accumulated each year, particularly for some students. So what is the evidence for accumulation? The early studies of Rosenthal and Jacobson (1968) and Rist (1970) lent support to dissipation rather than accumulation. In both these studies the effects the researchers detailed for the first year of their studies were less apparent in the second year. In the study of Blatchford et al. (1989) cited earlier, however, where students were tracked for the first three years of their schooling, the evidence showed a trend towards an increase in teacher expectation effects with each year of the study. These studies all relate to accumulation during students' elementary years. Other studies that have examined accumulation with senior secondary school students, college students or adults have found no evidence of accumulation (Frieze, Olson, & Russell, 1991; Smith, Jussim and Eccles (1997) cited in Jussim et al., 1998; West & Anderson 1976). It needs to be remembered, however, that teacher expectation effects have been found to be more powerful with younger students (Harter & Connell, 1984; Kuklinski & Weinstein, 2001; Licht, 1992; Schunk, 1992; Weinstein & McKown, 1998; Wigfield, Eccles, MacIver, Reuman, & Midgley, 1991; Wigfield et al., 1997; Wigfield & Harold, 1992) and the evidence at this level for accumulation is inconclusive. Future longitudinal studies could more closely explore the

accumulation issue since currently this remains unresolved and is an important one in the exploration of teacher expectation effects.

Appropriateness of differentiation.

A further issue in the search for an answer to the effects of differentiating learning tasks for low and high expectation students is the issue of appropriateness. One difficulty that faces researchers in the area of teacher expectations is in unravelling exactly what the teacher expectation effects are. Are differing learning opportunities planned for low and high ability students because they need differing tasks or are differing learning opportunities planned because the teacher has differing expectations? Once learning tasks become differentiated there is always the possibility that the tasks may lead to a sustained expectation effect or to a self-fulfilling prophecy. It might be expected, however, that the children for whom the teacher has low expectations would perform less well than their peers in the high expectation groups and hence that the learning tasks they are given may vary. The important element is whether or not the different tasks are actually contributing to differential outcomes or enhancing learning. Once tasks become differentiated this may impact on the opportunity provided for learning which in turn will impact on what is actually learned by the students. While differentiation of tasks may be appropriate where they maximise achievement, differentiation in some kinds of interactions with the teacher is probably not acceptable. This is particularly true in terms of the socioemotional climate in which learning is framed.

Teacher-Student Interaction Summary

The proximal behaviours of teachers were originally identified as being salient in the communication of teacher expectations. Some of the later research, however, has indicated that the distal behaviours of teachers may actually be more significant. These include not only the differentiation in opportunities to learn that may be provided but also the affective

climate of the classroom. One important but as yet unresolved issue in the teacher expectation research is that of accumulation. Even a small teacher expectation effect each year could have quite significant implications for student progress where expectations for student learning were similar over a number of years.

A further factor in the mediation of teacher expectation effects is the student. There is much evidence that some students appear to be more susceptible to teacher expectation effects than others (Cloer & Dalton, 2001; Jussim et al., 1998; Measelle, Ablow, Cowan, & Cowan, 1998; Steele & Aronson, 1995; Strein, Simonson, & Vail, 1999; Weinstein, Marshall, Sharp, & Botkin, 1987). While some students seem to accept teachers' expectations for their achievement and to adjust their performance in line with these expectations, others do not. The following sections will explore the role of the student in the mediation of teacher expectations. It will also explore student responses to the portrayal of differing expectations from their teachers and will discuss the influence of student self-perceptions in the mediation of teacher expectation effects.

Student Self-Perceptions

While there have been large numbers of studies investigating differential teacher-student interactions many of which have been cited above, there have been few that have measured the outcomes for students of such differential behaviour. There is much evidence to show that students are able to detect differential behaviour by their teachers even when the educators endeavour to conceal this (De Paulo, 1993; Kuklinski & Weinstein, 2001; Weinstein et al., 1987; Weinstein, 1985; Weinstein et al., 1982; Weinstein & McKown, 1998; Wentzel, 1997, 1999). What are the implications, though, of student interpretation of teacher expectations for the children's achievement and outcomes?

Many of the original models designed to explain the mediation of teacher expectations included the student as an important component in this mediation (Brophy & Good, 1970;

Cooper & Good, 1983; Darley & Fazio, 1980). To a large extent, however, the research into teacher expectations has focused squarely on teachers and their differential behaviours; the responses of students in the expectancy construct have not been so frequently studied (Babad & Taylor, 1992; Kuklinski & Weinstein, 2001). In order to develop a complete picture of the expectancy paradigm in operation it is important to consider the role of student perceptions and their interpretations of differing teacher behaviours.

Direction of Effect

One of the debates in the expectancy literature has been that of the direction of the expectancy effect. Do teacher behaviours 'cause' students to (re)act according to the teacher's expectations or do student behaviours influence the expectancies of teachers? The relationship is probably not strictly dichotomous; it is more likely dynamic.

Gill and Reynolds (1999) surveyed fourth-grade teachers to determine their expectations for the urban African American children that they taught. The researchers reported that one-fifth of the teachers had high expectations for their students' future achievement while approximately one-seventh had limited expectations. They also found that prior achievement in both mathematics and reading in third grade significantly predicted teachers' expectations. They found that the students' perceptions only mediated the teachers' expectations to a limited extent while the expectations of the teachers had a large direct effect on both the reading ($\beta = .45$) and mathematics ($\beta = .42$) achievement of the students.

Muller et al. (1999) proposed that teacher expectations influenced student perceptions more than student behaviour affected teachers. Brophy (1982b) pointed out, however, that the individual differences of students could also influence outcomes. He described how similar interactions with students for whom teachers had similar expectations, did not always result in similar outcomes. In a recent study aimed at unravelling some of the controversy about the direction of teacher expectation effects Kuklinski and Weinstein (2001) reported that teacher

expectations had significant effects on Grade 5 students' self-perceptions in classrooms where students perceived much differential treatment towards high and low expectation students. This was not true, however, in the Grade 1 and Grade 3 classrooms included in their study. At these levels they found that student self-perceptions remained relatively independent of teacher expectations. Teacher expectations did have a significant effect on the achievement outcomes of students at both the earlier grades and at Grade 5 though. The authors concluded that at the earlier levels teacher expectations had more direct effects on students' achievement outcomes and were not mediated to the same extent by student self-perceptions particularly in the classes where students perceived differential treatment of high and low expectation students. They reasoned that this could be why self-fulfilling prophecy effects were more often found in the classrooms of younger students while sustaining expectation effects were more salient in the classrooms of older students.

Direct and Indirect Effects of Teacher Expectations on Student Outcomes

As we have seen the messages that students receive about their teachers' expectations for their achievement may be communicated in both direct and indirect ways. The purpose of the following sections will be to discuss the interpretations of students of their teachers' behaviours and responses. One means by which expectations can directly affect student outcomes is through the learning opportunities provided in the classroom. Differences in curriculum exposure can directly impact on student opportunity to learn. One way in which divergent curricular may be implemented in the classroom is through within-class ability groups. Such grouping practices may directly impact on student learning but also provide students with information about their expected performance (Weinstein & McKown, 1998). One further means by which students may come to understand their teachers' expectations for their achievement is through the grades, marks and feedback about their learning that they receive.

Hence students may form self-expectations from the direct information they receive and their interpretation of that information. They may, however, also receive more subtle and indirect expressions from the teacher through the classroom climate and their socioemotional interactions with teachers. In a classroom observational study (Blatchford, Burke, Farquhar, Plewis, & Tizard, 1998) the researchers reported that students had far more communication with their teachers as a member of the class, often as a passive listener, than they did in one-to-one interactions. It is possible, therefore, that the overall classroom climate and hence the individual teacher may influence student perceptions of teachers' expectations more than the frequencies of dyadic teacher-student interactions.

In a further study Pollington, Wilcox and Morrison (2001) were examining the effect on student writing self-perception of a traditional approach as opposed to a writing workshop approach. What they actually found, though, was that it was the individual teachers that appeared to impact on student perceptions rather than the approach used. Skinner and Belmont (1993) reported that when teachers were surveyed at the beginning of the year about their involvement with their students this predicted the children's self-perceptions as well as student motivation for and engagement in classroom activities.

Several researchers have investigated and established a relationship between teachers' expectations for students' achievement and students' perceptions of differential treatment (Kwok & Lytton, 1996; Muller et al., 1999; Wigfield & Harold, 1992). Weinstein and her colleagues (Kuklinski & Weinstein, 2001; Weinstein et al., 1987; Weinstein & McKown, 1998) in particular have examined student interpretations of teachers' expectations. The Teacher Treatment Inventory was developed by Weinstein and Middlestadt (1979) to assess student perception of differential treatment of high and low expectation students. This measure has been used in Weinstein's subsequent research (Weinstein et al., 1987; Weinstein et al., 1982) as well as in the earlier study. Weinstein and her colleagues have described how

children reported that the low expectation students received more negative feedback from teachers and were given more directions and rules to follow. On the other hand the high expectation students were given more variety of learning opportunities and more choice about the activities they wished to complete. Awareness of such dissimilar treatment has been documented as early as first grade in high differential classrooms (Kuklinski & Weinstein, 2001; Weinstein et al., 1987). Weinstein has also reported that children were able to describe subtle teacher behaviours showing differentiation between high and low expectation students that were not always recorded by adult observers during classroom observations (Weinstein & McKown, 1998). For example students were able to distinguish between different types of praise directed at high and low achievers.

Indeed it was the recognition that students were able to perceive differential treatment between high and low expectation students and that this mediated teacher expectation effects that led Cooper and Good (1983) to update their earlier teacher expectation model (Cooper, 1979). They described how high expectation students reported receiving more praise from teachers, less criticism, more frequent public interactions with teachers and less private interactions than did the low expectation students.

Other researchers have described how the help that teachers provided to students could also be interpreted by students as providing messages about their expected achievement. Graham and Barker (1990) reported that even at Grade 1 students who were offered more help by the teacher were perceived by other students as being lower in ability while students who received less help were perceived as being higher in ability. Babad (1990b; Babad, 1995) has reported similar results. In his investigations both students and teachers reported that low ability students received more instructional help and had less pressure put on them than high ability students. Such differentiation provided students with messages about their expected achievement.

In an experimental study Graham (1984) described how teachers' emotional responses might also provide students with information about the teachers' expectations for their achievement. When students did not complete a task if the experimenter expressed mild anger the students interpreted this as meaning that they had not put in enough effort. If the experimenter expressed sympathy or pity the students interpreted this as meaning that they lacked the ability to complete the task. In this latter scenario Graham (1984) reported that the students then had lower expectations for their future success.

Student Characteristics in the Interpretation of Teacher Expectations

Individual student characteristics both personal and demographic may also mediate teacher expectations. Not all students will respond equally to the same treatment nor interpret the same behaviour in exactly the same way. The personal characteristics that may be salient include students' self-perceptions which will be discussed in the next section. There are also demographic criteria such as the ethnicity, age and gender of the student that may contribute to the students' perceptions and interpretations of their teachers' expectations for their academic achievement. Of these the age of the student is relevant to the current investigation and hence will be included in the following discussion.

Self-perceptions and motivation.

Children are likely to develop perceptions of their own abilities and capabilities based on the interactions they have with their teachers, their peers and their parents. Within the classroom such self-expectations and perceptions may evolve from both the proximal and distal behaviours of their teachers and the students' interpretation of such behaviours. Such self-perceptions once established tend to be stable over time (Assor & Connell, 1992; Cillessen & Bellmore, 1999).

A number of researchers have conducted empirical research which has shown a relationship between student self-perceptions and academic achievement (Assor & Connell, 1992; Hay, Ashman, & Van Kraayenoord, 1998; Licht, 1992; Lynch, 2002; Priel & Leshem, 1990; Skaalvik, Valans, & Sletta, 1994; Wigfield et al., 1991). Lynch (2002) examined this relationship in reading. Students aged eight and nine years completed a reading self-perception survey as well as a reading test. The researcher reported a significant relationship between the children's reader self-perceptions and their reading achievement. Hay et al. (1998) compared students whose overall self-concept as determined by the SDQ-1 (Marsh, 1990) was either significantly above or below the 85th and 15th percentiles respectively. These researchers also reported a relationship between academic achievement in reading, mathematics and spelling and the students' self-concepts. Moreover interviews with the teachers of these students showed a significant relationship between the teachers' expectations for their students future performance and the students' self-concepts. The research in this area is equivocal, however. In a meta-analysis conducted by Hansford and Hattie (1982) the researchers found only a small correlation of .21 between student self-ratings and performance measures.

Differential teacher proximal and distal behaviours have been cited earlier as indicating teacher expectations and contributing to student performance. What is the evidence though that such behaviours influence student self-perceptions? In one study (Simonson & Strein, 1997) the researchers surveyed 168 five year olds in 31 classrooms. They also observed teacher interactions with individual students. Only praise and criticism were recorded. They reported that teachers did not praise students with higher self-perceptions more than those with lower self-perceptions. They also found, though, that these young students were not accurate in their reporting of how frequently they were praised by their teachers. Weinstein (1989) also established that very young students were not as accurate as

older students in recognising their teachers' expectations or in being able to identify differential behaviour. It is possible that the self-perceptions of older students may be more affected by teacher praise and criticism. Praise and criticism did not appear to relate to changes in students' self-perceptions even though teachers did criticise low achievers more often than high achievers. The researchers reported that the frequency with which teachers praised students related to their instructional style rather than to their perceptions of students' abilities. It is possible that were self-perceptions to be investigated in relation to teacher-style, along with a wider range of interactions, that effects on student perceptions may be found.

Bear and Minke (1996) surveyed students who were a little older (Grade Three) than those in the above study using the Self-Perception Profile for Children (Harter, 1985) and then interviewed a group of them to ascertain why the students had high or low self-perceptions. They found that the most salient contributor to these children's ideas about their abilities was teacher feedback. The students used both teacher comments and the grades they were given to determine their perceptions. Again it is possible that particular types of teachers will contribute more or less positively to these self-evaluations.

Age of the student.

Age has been found to have an effect on student self-perceptions. Marsh, Craven and Debus (1991) found that students as young as five years old had multidimensional self-concepts and thus could differentiate their perceived abilities in, for example, reading, mathematics, physical skills and social skills. Nevertheless most researchers agree that younger students tend to have self-perceptions that are significantly above where their teachers will rate their abilities and that students become increasingly more adept at making accurate judgements of their abilities as they advance through elementary school (Harter &

Connell, 1984; Kuklinski & Weinstein, 2001; Licht, 1992; Schunk, 1992; Weinstein & McKown, 1998; Wigfield et al., 1991; Wigfield et al., 1997; Wigfield & Harold, 1992).

Wigfield and Harold (1992) conducted a longitudinal study over three years in which they assessed the self-perceptions of almost 900 students each year in mathematics, reading, computer, music, sports, social activities and general self-esteem. In the initial year the students were in kindergarten, Grade One or Grade Three. They assessed both the students' perceptions of their ability in each domain as well as their valuing of each activity. The researchers reported that for all activity domains other than sport the younger students had more positive perceptions than the older students. They also found that as the students advanced through elementary school their perceptions of their ability decreased and they came to value some academic activities less. Wigfield and Harold (1992) further reported that the relationship between teachers' beliefs and students' perceptions were greater for mathematics, reading and sports than they were in the other domains which suggested that teachers' expectations may influence student beliefs in some areas more than in others. The researchers also found that as they had predicted there was an increase in the relationship between the teachers' beliefs and the students' perceptions as the students moved through the grades.

Student Perception Summary

Student perceptions have been described as mediating teacher expectations although whether teachers' expectations mediate student perceptions or student perceptions influence teacher expectations remains unclear. It is likely that the relationship is dynamic rather than dichotomous. Weinstein and her colleagues (1987; Weinstein, 1985, 1989; Weinstein et al., 1982; Weinstein & McKown, 1998) have been leading researchers in this area and have documented the effect that teacher expectations have on student perceptions of their ability. Such effects are particularly salient in the classrooms of high differentiating teachers. The

perception of teachers as caring and interested in their students has also been found to mediate student perceptions. At times low expectation students report that their teachers hold negative views of their abilities which may affect the effort that is expended on academic tasks. Significant correlations have been found between student self-perceptions and teachers' expectations particularly among students above their first year of school.

Integrating Components of Teacher Expectation Research

The current research aims to integrate several aspects of the teacher expectation research into one investigation. Hence teacher beliefs, the uniform expectations that teachers may hold for their classes, the socioemotional climate in which teacher expectations are portrayed, the ways in which teachers interact with their classes and the students' own perceptions of their abilities will be investigated in the studies which follow. The model presented by the author in an early section of the literature review included many aspects of the teacher expectation research previously identified as being important. This new model, however, also identified several aspects of teacher expectations not fully considered in previous research, particularly within the framework of one investigation. The sections of the literature review which followed the presentation of the model aimed to provide a critical review of the literature related to the propositions that emerged from the model, propositions that have not previously been fully investigated. Hence the five research propositions form the foundation for the current research and are designed to contribute new knowledge to the teacher expectation area.

The first proposition is that some teachers will have uniformly high or low expectations for their classes and this may result in differential outcomes for their students overall. The claim is that rather than considering individual student-teacher interactions (e.g. some teachers have varying expectations for different types of students), it is more likely that some teachers may be classified as having overall high and low expectations – and that these

expectations affect all students in their classes. Study One is designed to discover firstly if there are teachers who do have uniformly high or low expectations for their classes and secondly to examine the outcomes for students in the classrooms of these types of teachers if they can be identified.

The second proposition of the thesis is that teacher expectations will mediate the effects between the classroom climate and student outcomes. This proposition will be addressed in Study Two which will include an analysis of the behaviour management practices and support for student learning observed in the classrooms of teachers who have uniformly high versus low expectations for their students.

The third proposition of this thesis is that the instructional behaviours of teachers with uniformly high expectations for their students and those of teachers who have uniformly low expectations for their students will differ. This proposition will be examined in Study Two which will include an analysis of teacher instructional practices for the two types of teachers identified above. If differentiation in instructional practices is found this may enable some specific teacher instructional behaviours to be identified which may contribute to differential learning outcomes for students.

The fourth proposition of the thesis is that the beliefs that teachers with uniformly high and low expectations have about how learning should be delivered to students may differ, and that this may contribute to differential learning opportunities being provided to the students. Low ability students are one group for whom teachers may have low expectations and who may be vulnerable to such expectations (Madon, Jussim, & Eccles, 1997). Furthermore Brophy (1985) said, “The high expectation students are the high achievers and the low expectation students are the low achievers.” The fourth proposition will be addressed in the third study which will consider how some teacher pedagogical beliefs might result in

differential learning opportunities for high and low ability students when placed with teachers who have correspondingly high or low expectations for their learning.

The final proposition of the thesis is that high or low expectation teachers' attitudes and practices may affect student academic self-perceptions. These effects could be mediated by differing teacher interactions with the class and a differing socioemotional classroom climate. This proposition will be examined in the final study of the thesis which compares the self-perceptions of students at the beginning and end of one year when placed with teachers who have uniformly high or low expectations for the achievement of their classes.

CHAPTER THREE

STUDY ONE: EXPLORING THE EXPECTATIONS THAT TEACHERS HAVE FOR THEIR STUDENTS

Study One was planned to investigate the relationship between teachers' expectations for their students' achievement and students' actual achievement in reading and physical skills. Uniform teacher expectations for their classes of students were to be the focus of the current study as these had not been previously investigated but had been identified in earlier research (Brophy, 1985) as possibly having implications for student achievement. It was predicted that some teachers would have uniformly high or low expectations for their classes and that a relationship may be found between teacher expectations and student achievement. The research question for this study was: What are the achievement outcomes for classes of students whose teachers have uniformly differing expectations for their learning?

Method

Participants

The participants in this study were 21 practising primary school teachers from 12 different schools working in the Auckland area. These teachers completed assessments on 585 students at the beginning of the year. By the end of the year 517 students remained in their original classrooms. The schools were deliberately selected to represent the full range of socioeconomic levels with five schools representing lower socioeconomic areas (deciles one to five), and seven schools representing higher socioeconomic areas (deciles six to ten). Length of teaching service, gender, ethnicity and class level taught were also considered to ensure a representative cross-section.

The mean number of years of completed teaching service was 12.9 years, with a range from 0 years to 31 years of service. Ten participants identified as New Zealand European (Pakeha), two as Maori, three as Pacific Island, two as Indian South African and four as from other European nations (three from England and one from the Netherlands). Three of the participants were male, the remainder female. Ten of the participating teachers taught at the junior level (Year One and/or Two) while eleven taught at the senior level (Year Five and/or Six). Twelve of the participating teachers taught in high socioeconomic schools while nine taught in low socioeconomic schools.

Settings

The participants completed surveys at the beginning and end of 2001. The survey related to the teachers' expectations for their students' achievement in two curriculum areas. These surveys were conducted on either a school computer or on one supplied by the researcher. The teachers were released from their classroom responsibilities by the researcher while they completed the surveys in a quiet, uninterrupted school environment.

Materials

Surveys.

In March 2001, one month after school began, teachers completed the initial curriculum expectation survey which asked them to rate their expectations for their students' achievement at the end of the year in reading and physical skills. A seven-point Likert scale was used at both time-periods following the guidelines of Blatchford et al. (1989). The gradations were as follows: 1 = very much below average, 2 = moderately below average, 3 = slightly below average, 4 = average, 5 = slightly above average, 6 = moderately above average, 7 = very much above average. In order to ensure some consistency in teachers' perceptions of what constituted each of these relative positions, definitions of each were

provided in terms of the New Zealand curriculum documents. All teachers in New Zealand are expected to use these documents as a foundation for their planning and teaching. Each document has achievement objectives which relate to eight levels of increasing difficulty and complexity for students from junior primary classes through to senior high school students. Students considered to be average ability would normally complete one curriculum level every two years although because students learn at different rates there may be children working at different levels within one class (Ministry of Education, 1999, p.13). This would mean, for example, that an average Year 5 student would be beginning Level Three at the beginning of their year in that class. Hence, for children in Year 5 at the beginning of the year the definitions were: 1 = I would expect this child to be about half way or less through the work at Level 2 of the curriculum by the end of this year; 2 = I would expect this child to be almost completing the work at Level 2 of the curriculum; 3 = I would expect this child to be beginning the work at Level 3 of the curriculum by the end of this year; 4 = I would expect this child to have almost completed half the work at Level 3 of the curriculum by the end of this year; 5 = I would expect this child to have completed half the work at Level 3 of the curriculum by the end of this year; 6 = I would expect this child to have completed the work from the curriculum at Level 3 by the end of this year; 7 = I would expect this child to be working at level 4 of the curriculum by the end of this year. Hence, the definition related to '4' on the 1-7 scale was the expected norm.

The surveys were all entered onto a floppy disk using the Smartadata program (Davies, 2001) and all surveys were completed via a computer. There were several advantages for both teachers and the researcher in using this program rather than more traditional paper and pencil surveys. The surveys were contained on a single floppy disk; the program did not need loading so there was no time taken in installation; once the class names had been entered into the computer for the initial survey they did not have to be re-entered

later in the year, they automatically appeared thus saving the teachers time; and the program enabled continual viewing of the definitions for each category so teachers were constantly aware of the criteria for their decisions. As each number was entered the corresponding description appeared which further reinforced and confirmed teachers' decisions. The program automatically saved data with each keystroke and moved onto the next category and then next child. The program would not allow teachers to enter anything outside the 1-7 scale. Teachers had to complete the surveys in a set order, i.e. they completed each child for reading and physical skills before moving on to the next child. The program did not allow teachers to move on without completing each child for the surveys although teachers could move back to check or change decisions once a child was complete. Once the floppy disk was completed the researcher could place it into her computer which automatically loaded all the data into a database. In this way any error rate that may have occurred through traditional data entry procedures was eliminated.

Both paper versions of the surveys and various shots of the program screens may be found in Appendix B.

Achievement data.

Permission was gained from school principals as well as the classroom teachers for the researcher to have access to school records showing student achievement in reading and physical skills at the end of 2000 as well as throughout 2001.

Running records.

All the teachers in the current study were in schools where running records were conducted. In New Zealand almost all primary schools require teachers to conduct running records on their students for reading at regular intervals. Running records enable teachers to meticulously record a child's oral reading behaviours using a set of carefully developed

procedures and conventions. Once the running record has been completed the teacher then analyses the student's reading behaviours to facilitate their teaching and the child's learning (Ministry of Education, 2000, p.4). In most schools running records are conducted on a regular basis to ensure that every child's instructional level is current and accurate. The researcher collected results of running records in March and December for all classes. The results collected in March for all children were those which had been given to the teachers by the previous classroom teacher. The running record results collected in December were conducted by the individual teachers on their own classes. In order to enable a parallel comparison with the teacher surveys of whether students were below average, average or above average all running record reading ages were converted to the 1-7 scale outlined above (1 = very much below average, 2 = moderately below average, 3 = slightly below average, 4 = average, 5 = slightly above average, 6 = moderately above average, 7 = very much above average), again in accordance with the expectations in the curriculum levels.

Physical skills' tests.

In New Zealand there are no standardised tests available to test the physical skills of primary school children. The author had designed such a test several years ago that was published by the Advisory Services (Rubie, 1995) and still is in use in some primary schools in Auckland. This test was based on some examples of possible subtests included in a Department of Education handbook (Russell, Isaac, & Wilson, 1988). Further exploration of research into the components of overseas tests used to identify physical skills revealed the common components of: endurance, power, strength, speed, agility, coordination and flexibility (Henderson, 1992; Preising, 1989; Woodman, 1985). Of these Henderson and Sugden's Battery (1992) was designed to be used with children with physical disabilities. The remaining authors did not provide specific tests; they discussed the necessary components of such tests. The only aspect missing from the author's former test was

flexibility. A flexibilimeter was obtained to assess each student's flexibility. For this assessment a subject sits on the ground with legs outstretched and feet flat against the flexibilimeter and leans forward with arms outstretched as far as possible along the measurement instrument. The flexibilimeter measures how many centimetres a subject can reach while leaning forward. The footrest in front of the box is at 27cm so any score above that indicates how far a student can reach beyond their feet. Hence the children's physical skills were assessed using eight separate subtests: endurance run, softball throw, astride jumps, rebounding ball, hang, block transfer, balance, and sit and reach. Together these subtests provided a measure of a subject's overall physical skills and individually each test enabled specific aspects of physical skills to be assessed.

The endurance run measures cardiovascular endurance by determining how long it takes a student to run 600 metres (Years 5 and 6) or 300 metres (Years 1 and 2) in minutes and seconds. The softball throw measures coordination and power by determining how far a subject can throw a softball in metres and centimetres. Astride jumps provides a measure of coordination and speed by determining how many astride jumps a subject can complete in 30 seconds. Rebounding ball also measures speed and coordination by determining how many times a subject can throw a large ball against a wall and catch it in one minute. The hang measures upper body strength by determining how long a subject can hang from a bar (recorded in seconds). Block transfer provides a measure of speed and agility. It involves a subject running from an empty hoop to a hoop ten metres away containing four blocks. One block is picked up and transferred back to the empty hoop. This is continued until all the blocks have been transferred. Results are recorded in seconds. The balance provides a measure of the subject's balance by determining how long a subject can balance on one leg with eyes closed (recorded in seconds). Finally the sit and reach assesses a subject's

flexibility according to how many centimetres a subject can reach forward. A copy of the Physical Skills Test and instructions for administrators is included in Appendix C.

Procedure

Before the survey was administered this was shown to one junior and two senior primary teachers to ensure that all language and definitions were clear. As a result of this a minor change was made to the end-of-year definitions in relation to the curriculum documents for the junior classes. Teachers were readily able to understand and interpret all the statements and instructions in the questionnaires.

In order to determine teacher preferences for paper and pencil versions of the survey or the Smartadata form (Davies, 2001), a sample of ten teachers with varying degrees of computer proficiency were given the survey to complete on both a computer as well as with paper and pencil. All teachers were given instruction on using the Smartadata program in a group situation and were given time to ask questions. Two of these teachers were given additional instruction. After completing the surveys the teachers were then asked which they preferred. They unanimously favoured the computer version. Further there were no differences in the results from the teachers' completion of the written and computer versions of the surveys and so it was decided to use only this format for the current research.

Once the principals of participating schools had granted permission, the individual teachers who had agreed to be a part of this research were approached in late February of 2001 and shown the paper version of the questionnaire. (Copies of the participant information sheets and consent forms used in this study may be found in Appendix A.) The questionnaire was explained to the teachers and a time in weeks three or four of March 2001 was made for them to complete the survey during school time. Surveys were conducted in late March to allow teachers time to become familiar with their students and so form their

own expectations for the children's achievement. The surveys required the teachers to complete individual assessments on each participating student for reading and physical skills.

It was made clear to the teachers that the actual survey would be completed on a computer. For teachers who expressed any concerns extra time was allowed for instruction in the use of the program. On the day teachers were to complete their survey the researcher ensured each teacher was thoroughly familiar with what was expected and that each teacher was confident with the program before leaving them to complete the survey. No teachers reported any difficulties. The teachers completed the survey while the researcher and her assistants took the respective classes for the physical skills tests.

Permission for children to be part of the research was gained with the teachers involved sending participant information sheets home and then gathering in the consent forms. The children also signed assent forms (see Appendix A). Of the prospective subjects, ($n = 587$) two parents requested that their children not be included. No additional children requested exemption from participation.

The end-of-year physical skills tests and survey were conducted in November of 2001 in the same fashion as at the beginning of the year with the teachers completing the survey while the researcher and her assistants took the students for the physical skills tests.

Because there were eight physical skills tests to be completed for every child in each class, the students were divided into seven groups for each testing session. The examiner for astride jumps also assessed the flexibility test at the same time. The researcher recruited 12 Bachelor of Education (Teaching) student teachers completing their final year of pre-service teacher education as examiners. One training session was conducted at the beginning of March (with one class of students from a different school to those used in this study) to ensure that the student teachers were thoroughly familiar with the examination procedure for each test. Opportunities were allowed throughout this session for the student teachers to have any

queries answered. A trial run was conducted with a group of eight children from a Year 5 and 6 class in a local school two days later to further ensure the competence of the examiners before the actual testing began. As far as possible a core group of six student teachers and the researcher conducted the testing at each location. Each student teacher had a substitute person they could call on if they were unable to attend a particular session. Each examiner (or their substitute) conducted the same test at each location to help to ensure consistency of examining. A refresher session was conducted with the same 12 student teachers in October before beginning testing in November to ensure renewed familiarity with the testing procedures. Organisation of the examiners was the same for the end of the year as it had been at the beginning of the year. Inclement weather at the beginning of the year meant that testing was not completed for all classes. This meant that for four classes a complete data set was not collected for all physical skills tests at the beginning of the year. Hence analyses requiring this data set have been conducted for 17 teachers.

The physical skills subtests each have specific skills that they assess and hence it is not appropriate to perform an internal reliability analysis across all subtests. There are four of these tests, however, that measure coordination along with another skill. These are the softball throw, astride jumps, rebounding ball and block transfer. The scores for block transfer were reversed since a lesser time meant greater success. The reliability across these four factors at Time 1 (beginning of year) and Time 2 (end of year) was acceptable (Time 1, $\alpha = .77$; Time 2, $\alpha = .72$). The scores for these four variables were then converted to z-scores for Time 1 and Time 2 since the types of measures varied. The correlation between Time 1 and Time 2 was $r = .84$.

When conducting the analyses it was decided to use only the results of the above four subtests as well as endurance run. Considering that the teachers do not have available a standardised measure for physical skills they would have to assess children's ability in this

area from observations during physical education, fitness, sport and possibly during interval in the playground. It was considered that teachers would have far less opportunity to observe children's ability in balance, flexibility and hanging from a bar than they would have to observe their agility, speed, ability to throw and catch a ball, coordination and endurance since all these latter skills are frequently included in school physical activities whereas the former are infrequently included.

The results for the remaining five subtests were converted to z-scores for each age group with those for endurance run and block transfer being reversed since for both these a lower score meant better achievement. These scores were totalled and then converted to a one to seven scale (1 = very much below average, 2 = moderately below average, 3 = slightly below average, 4 = average, 5 = slightly above average, 6 = moderately above average, 7 = very much above average) in line with the teacher's surveys. The frequency of z-scores was calculated and then as closely as possible for Times One and Two for each year level these were matched to a normal distribution curve. The resulting histograms may be found in Appendix D. The one to seven scores which represented student ability in physical activity could then be analysed as outlined in the analysis section.

Statistical Analysis

The analyses for the research question for this study were addressed by using a repeated measures analysis of variance (ANOVA) to compare teacher expectations and student achievement over time across all teachers. Hence teacher expectations for end of year achievement, and actual beginning and end of year achievement formed the three data collection points across time and the teachers were the independent variable. Where comparisons for individual teachers were required further repeated measures ANOVAs were conducted by splitting the file by teacher number. All analyses were performed using SPSS

10.1 (SPSS, 2000). Analyses were conducted for both reading and physical skills. A Bonferroni adjustment of $p < .025$ for multiple comparisons was applied.

Results and Discussion

The Differences Between Teacher Expectations and Children's Learning Achievement in Reading and Physical Skills

Teacher expectation for end of year achievement, student achievement at beginning of year, student achievement at end of year in reading.

Table 1 shows that student reading achievement at the beginning of the year was below the average of four on the 1-7 Likert scale. On the other hand both teacher expectation for end of year achievement (surveyed at the beginning of the year) and actual end of year achievement were above the average of four. Table 2 reveals that there was a significant linear difference shown between these repeated measures, $F (1,20) = 175.82$, $p < .001$, $d = .32$. The overall difference in scores was further examined using pairwise comparisons across each test period. All differences were statistically significant as can be seen from Table 3.

Table 1

Means and Standard Deviations for Beginning of Year Achievement, Teacher Expectations
for End of Year Achievement and End of Year Achievement in Reading for All Teachers

	Mean	sd
Reading Achievement (Beginning of Year) (No. = 585)	3.92	1.75
Teacher Expectation for End of Year Achievement (No. = 552)	4.32	1.70
Reading Achievement (End of Year) (No. = 556)	4.50	1.83

Table 2:

Summary of Repeated Measures Results for Beginning of Year Achievement, Teacher Expectations for End of Year Achievement and End of Year Achievement in Reading (Time) for All Teachers (Group)

Source	Sum of Squares	df	Mean Square	F	p
Time	93.85	1	93.85	175.82	< .001
Time* Group	93.95	20	4.70	8.80	< .001
Error (Time)	261.55	490	.53		

Table 3:

Significance Levels of Pairwise Comparisons for Beginning of Year Achievement, Teacher Expectations for End of Year Achievement and End of Year Achievement in Reading

	End of Year Expectation	End of Year Achievement
Beginning of Year	$p < .001$	$p < .001$
Achievement		
End of Year Expectation		$p < .005$

A close examination of the means in Table 1 shows that teachers expected their students to be performing above their relative beginning of year achievement by the end of the year and that the students' actual end of year relative achievement was even higher than the teachers had anticipated. All these differences were significant. This particular group of teachers appear to have had high expectations for their students and the students made better than normative progress in reading over the year. This was above what the teachers had anticipated.

Was there any variation for individual teachers though? The teacher expectation literature has generally reported the results for the overall group of teachers participating in the particular study (Arabsolghar & Elkins, 2001; Babad, 1998; Brophy, 1982b; Cooper et al., 1985; Eccles & Wigfield, 1985; Good, 1987; Good & Brophy, 2000; Jussim et al., 1998; Rosenthal, 1991). This may overshadow the judgements of individual teachers. The observational literature in the expectancy area of research has frequently reported differences in proximal interactions for individual teachers and it is those differences that are considered to be important, and to show the expectancy construct in operation. Hence it was thought important in the current study to more closely examine the effects for individual teachers. An inspection of Table 2 shows that there was a significant interaction over time between the teachers and the measures indicating that the teachers varied in their changes over time, $F(1,20) = 8.80, p < .001$. Further analyses were conducted to determine where the differences lay and appeared to show four separate groups of teachers. The mean scores and standard deviations for these groups are presented in Tables 4,5,6,7 and Figures 2,3,4,5 are line graphs indicating the patterns for each group of teachers. The mean scores and standard deviations for each group of teachers will be presented below along with the corresponding line graph for each group.

Table 4 presents the mean scores and standard deviations for six teachers whose expectations for their students' end of year achievement in reading were significantly above the students' beginning of year achievement ($p < .001$ for all teachers), and whose students made statistically significant achievement gains over the year (range $p < .001$ to $p < .004$). Figure 2 provides a visual representation of these means. These teachers had expectations that were significantly above their students beginning of year performance and their students made statistically significant gains over the year.

Table 4:

Means and Standard Deviations for Teachers Whose Expectations for End of Year Achievement Were Significantly above Beginning of Year Achievement in Reading and Whose Students Made Statistically Significant Gains in Achievement From Beginning to End of Year

Teacher Number	Teacher expectation for end of year			Actual achievement beginning of year			Actual achievement end of year		
	No.	Mn	sd	No.	Mn	sd	No.	Mn	sd
3	23	2.91	1.44	27	1.85	.91	23	3.48	2.33
9	29	5.00	1.63	31	3.74	1.95	28	4.89	1.81
10	28	4.79	1.03	26	1.96	1.04	26	2.77	1.18
17	25	5.68	1.11	26	4.00	1.63	25	6.20	1.32
18	30	6.03	.85	30	5.13	1.22	30	6.37	.62
19	25	4.00	.91	25	2.72	.79	24	3.67	.76

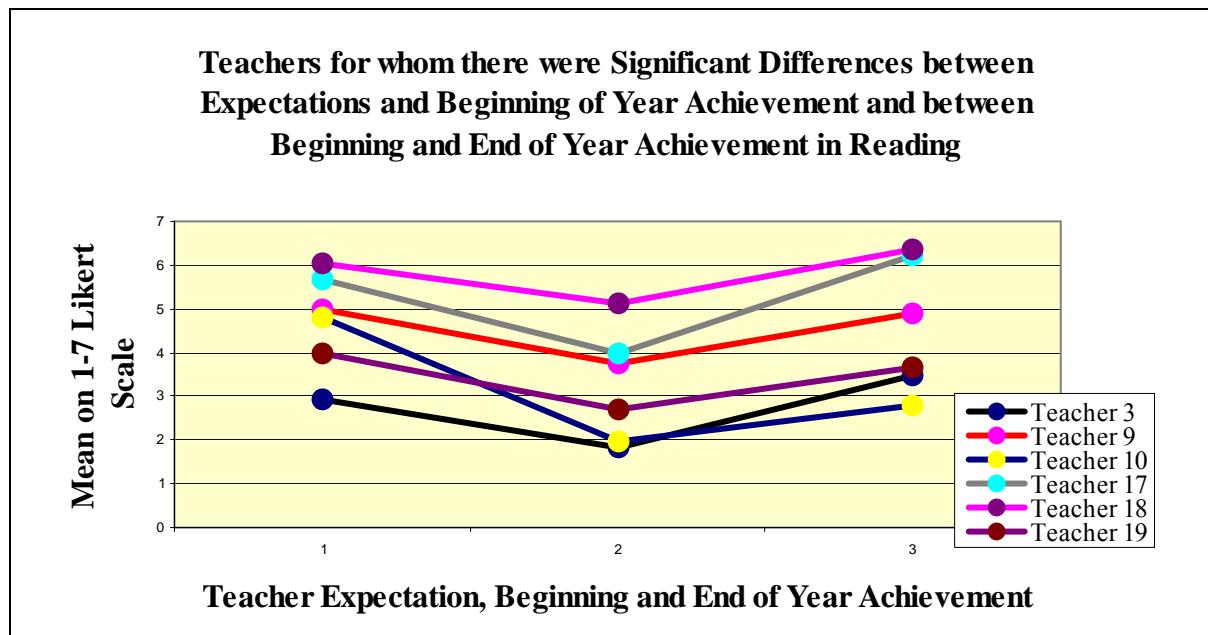


Figure 2. Teachers whose expectations in reading were significantly above student achievement at beginning of year and whose students made statistically significant achievement gains between the beginning of the year and the end of the year

Table 5 presents the mean scores and standard deviations for a further group of teachers whose expectations for their students' end of year achievement in reading were significantly different from their students' beginning of year achievement (range $p < .001$ to $p < .009$) and end of year achievement (range $p < .001$ to $p < .02$). The students of these teachers, however, did not make statistically significant achievement gains over the year (range $p < .09$ to $p < 1.00$). Figure 3 provides a visual representation of these means. These teachers had expectations that were significantly above or below their students' beginning of year performance and their students did not make statistically significant gains over the year.

Table 5:

Means and Standard Deviations for Teachers Whose Expectations for End of Year Achievement Were Significantly Above or Below Beginning of Year Achievement in Reading and Whose Students Did Not Make Statistically Significant Gains in Achievement From Beginning to End of Year

Teacher Number	Teacher expectation for end of year			Actual achievement beginning of year			Actual achievement end of year		
	No.	Mn	sd	No.	Mn	sd	No.	Mn	sd
5	26	4.73	1.25	30	3.37	1.27	26	3.81	1.27
6	32	4.78	1.01	33	3.64	.82	31	3.90	2.04
11	24	2.88	.68	27	4.07	1.80	27	4.04	1.43
13	30	3.37	1.19	35	5.03	1.52	35	4.97	1.47
14	27	1.11	.32	27	3.48	1.28	27	3.78	1.67
16	25	5.28	1.62	26	4.58	1.58	26	4.46	1.56

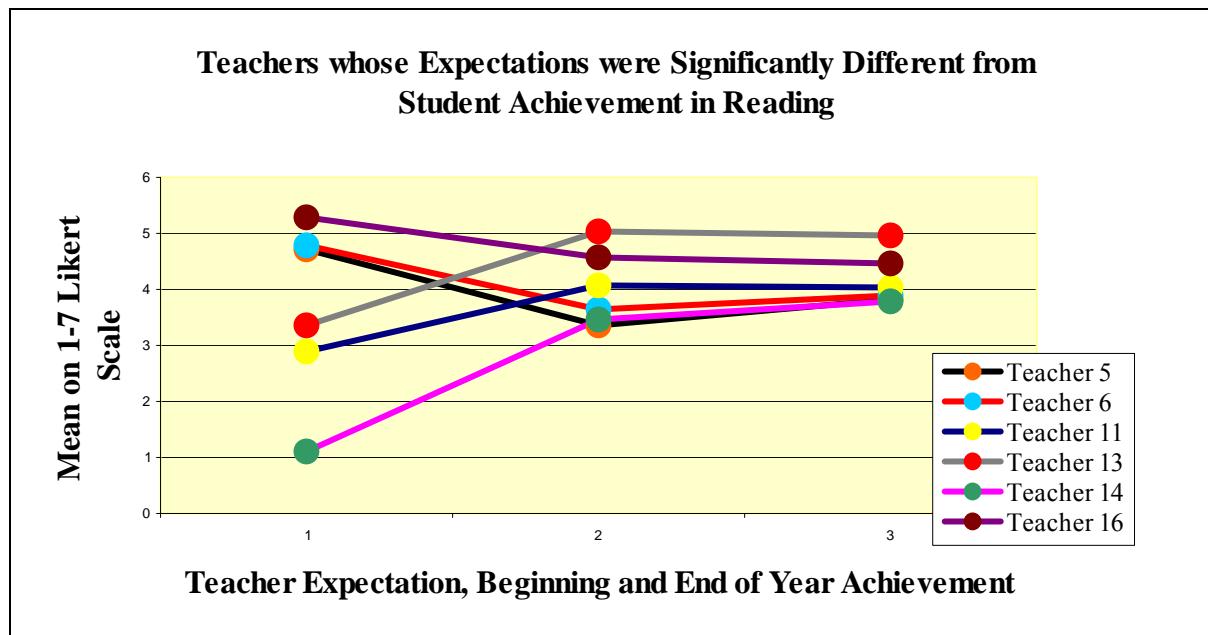


Figure 3. Teachers whose expectations in reading were significantly above or below student achievement at beginning of year and whose students did not make statistically significant achievement gains over the year

Table 6 contains the means and standard deviations for a further group of teachers where either there was a statistically significant difference between the students' beginning and end of year achievement in reading (Teachers 7, 8, 15 (range $p < .001$ to $p < .02$)) or between expectations for their students' end of year achievement in reading and the students' actual end of year achievement (Teacher 4 ($p < .003$) and Teacher 15 ($p < .001$)). Figure 4 provides a visual representation of these means. None of these teachers had expectations for their students' achievement that were significantly different from the students' achievement at the beginning of the year (range $p < .09$ to $p < 1.00$) but some of the classes of students did make significant achievement gains in reading over the year.

Table 6:

Means and Standard Deviations in Reading for Teachers Whose Students Made Statistically Significant Gains in Achievement From Beginning of Year to End of Year or Whose Expectations for End of Year Achievement Were Significantly Below End of Year Achievement

Teacher Number	Teacher expectation for end of year			Actual achievement beginning of year			Actual achievement end of year		
	No.	Mn	sd	No.	Mn	sd	No.	Mn	sd
4	30	4.43	1.50	27	4.67	1.94	27	5.00	2.08
7	16	5.37	1.89	24	5.13	1.90	24	5.87	1.57
8	13	4.92	1.32	19	4.58	1.77	20	5.60	1.73
15	22	4.36	1.40	22	4.05	1.29	21	5.14	1.11

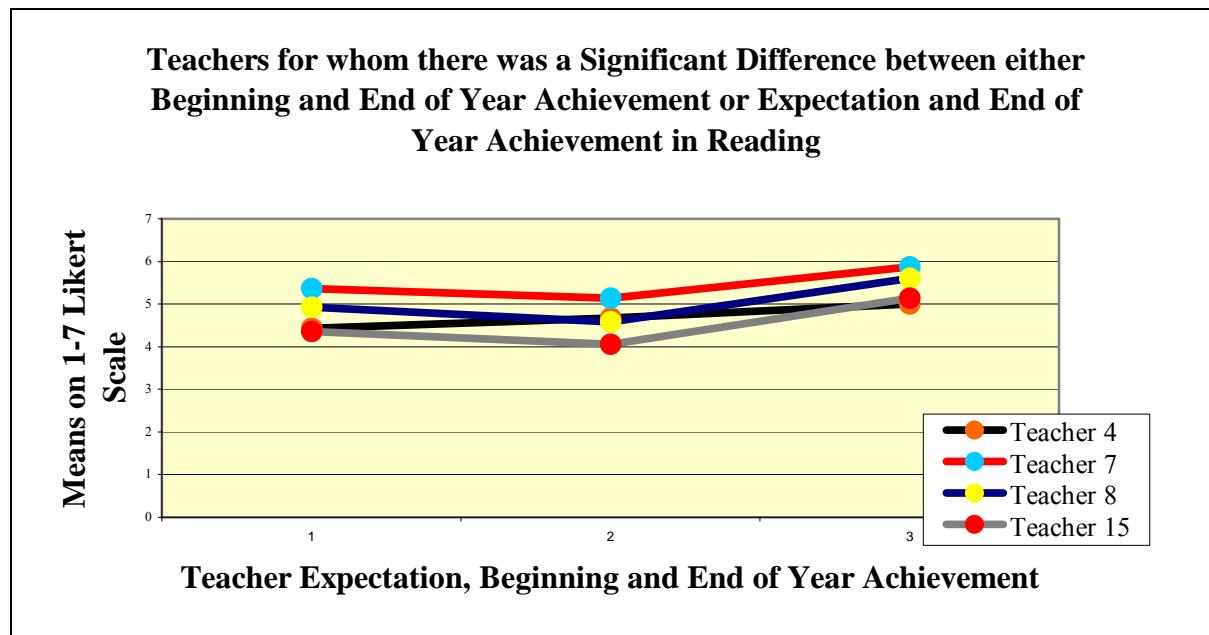


Figure 4. Teachers whose students made statistically significant gains in achievement in reading from beginning of year to end of year or whose students made statistically significant achievement gains by the end of the year that were above the teachers' expectations

The final group of teachers (Teachers 1, 2, 12, 20, 21) were those for whom there were no statistically significant differences between any of the data collection points. The means and standard deviations for this group of teachers are presented in Table 7 and Figure 5 is a line graph showing that there were no changes over the year in reading in the classrooms of these teachers. For the teachers in this group their students' achievement in reading remained at similar relative levels throughout the year and the teachers' expectations matched the student achievement.

Table 7:

Means and Standard Deviations for Teachers Where No Statistically Significant Differences Were Found Across Any of the Data Collection Points

Teacher Number	Teacher expectation for end of year			Actual achievement beginning of year			Actual achievement end of year		
	No.	Mn	sd	No.	Mn	sd	No.	Mn	sd
1	28	4.61	2.35	27	4.33	2.04	27	4.70	1.92
2	24	3.42	1.50	25	2.92	1.00	26	3.08	1.32
12	25	3.80	1.08	29	3.07	1.58	26	3.31	1.62
20	26	4.23	1.03	25	4.32	1.65	28	4.61	1.57
21	30	4.77	1.76	30	4.93	1.60	29	4.79	1.68

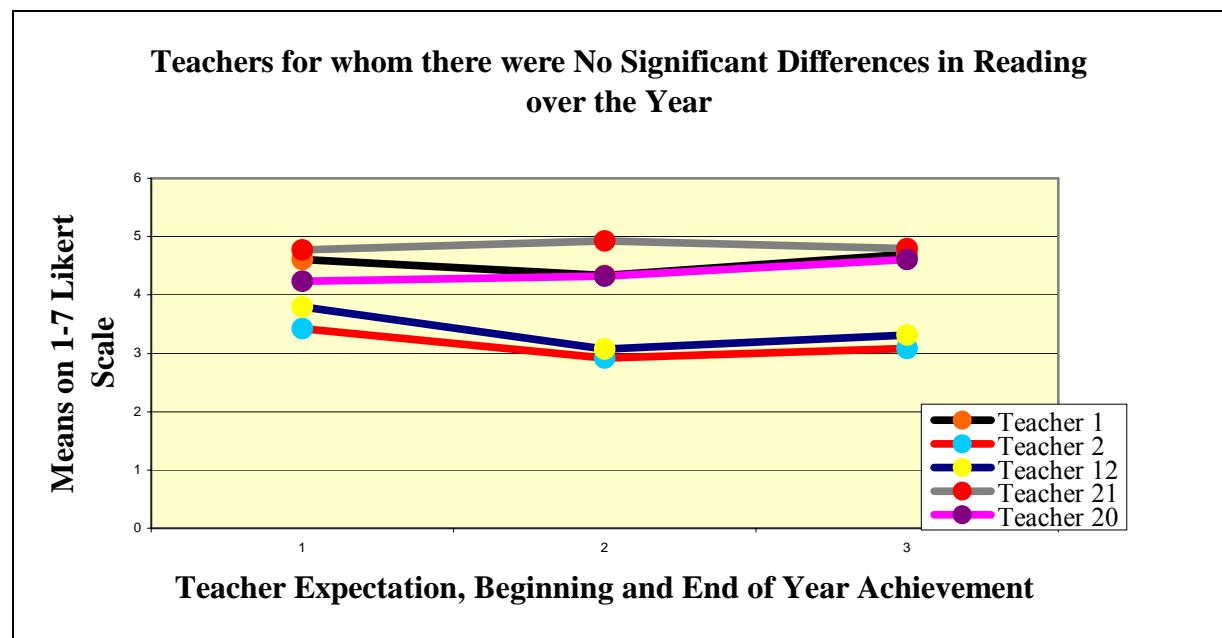


Figure 5. Teachers where no statistically significant differences were found across any of the data collection points in reading

By examining Figure 2 it can be seen that the patterns over the year between teacher expectations and student achievement at the beginning and end of the year are similar for all the teachers in this group. These teachers all have expectations in reading at the beginning of the year that are significantly above their students' actual achievement at the beginning of the year and by the end of the year the students in the classes of these six teachers have made statistically significant achievement gains.

On the other hand when Figure 3 is inspected carefully it is evident that there appear to be two groups with three teachers in each whose expectations are divergent. All the teachers represented in Table 5 and Figure 3 had expectations in reading that were significantly different from the students' achievement at the beginning of the year. For Teachers 5, 6 and 16, however, their expectations were significantly above their students' performance at the beginning of the year while for Teachers 11, 13 and 14 their expectations were significantly below their students' beginning of year achievement in reading. The students in the classrooms of all six teachers included in Table 5 and Figure 3 did not make statistically significant achievement gains in reading over the year of the current study.

Tables 6 and 7, and Figures 4 and 5 include teachers who did not have expectations for their students' achievement in reading that were significantly above the students' performance at the beginning of the year and so the line graphs in Figures 4 and 5 are more similar to each other than they are to those in Figures 2 and 3 which show quite clear differences between the teachers' expectations and student achievement.

It was decided, therefore, to more closely examine the three groups of teachers identified from Tables 4 and 5 and from Figures 2 and 3. For the purposes of further analysis the teachers included in Figures 2 (Teachers 3, 9, 10, 17, 18, 19) will be called the "high expectation teachers". The teachers in Figure 3 were divided into the two groups identified previously. Those whose expectations in reading were significantly above their students'

performance but whose students did not make significant gains (Teachers 5, 6, 16) will be called the “average progress teachers” and those teachers whose expectations were significantly below their students’ achievement in reading (Teachers 11, 13, 14) will be called the “low expectation teachers.”

Mean effect size gains were calculated between student achievement at the beginning and end of the year in reading for all teachers. Figure 6 shows that the effect size gains for the six high expectation teachers are all in the upper portion of the graph. In contrast the students of the low expectation teachers made the least gains of any group. The students of the average progress teachers fell between the high and low expectation teachers. Figure 6 shows that for the high expectation teachers all mean effect gains are above 0.6 (range is $d = .61$ to 1.49) while for the low expectation teachers all gains are below 0.2 (range is $d = -.04$ to $.20$). For the average progress teachers the range is $-.07$ to $.35$.

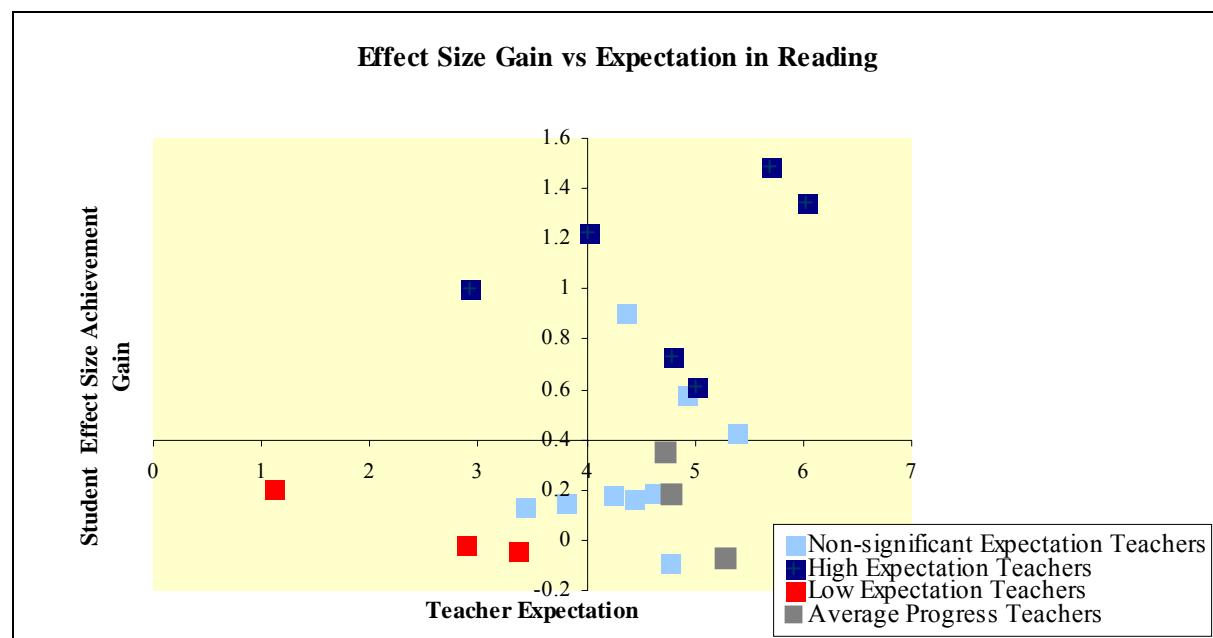


Figure 6. Mean effect size achievement gains in reading over one year for students with high expectation teachers, average progress teachers, low expectation teachers and all other teachers.

Summary.

While the numbers of teachers in each of these three groups are small nevertheless the results seem to provide some evidence that for the high expectation teachers their students do achieve at significantly higher levels by the end of the year in reading than might have been predicted, while for the teachers whose expectations are low, their students do not make significant progress over the year. This is also true of the average progress teachers. The differences in effect size gains for the students of the high expectation teachers in reading versus the other two small groups of teachers were marked.

Teacher expectation for end of year achievement, student achievement at beginning of year, student achievement at end of year in physical skills.

As for the analyses for reading, the analyses for physical skills were addressed by using a repeated measures analysis of variance (ANOVA) to compare teacher expectations and student achievement over time across all teachers. Hence teacher expectations for end of year achievement in physical skills, and actual beginning and end of year achievement formed the three data collection points across time and the teachers were the independent variable. Where comparisons for individual teachers were required further repeated measures ANOVAs were conducted by splitting the file by teacher number. All analyses were performed using SPSS 10.1 (SPSS, 2000). The analyses in the following sections represent data for 17 teachers as explained in the methodology section.

The mean scores and standard deviations for the analysis for all teachers (group) are presented in Table 8. As for reading, we would expect the means to be close to four as this was “average” on the 1-7 Likert scale. Table 8 does show that the means for teacher expectation, and student achievement at beginning and end of year do approximate four for physical skills. Table 9 further reveals that there was no significant linear difference shown between these repeated measures. Closer examination of Table 9 shows that there was a

significant interaction over time between the teachers and the measures indicating that the teachers varied in their changes over time, $F(1,16) = 2.72$, $p < .001$. The difference in scores across teachers was further examined using pairwise comparisons across each test period. A Bonferroni adjustment for multiple comparisons of $p < .025$ was applied. There were significant differences overall between teachers' expectations and achievement in physical skills as can be seen from Table 10. There was no significant difference between beginning of year achievement in physical skills and end of year achievement in physical skills, however. It can be seen from Table 8 that teachers' expectations for student achievement were significantly above actual student performance although student achievement did not differ significantly from the beginning of the year to the end of the year in physical skills. This group of teachers appeared to have high expectations for their students' improvement in physical skills but this progress was not realised.

Table 8

Means and Standard Deviations for Beginning of Year Achievement, Teacher Expectations for End of Year Achievement and End of Year Achievement in Physical Skills for All Teachers

	Mean	sd
Physical Skills Achievement (Beginning of Year) (No. = 585)	4.04	1.46
Teacher Expectation for End of Year Achievement (No. = 552)	4.46	1.55
Physical Skills Achievement (End of Year) (No. = 556)	3.99	1.59

Table 9:

Summary of Repeated Measures Results for Beginning of Year Achievement, Teacher Expectations for End of Year Achievement and End of Year Achievement in Physical Skills for All Teachers

Source	Sum of Squares	df	Mean Square	F	p
Time	1.68	1	1.68	1.81	.18
Time* Teacher	40.39	16	2.52	2.72	< .001
Error (Time)	245.61	265	.927		

Table 10:

Pairwise Comparisons for Beginning of Year Achievement, Teacher Expectations for End of Year Achievement and End of Year Achievement in Physical Skills

	Expectation for End of Year	End of Year Achievement
Beginning of Year	$p < .001$	$p = .539$
Achievement		
Expectation for End of Year		$p < .001$

Again it was decided to examine the results for individual teachers in order to more closely explore any differences. Further analyses were conducted to determine where the differences lay and this time three separate groups of teachers were identified. These were teachers whose expectations were significantly above student achievement, teachers whose expectations were below beginning of year achievement (though not always significantly so) and teachers whose expectations were above student achievement but were not significantly different from student performance. The mean scores and standard deviations for these groups are presented in Tables 11, 12, 13 and Figures 7, 8, 9 are line graphs indicating the patterns for each group of teachers. The mean scores and standard deviations for each group of teachers will be presented below along with the corresponding line graph for each group.

Table 11 presents the means and standard deviations for six teachers whose expectations for their students' end of year achievement in physical skills were significantly above their students' beginning of year achievement (range $p < .001$ to $p < .01$). For four of this group of teachers (Teachers 1, 2, 16, 18) their expectations were also significantly above the end of year students' performance (range $p < .01$ to $p < .001$). Figure 7 is a line graph

representing the means for this analysis and does show a similar pattern across the teachers in this group. The graph shows that the means for student achievement are similar at the beginning and the end of the year. Student achievement in physical skills improved significantly in only one class over the year (Teacher 7, $p < .001$). These teachers had expectations that were significantly above their students' achievement at the beginning of the year but these expectations were realised in only one classroom.

Table 11:

Means and Standard Deviations for Teachers Whose Expectations Were Significantly Above Beginning of Year Achievement in Physical Skills

Teacher Number	Teacher expectation for end of year			Actual achievement beginning of year			Actual achievement end of year		
	No.	Mn	sd	No.	Mn	sd	No.	Mn	sd
1	28	4.93	1.61	23	4.00	1.41	25	4.04	1.40
2	24	4.96	1.16	17	3.65	1.54	23	3.65	1.72
7	16	5.56	1.26	16	2.17	1.47	21	3.90	1.87
10	28	4.36	.83	27	3.0	1.4	27	4.00	1.39
16	25	5.68	.90	22	3.77	1.51	26	3.54	1.45
18	30	6.70	.47	30	4.73	1.08	27	4.52	1.28

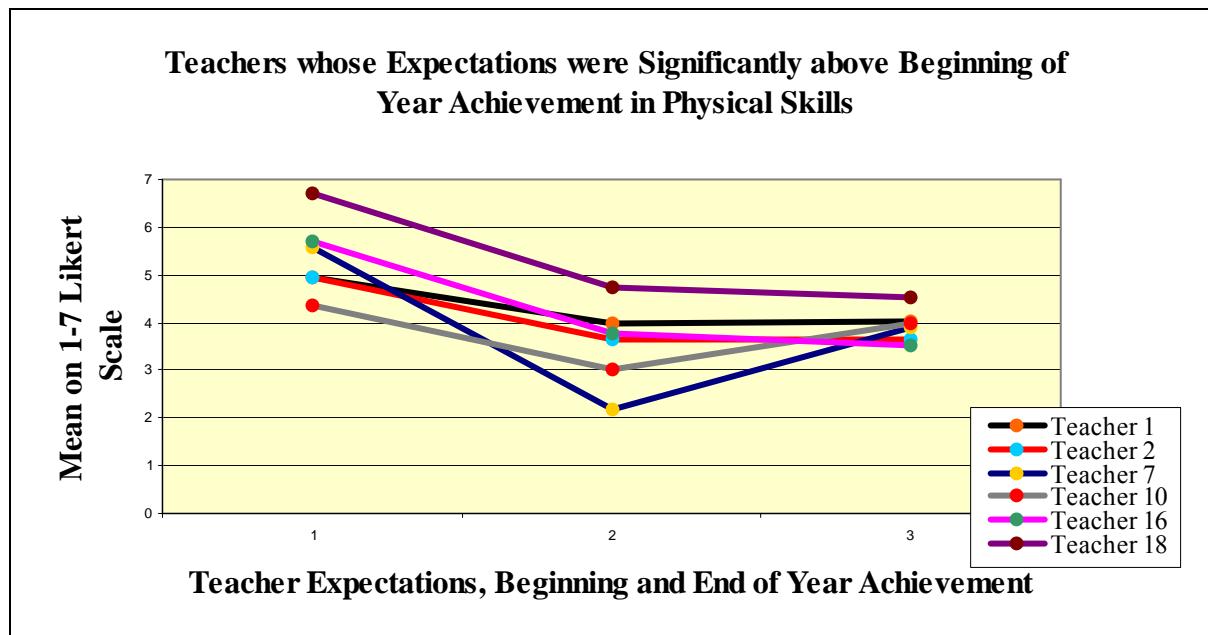


Figure 7. Teachers whose expectations in physical skills for their students' achievement by the end of the year were significantly above their students' beginning of year achievement

Table 12 presents the mean scores and standard deviations for a further group of teachers whose mean scores for their expectations for their students' end of year achievement in physical skills were below the students' actual achievement (Teachers 13, 14, 19). The difference between expectations and beginning of year achievement was statistically significant for Teacher 14 ($p < .001$) while for Teachers 13 ($p < .09$) and 19 ($p = 1.00$) their expectations were not significantly different from their students' beginning of year achievement. In terms of achievement, the performance of the students with Teacher 13 declined significantly over the year ($p < .02$) while that of the students in the other two classes remained the same ($p = 1.00$). Figure 8 provides a visual representation of these means. One of these teachers had expectations that were significantly below their students' beginning of year performance in physical skills and their students did not make statistically significant gains over the year. In another class the achievement of the students in physical skills declined significantly over the year.

Table 12:

Means and Standard Deviations for Teachers Whose Expectations Were Below Beginning of Year Achievement in Physical Skills

Teacher Number	Teacher expectation for end of year			Actual achievement beginning of year			Actual achievement end of year		
	No.	Mn	sd	No.	Mn	sd	No.	Mn	sd
13	30	2.93	.83	28	3.46	1.45	31	3.06	1.26
14	27	1.00	.00	22	3.41	1.01	22	3.45	1.14
19	25	4.00	1.00	24	4.46	1.50	28	3.86	1.72

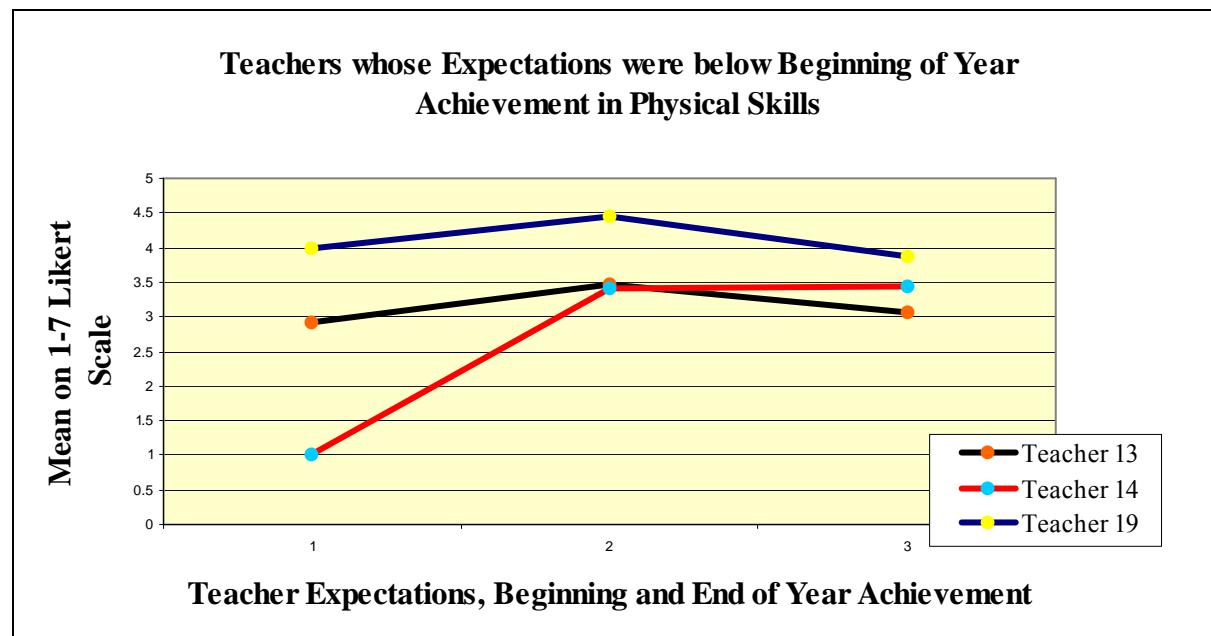


Figure 8. Teachers whose expectations in physical skills for student end of year achievement were below student beginning of year achievement

The final group of teachers (Teachers 3, 4, 6, 8, 15, 17, 20, 21) were those for whom there were no statistically significant differences between any of the data collection points. The means and standard deviations for this group of teachers are presented in Table 13 and Figure 9 is a line graph showing that there were no changes in physical skills over the year in the classrooms of these teachers. In interpreting Figure 9 it is important to note that the y-axis has a limited range (3 to 5.5) to allow for easier visual discrimination of teachers. For the teachers in this group their students' achievement remained at similar relative levels throughout the year and the teachers' expectations matched the student achievement.

Table 13

Means and Standard Deviations for Teachers Where No Statistically Significant Differences Were Found in Physical Skills Across Any of the Data Collection Points

Teacher Number	Teacher expectation for end of year			Actual achievement beginning of year			Actual achievement end of year		
	No.	Mn	sd	No.	Mn	sd	No.	Mn	sd
3	23	4.13	1.79	20	3.70	1.75	21	4.10	1.58
4	30	5.03	1.33	19	4.21	1.23	25	3.80	1.76
6	32	4.75	.72	30	3.90	1.52	24	4.79	1.14
8	13	4.62	.96	10	4.30	1.34	21	3.19	1.29
15	22	4.55	1.62	20	3.55	1.23	22	4.09	1.48
17	25	5.28	.61	23	4.78	1.00	24	4.13	1.78
20	26	4.62	.70	24	4.33	1.69	26	3.77	1.82
21	30	4.20	1.35	21	3.95	1.43	28	4.25	1.60

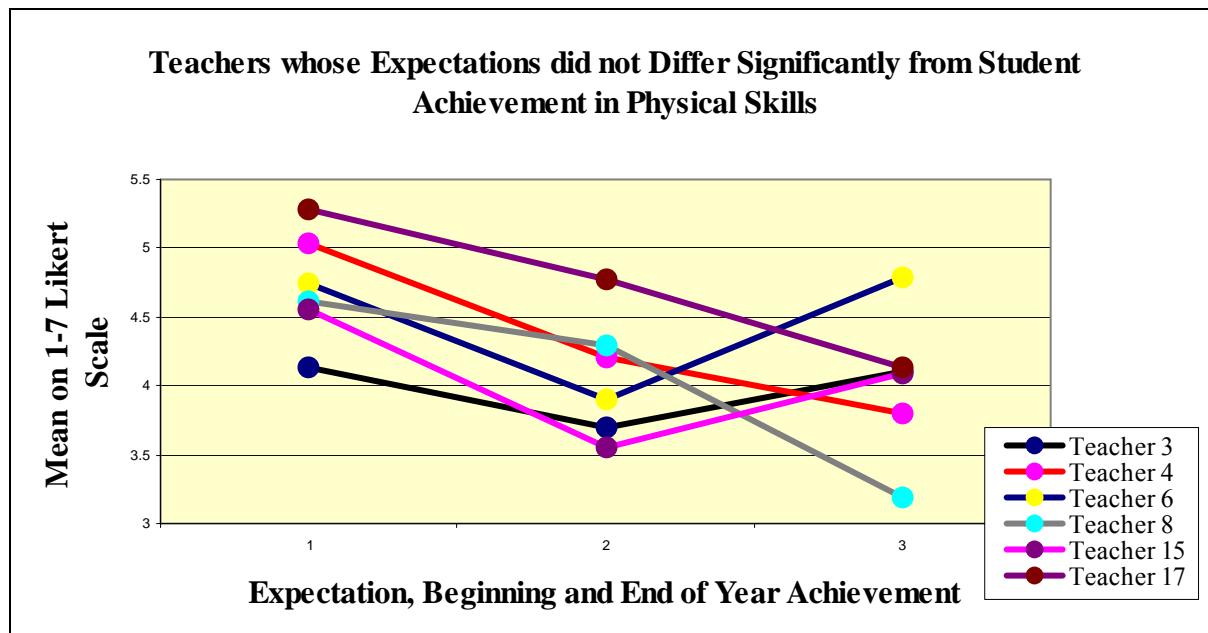


Figure 9. Teachers for whom there were no statistically significant differences found across any of the data collection points in physical skills

Summary.

There was a significant gain in achievement over the year in physical skills for the students of only one teacher. This teacher had high expectations for her students' achievement. In contrast there was one teacher who had significantly low expectations for her students and her students did not make significant progress over the year. There was one further class in which the achievement of the students declined significantly over the year. The expectations of this teacher for her students were not significantly below the children's beginning of year achievement, however ($p < .09$).

Conclusions to Study One

The research question for the current study was: What are the achievement outcomes for classes of students whose teachers have differing expectations for their learning? This

question will be addressed in the following paragraphs in relation to the results for the current study. Additional findings will also be discussed.

The results of the current study appear to show that where teachers have high expectations in reading and in physical skills, in some of these classes the students make significant achievement gains over the year. In contrast where teacher expectations are low in both reading and physical skills the children in those classes do not make significant achievement gains over the year. It seems that where teachers' expectations for their classes are significantly different from students' achievement that this may have a self-fulfilling prophecy effect (positive or negative) on student outcomes. This finding is further enhanced in that in most of the classes where the teachers' expectations do not differ significantly from their students' achievement the students do not make significant achievement gains. It would appear that in these classes there is a sustaining expectation effect operating. Some researchers (Brophy, 1989; Good & Brophy, 2000; Jussim et al., 1998) have suggested that teachers' expectations are generally accurate. It would seem from the current study, however, that it is the teachers whose expectations are inaccurate (significantly higher or lower than achievement) whose students make alternatively the most or the least achievement gains.

In the current study there was one teacher who had expectations for her students in physical skills that were significantly below the students' achievement and there was another whose students' achievement declined significantly over the year. These two teachers are two of the three identified in the reading section as having low expectations for their students. The third low expectation teacher in reading was one of the teachers for whom a full data set was not obtained for the initial testing in physical skills. In contrast of the six teachers who were identified as the high expectation teachers in reading, only two had high expectations for their students' achievement in physical skills and the students did not make significant learning gains. It may be that uniformly low expectations for classes are more pervasive

across curriculum areas than high expectations. High expectations have previously been aligned with high teaching self-efficacy (Brouwers & Tomic, 2000; Tschannen-Moran & Hoy, 2001; Warren, 2002). Teachers with high self-efficacy are confident they can make a difference to student achievement but the level of self-efficacy may vary across curriculum areas depending on the teachers' confidence in and knowledge about specific curriculum areas. This may be why the teachers who have high expectations for their students in reading do not necessarily have the same high expectations in another curriculum area, particularly physical skills which arguably is taught less well than reading in New Zealand.

One finding that was important in the current study was that some teachers did appear to have uniformly high or low expectations for their students and that student achievement in some of these classes (particularly those of the low expectation teachers) appeared to be affected. As discussed in the literature review most previous research has reported modest mean effects for teacher expectations of around 0.3 (Brophy, 1998; Jussim et al., 1998; Smith, 1980). In the current research the overall effect size gain was 0.46 for reading, a similar level to that reported by Pellegrini and Blatchford (2000b). Previous research has looked at the effect sizes for the whole group of teachers. When high and low expectation teachers were separated out in the current study in reading the effect size gains for their students were quite distinctly different ranging from 0.61 to 1.49 for the students with the high expectation teachers and -0.04 to 0.20 for the low expectation teachers. By separating out the individual teachers in the current study a greater understanding of the impact of uniformly high and low expectations for student achievement has been gained.

There were some teachers, though, who had high expectations for their students' achievement and yet these were not realised. It may be that it is not simply teacher expectations that result in dramatic or lesser gains in student achievement but the ways in which these are enacted in the classroom. Study Two will investigate the ways in which the

high expectation, average progress and low expectation teachers interact with their students in the classroom. This may help to determine whether there are different interactional patterns among these groups of teachers. If these are found this may contribute to further understanding of the process of teacher expectations and their impact on student learning.

CHAPTER FOUR

STUDY TWO: THE CLASSROOM INTERACTIONS OF HIGH AND LOW EXPECTATION TEACHERS

Study Two was designed to explore the classroom verbal interactions of the high and low expectation, and average progress teachers identified in the previous study. Given that both the high expectation and average progress teachers both had high expectations for their students and yet only the students of the former teachers made significant progress in their reading achievement over the year of the current study it was thought that the ways in which teachers interact with their students in the classroom may also contribute to their students' achievement rather than expectations alone. Hence the ways in which expectations are enacted may be important when teachers have uniform expectations for their classes. It was predicted that should this be so that differences would be found between the interactions of high expectation, average progress and low expectation teachers with their students that may account to some extent for the differential achievement of their students. Hence the research question for this study was: Do teachers who have uniformly differing expectations for their students interact differently with the children in their classes?

Method

Participants

The participants in this study were 12 practising primary school teachers from eight different schools working in the Auckland area. The teachers were identified in the previous study as having expectations for their students' learning that were either significantly above or significantly below the children's level of achievement at the beginning of 2001. These 12 teachers formed three groups: six teachers whose expectations for end of year performance

were significantly above their students' level of achievement at the beginning of 2001 and whose students made statistically significant achievement gains over the year in reading (mean effect size gains were .61, .73, 1.01, 1.23, 1.35, 1.49) and herein after called the high expectation teachers (HiEx Group); three teachers whose expectations were significantly above their students' level of achievement at the beginning of 2001 but whose students did not make statistically significant achievement gains over the year in reading (mean effect size gains were -.07, .18, .35) and called the average progress teachers (AvPr Group); and three teachers whose expectations were significantly below their students' level of achievement at the beginning of 2001 and whose students made no or small achievement gains over the year in reading (mean effect size gains were -.02, -.04, .20) and herein after called the low expectation teachers (LoEx Group). The table below (Table 14) provides details of the teachers in each group. Deciles one to five schools represent lower socioeconomic areas and are termed low while deciles six to ten schools represent higher socioeconomic areas and are termed high. For class level those teaching years one and two are termed junior while those teaching years five and six students are termed senior. Students in the junior classes will mostly be five or six years of age while those in the senior classes will mostly be nine or 10 years of age. Teaching service is in completed years. Ethnicity shows the following nationalities with abbreviations in brackets: New Zealand European (NZ), Maori (M), Pacific Island (PI), Other European (E).

Table 14:

Demographic Details for High and Low Expectation, and Average Progress TeachersIncluded in the Current Study

Teacher No.	Group	Decile	Class	Teaching Level	Ethnicity	Gender
				Service		
3	HiEx	Low	Junior	25	NZ	F
9	HiEx	High	Senior	1	NZ	F
10	HiEx	High	Junior	5	NZ	F
17	HiEx	High	Junior	7	NZ	F
18	HiEx	High	Senior	6	M	F
19	HiEx	Low	Junior	25	NZ	F
5	AvPr	Low	Junior	22	PI	F
6	AvPr	Low	Senior	18	PI	F
16	AvPr	High	Senior	20	NZ	F
11	LoEx	Low	Senior	4	M	M
13	LoEx	High	Senior	8	E	F
14	LoEx	High	Junior	7	NZ	F

Settings

The participants were observed on two separate occasions in 2001, once during the middle of the academic year (June or July) and once later in the academic year (September or October) while they taught three lessons on each occasion (one in reading, one in mathematics and one in physical education). Two people observed each lesson. In order to ensure that interactions were observed over a consistent time period in each lesson only the first thirty

minutes of each lesson was observed and recorded. Most physical education lessons were 30 minutes in duration while reading and mathematics lessons were longer. Hence in total three hours of instruction were coded and recorded for each teacher.

Materials

Observation schedule.

The researcher and one of her supervisors designed the observation schedule. The final schedule which may be found in Appendix E was based on previous research of the supervisor which required classroom observations (Bond, Smith, Baker, & Hattie, 2000). This schedule required one observer (Observer One) to complete a running record of the lesson in progress. Observer One was asked to record as much of the classroom activity and interaction as possible. The focus was to be on the teacher and Observer One was asked to record exactly what the teacher said and did throughout each lesson. She was also asked to tape record each lesson so that the tape could be reviewed later and any missing information included. At the same time the other observer (Observer Two) completed a structured observation protocol. Observer Two was asked to observe for one minute and then spend the next minute recording the most important event that had occurred during that minute related to teacher questioning, feedback or classroom management. She was also asked to record instances of off-task behaviour that she observed. The researcher later coded the information gathered.

Procedure

The researcher recruited four observers to conduct all the classroom observations. These observers were student teachers in the final year of their training in the Bachelor of Education (Teaching) degree who were familiar with conducting classroom observations. They were told only that the researcher was interested in the interactions of teachers with their

students in the classroom. They were not told the main focus of the research or the designation (low expectation, average progress, high expectation) of the teacher. Student teachers were used as observers rather than the researcher completing them as it was felt that teachers would feel less intimidated by having student teachers observe them and would thus be less likely to alter their classroom behaviour than they would with the researcher present. The researcher used two videos of classroom mathematics lessons (recorded earlier in 2001) to train the observers in the use of the observation protocol. Firstly the observation schedule was discussed and the observers given the opportunity to have any queries clarified. The first video was watched, paused at intervals and the ways that the interactions would be recorded were discussed. Again any queries were answered. The observers then watched the second video over a ten-minute period and recorded their observations using the schedule supplied. The researcher also completed an observation schedule. The results were then compared and discussed. This procedure was repeated until there was an agreement rate between all observers and the researcher of above 97%. After the first training session the videos were made available to the observers so that they could gain further practice with all procedures and protocols before visiting schools. Once the observations of all participants had been completed for the first time there was a follow-up training session to ensure that the inter-rater reliability remained above 97%. The observers worked in pairs throughout their observations with the same pairs observing the same teachers on both occasions. The same person completed the running record or the observation protocol on each occasion.

As the observations were completed the researcher was given the tape recording and the written recording of each observation. This further ensured that the observations were being recorded as the researcher required. The researcher reviewed each tape recording and completed any missing information. In this way a full transcription of each lesson was achieved and the researcher was able to monitor consistency and reliability.

Data Collection

Once all lessons had been transcribed the researcher was able to use the transcriptions to assess agreement with the coding of the second observers. There were few disagreements. These mostly only occurred where the observer considered a comment to be a reactive management strategy and the researcher had coded this as being preventive. An agreement rate above 97% was achieved across all observations. There were few nonverbal interactions recorded during the observations and hence these were eliminated from the analysis. Coding sheets were then refined to further tease out the data gathered by the observers. Statements were classified as to whether they were directed to the class or a whole group by the teacher, or to an individual.

Given that the focus of the current study was verbal teacher interactions and that the researcher was interested in the interactions of high and low expectation, and average progress teachers, the lesson feedback, teacher comments and teacher questions (rather than the procedural and management feedback) were divided into further categories to allow closer analysis of the data. Using the class lists available to the researcher each interaction with an individual (procedural, management or learning related) was classified. The lesson feedback was divided into praise, criticism and feedback. The learning statements made by the teacher to a group or the class were classified as orientation/focus, prior knowledge or learning experiences, recording, demonstration or modelling, explanation or instruction, modification, other positive, other negative. The questions related to learning that the teacher directed to individuals, a group or the class were divided into open or closed questions. Where the teacher responded to an answer from an individual the type of response was recorded according to whether the answer was correct, incorrect or the child did not know the answer. Where the answer was correct and the teacher responded the response was coded as: praise, feedback, further questioning, repeating or rephrasing the child's answer, or the teacher

providing further explanation. Where the answer was incorrect and followed by a teacher response this was coded as praise, rephrasing the question, moving to another child, repeating the incorrect answer, or the teacher supplying or explaining what the correct response should be. Where the answer was unknown and followed by a teacher response this was coded as praise, rephrasing the question, moving to another child, providing support to the child or the teacher supplying or explaining what the response should be. The coding sheets are provided in Appendix F. A definition of each category, with examples from the observed lessons, follows.

Teaching a concept or idea.

This included interactions where the teacher directly involved an individual child in the learning through a question or through directly teaching a concept. Examples included: “There’s always two if it’s a speech mark, Roderick;” and “What number is showing please, Phoenix?” and “What’s the formula for finding area, Celine?” and “Show me the line of symmetry in this design, Hokianga.” Some of the learning interactions with the teacher were negative. Examples are: “No, you don’t do it like that. You should know that by now;” and “Okay, this is Wiremu; (teacher demonstrates) don’t do that, always look forward.”

The teachers taught a concept or an idea in various ways. They often made statements to orientate the students to the concept or idea or to refocus their attention on this. An example is: “This story is called ‘Homespun.’ With that title what do you think it is going to be about?” At times teachers referred children to prior knowledge or previous learning experiences. An example is: “Who can tell me about symmetry, from the other day?” Recording was a method used by teachers to remind students of the main points of their learning or to remind them of their tasks. Teachers would provide these on the white board for students to refer to while they were working. Similarly some teachers not only talked about a concept or idea some also demonstrated this. This was particularly true in physical

education. A further example was when the students in one class were reading a story about spinning and the teacher brought in a spinning wheel which the students learnt to use. The most common interaction with the students was an explanation of a concept or idea or instructions about how to complete a learning procedure or activity. Examples included: "They use bamboo to make furniture in some countries;" and "Balancing the ball on your left hand like that, close you fist up, palm up, like that and toss the ball up." Occasionally modifications to the original lesson were observed. This was indicated by a comment such as: "Oh, didn't we count in twos on the calculator before? Okay we'll do that first then." Learning comments, or statements that could not be readily coded into one of the above categories were placed in the 'other' group.

Learning questions.

These were questions related to the concepts or ideas the teacher was teaching. Other questions were not included in these categories. The questions were divided into open and closed questions. An example of an open question was: "What do you think a noodle head might be?" An example of a closed question was: "What's the Milky Way?"

The researcher was interested in what teachers did once students had answered a question. Hence further codings were made depending on whether or not the students answered the question correctly, incorrectly or did not know the answer.

Criticism, praise, feedback.

Criticism included negative statements criticising either a child, or a group or the class as a whole. At times these were personal comments. An example of individual criticism was: "Look, he hasn't got his ears in the right place." An example of class criticism was: "You're not in the zoo so you don't have to sound like a herd of animals."

Praise included positive statements to an individual, a group or the class that did not also have a learning, procedural or management statement added or included. For example: “You are fabulous;” and “Gosh you guys are amazing.” Feedback only included statements that told students about their learning related to the task. Examples included: “Go, Hannah. Nice speed. Good jump. The faster you sprint when you jump the further you will get in your jump;” and “Lovely way he said ‘screamed’. It sounded like screaming without yelling it out;” and “Well done; it was quite a long story but you listened really well and worked out what a noodle head might be.”

Management.

Management statements related to student behaviour, either that of a group or the class, or that of an individual student. These were further classified according to whether they were preventive comments (statements designed to prevent inappropriate behaviour) or reactive comments (statements made by the teacher in response to a particular behaviour). Examples of positive preventive comments included: “What lovely quiet girls over there and these boys down here;” and “I’m going to see who the best group is.”

Examples of negative preventive comments included: “Any more noise from you lot and you’ll be in at lunchtime;” and “I really don’t want to go out to PE and I might not.”

Examples of positive reactive comments included: “Ah, that red table you’re remembering your quiet voices;” and “Well done, red table,” (said when several other students were noisy) and “I love those people who can wait patiently without making a noise.” Examples of negative reactive comments included: “Ah, Alexander, I’m really not happy, not at all;” and “Okay, you have just lost your lunchtime.”

Procedures.

Procedures related to classroom routines and management of the environment. They often reflected the ways students were expected to work and behave in the classroom. The teacher expressed them as either a statement or a question. Positive procedural comments included: "When you get your piece of paper tiptoe quietly to your desk;" and "Take a book and pass them around;" and "I'm looking for people with their hands up."

Negative procedural comments included: "You know the rules, no talking;" and "Sit down...Don't be last;" and "No, you're not listening to the instructions."

Once all responses had been coded into the interaction tables (Appendix F) those that were not originally coded as such by the observers (i.e. the breakdown of teaching responses, questioning and follow-up, criticism, praise and feedback) were checked again by two of the observers. Each was given the respective audio tapes, their original coding sheets, the transcription for each lesson and some blank interaction tables on which to independently code the teaching responses, the breakdown of questions and teacher responses following, and the criticism, praise, feedback categories. An agreement rate of 94 percent was reached which was acceptable. Discrepancies were discussed and resolved. In two instances where disagreements could not be worked out the researcher accepted the coding of the observers.

Statistical Analysis

The analyses for this study related to teacher interactions with students were conducted using one-way analyses of variance (ANOVAs) to determine any statistically significant differences between the high expectation teachers, the average progress teachers and the low expectation teachers. Where these were found between groups further post hoc tests were used to establish where the differences lay. A Bonferroni adjustment of .05 was applied. All the analyses were performed using SPSS 10.1 (2000).

Results and Discussion

The Classroom Interactions of High Expectation Teachers, Average Progress Teachers and Low Expectation Teachers

Frequencies of types of interactions were analysed using a one-way analysis of variance for groups (ANOVA). As outlined above, high expectation/ high progress teachers formed the HiEx Group, high expectation/average progress teachers formed the AvPr Group and low expectation teachers formed the LoEx Group. Analyses were conducted for instructional interactions and questioning, feedback, behavioural management interactions and procedural interactions.

Teaching a Concept or Idea

Teacher interactions while instructing students were divided into focus, prior knowledge, recording, demonstration, explanation, modification, and other positive and negative. Only those where there was a statistically significant difference will be reported. They were focus, prior knowledge, recording, explanation and modification.

Orientation and focus statements made by the teachers while instructing students were analysed across all teacher groups in reading, mathematics and physical education. There was a statistically significant difference for reading ($F(2,21) = 4.35, p < .03$), for mathematics ($F(2,21) = 4.84, p < .02$) and for physical education ($F(2,21) = 4.05, p < .03$). In all instances the differences were between HiEx and LoEx Groups (for reading $p < .02$, for mathematics $p < .02$ and for physical education $p < .03$). Table 15 shows that the mean number of statements focusing the students on the concept or idea being taught, was greater for the HiEx Group than for the LoEx Group in all three curriculum areas.

Statements made by the teachers which referred to prior learning experiences or prior knowledge were also analysed across all teacher groups for reading, mathematics and physical

education. There was a statistically significant difference for reading ($F(2,21) = 6.50, p < .006$) and for physical education ($F(2,21) = 7.96, p < .003$). In reading there was a statistically significant difference between the HiEx and LoEx Groups ($p < .007$) while in physical education there was a statistically significant difference between the HiEx Group and both other groups ($p < .01$ for both groups). Once again the mean number of interactions for the HiEx Group was greater than that for the other groups in all cases (see Table 15). It is worth noting that in physical education the mean number of statements related to prior knowledge or learning experiences was small for the HiEx Group (1.75) and there were no such statements for the AvPr and LoEx Groups.

A one-way ANOVA was used to analyse any differences between teacher groups for recording student responses or important ideas on a whiteboard in reading, mathematics and physical education. A statistically significant difference between the three teacher groups was shown in mathematics ($F(2,21) = 4.95, p < .02$). There was a statistically significant difference between the HiEx and LoEx Groups ($p < .02$). The means as shown in Table 15 revealed that that for the HiEx Group was higher than that for the LoEx Group.

Differences between teacher groups for the mean number of explanations or learning related instructions that teachers gave during their lessons in reading, mathematics and physical education were also analysed. A statistically significant difference was found between the three teacher groups in reading ($F(2,21) = 4.78, p < .02$). This was between the AvPr and LoEx Groups ($p < .03$). The difference between the HiEx and LoEx Group approached significance ($p < .06$). In this instance the means for the HiEx and AvPr Groups were higher than that for the LoEx Group (see Table 15).

A one-way ANOVA was used to analyse any differences between teacher groups for the mean number of modifications made to the lessons in reading, mathematics and physical education. A statistically significant difference between the three teacher groups was shown

in reading ($F(2,21) = 4.20, p < .03$). When a post hoc test was carried out, however, no differences between groups were shown (Table 15). This is probably because the mean number of modifications to lessons observed in reading was low (0.67) while the teachers in the AvPr and LoEx Groups made no observable modifications to their reading lessons.

Table 15:

Mean Number of Instructional Statements for HiEx, AvPr and LoEx Groups of Teachers Across Two Lessons in Reading, Mathematics and Physical Education

		Reading		Mathematics		Physical Education	
		Mean	sd	Mean	sd	Mean	sd
Focus/ Orientation	HiEx Group (No. = 6)	23.00	10.81	22.17	12.45	13.75	8.60
	AvPr Group (No. = 3)	17.17	8.68	21.33	6.77	9.83	1.47
	LoEx Group (No. = 3)	8.33	9.14	7.67	3.08	4.67	2.80
Prior Knowledge	HiEx Group (No. = 6)	5.08	3.60	2.08	2.47	1.75	1.48
	AvPr Group (No. = 3)	2.33	1.51	3.17	3.13	.00	.00
	LoEx Group (No. = 3)	.33	.52	.83	1.17	.00	.00
Recording	HiEx Group (No. = 6)	1.92	2.15	2.92	2.31	.00	.00
	AvPr Group (No. = 3)	7.00	10.84	1.33	.52	1.00	2.45
	LoEx Group (No. = 3)	1.33	2.80	.33	.52	.00	.00
Explanation	HiEx Group (No. = 6)	22.75	13.32	26.83	15.91	28.00	19.82
	AvPr Group (No. = 3)	27.00	7.27	20.83	21.77	18.33	4.08
	LoEx Group (No. = 3)	8.83	7.31	9.50	7.34	11.83	8.16
Modification	HiEx Group (No. = 6)	.67	.78	1.00	2.59	.92	2.57
	AvPr Group (No. = 3)	.00	.00	.00	.00	.00	.00
	LoEx Group (No. = 3)	.00	.00	.83	1.33	.00	.00

Summary of findings for instructional interactions for differing teacher expectation groups.

It appears that the ways in which lessons were delivered differed in meaningful ways between high expectation, average progress and low expectation teachers. Almost all of the statistically significant differences established were between the HiEx and LoEx Groups. It is noted that the AvPr Group teachers' instructional practices were more similar to those of the HiEx Group teachers than those of the LoEx Group of teachers. In every case where there were statistically significant differences in teachers' instructional statements between HiEx and LoEx Groups the means for the HiEx Group teachers were higher than they were for the LoEx Group teachers. Hence the quantity of statements focusing students' attention on the learning, relating the current learning experiences to prior activities or knowledge, recording of student ideas and explaining a concept were greater in the classrooms of the teachers who had high expectations for their students and whose students made statistically significant learning gains over a one-year period. These teachers talked more than the low expectation teachers and the statements were learning focused. These teachers appeared to be more carefully providing the framework for student learning than the LoEx Group of teachers. This appeared to be particularly so in reading which was the curriculum area used to establish the high and low expectation teachers in the previous study. On the other hand the low expectation teachers did not appear to make links to the students' prior knowledge to the same extent or to make as many statements that ensured their students were focused on the learning being presented. On top of this they did not provide as many explanations of particular concepts as the high expectation teachers did nor did they record information or instructions as often for students to refer to while they were engaged on tasks at their desks. This would have left their students with a much less cohesive structure on which to construct their

knowledge and may have contributed to their comparative lack of academic gain over the year that they were with these teachers.

Questioning

A one-way ANOVA was used to analyse any differences between teacher groups for the types of questions used during lessons in reading, mathematics and physical education. A statistically significant difference between the three teacher groups was shown for open questions in reading ($F (2,21) = 10.06, p < .001$). There was a statistically significant difference between HiEx and AvPr ($p < .01$) and HiEx and LoEx Groups ($p < .002$) (Table 16). The mean for the HiEx Group was higher than those for AvPr and LoEx Groups.

A statistically significant difference between the three teacher groups was shown for closed questions in reading ($F (2,21) = 14.43, p < .001$), in mathematics ($F (2,21) = 5.95, p < .009$) and in physical education ($F (2,21) = 4.19, p < .03$). In reading there was a statistically significant difference between HiEx and AvPr Groups ($p < .002$) and the AvPr and LoEx Group ($p < .001$). In mathematics there was also a statistically significant difference between HiEx and AvPr Groups ($p < .02$) and the AvPr and LoEx Group ($p < .02$). When the post hoc analysis was carried out for physical education, however, no statistically significant differences were found between any individual groups. The means for the AvPr Group which were higher than those for the HiEx and LoEx Groups are presented in Table 16.

Table 16:

Mean Number of Open and Closed Questions for HiEx, AvPr and LoEx Groups of TeachersAcross Two Lessons in Reading, Mathematics and Physical Education

		Reading		Mathematics		Physical Education	
		Mean	sd	Mean	sd	Mean	sd
Open Questions	HiEx Group (No. = 6)	12.67	7.41	5.58	6.64	2.58	3.40
	AvPr Group (No. = 3)	3.67	1.37	.00	.00	.00	.00
	LoEx Group (No. = 3)	1.50	2.74	1.33	1.51	.00	.00
Closed Questions	HiEx Group (No. = 6)	24.17	8.27	25.00	20.32	5.25	4.54
	AvPr Group (No. = 3)	42.17	9.50	52.67	13.11	1.33	1.86
	LoEx Group (No. = 3)	15.83	9.09	20.00	17.92	1.00	1.26

Summary of differences in types of teacher questions.

It appears that in reading high expectation teachers asked more open questions than any other group while in reading and mathematics, average progress teachers asked more closed questions than other teacher groups. While this is an interesting finding in itself the results also suggest that low expectation teachers asked fewer questions overall of their students than the other two teacher groups. An examination of the means in Table 16 also suggests that overall teachers asked more closed questions than open questions.

As another form of classroom verbal interaction the types of responses that teachers made (when they made a response) following a student answer to a question, depending on whether the child's answer was correct, incorrect or they did not know were also of interest.

Few questions were asked by any teacher groups in physical education as shown by the means in Table 16 so these were not investigated further. Table 17 presents the mean number of teacher responses to students following questioning while Table 18 presents the results of the one-way ANOVAs for reading and mathematics.

As can be seen from Table 17 the means for all teacher groups for responses to correct answers were higher than the responses to incorrect or unknown questions. This suggests that the teachers in all groups mostly asked questions to which the students were able to respond correctly and as we have seen previously most of these were closed questions.

Where the students gave a correct answer the most common response for all teacher groups in reading and mathematics was to repeat the answer as can be seen in Table 17 and there were statistically significant differences between the groups in both reading ($F (2,21) = 6.95, p < .005$) and mathematics ($F (2,21) = 33.406, p < .001$) (Table 18). These differences were between AvPr and LoEx Groups ($p < .004$) in reading and between HiEx and AvPr Groups ($p < .001$) and AvPr and LoEx Groups in mathematics ($p < .001$). For the low expectation teachers this difference was possibly mirrored by the lower quantity of questioning which they engaged in overall. For the high expectation teachers this was possibly also true. These teachers (HiEx Group) asked more open questions than any other groups but significantly less closed questions than the AvPr Group teachers and less overall.

The next most common response for all groups of teachers in reading and mathematics was to question the students further. Again there was a statistically significant difference between the groups (Table 18) for reading ($F (2,21) = 6.66, p < .006$) although this was not true for mathematics ($F (2,21) = .99, p < .39$). This time the differences in reading were between HiEx and LoEx Groups ($p < .005$) and between AvPr and LoEx Groups ($p < .04$). This strategy appeared to be one that was more commonly used in reading among HiEx Group and AvPr Group teachers rather than among LoEx Group teachers.

When answers were correct in reading and mathematics the teachers at times praised the children for their responses and/or provided them with feedback to support their learning. When praise was analysed there was a statistically significant difference between the teachers in both reading ($F(2,21) = 5.66, p < .01$) mathematics ($F(2,21) = 12.90, p < .001$) (Table 18). These differences were between AvPr and LoEx Groups ($p < .009$) in reading, and between HiEx and AvPr Groups ($p < .001$) and AvPr and LoEx Groups ($p < .003$) in mathematics. In all cases (Table 17) this was a more common response for AvPr Group teachers than for the teachers in the other two groups.

When feedback was analysed however, using a one-way ANOVA, there was a statistically significant difference between the teachers in reading ($F(2,21) = 6.88, p < .005$) and in mathematics ($F(2,21) = 4.06, p < .03$) (Table 18). Post hoc analyses showed that these differences were between HiEx and AvPr Groups ($p < .03$) and AvPr and LoEx Groups ($p < .01$) in reading while in mathematics no statistically significant differences were revealed between specific groups. In reading the means (Table 17) showed that this was a more common response for HiEx Group teachers than for the teachers in the other two groups although the mean number of such responses per lesson was small.

As indicated earlier the number of responses to incorrect answers and to students where the answer was unknown, was small and hence only those where there were statistically significant differences between groups will be discussed in the next section. For HiEx and AvPr Group teachers the most common response when a child made an incorrect response was to rephrase the question. A one-way ANOVA for reading showed that this was statistically significant ($F(2,21) = 5.05, p < .02$) although this was not true for mathematics as shown in Table 18. A post hoc analysis for reading showed that the difference was between HiEx and AvPr Group teachers ($p < .04$) and this was more common for teachers in the HiEx Group (Table 17).

Further one-way ANOVAs showed some statistically significant differences for types of teacher responses to incorrect answers. One teacher practice when an answer was incorrect was to repeat the incorrect answer. There was a statistically significant difference between teachers for this type of response ($F (2,21) = 3.68, p < .04$) in mathematics (see Table 18) and post hoc analysis revealed that these differences were between HiEx and AvPr Groups ($p < .001$) and AvPr and LoEx Group teachers ($p < .03$). The means in Table 17 show that this occurred more frequently for the AvPr Group teachers than for the other teacher groups.

A further teacher practice when an answer was incorrect was for the teacher simply to supply the correct answer. There was a statistically significant difference between teachers for this type of response ($F (2,21) = 5.56, p < .01$) in mathematics (see Table 18) and these differences were between the HiEx and AvPr Group teachers ($p < .009$). Again this was a more common practice for the AvPr Group teachers than it was for the HiEx Group teachers.

The final aspect of the analyses into teacher practices during questioning looked at what teachers commonly did when students did not know the answer to a question. The one-way ANOVA (see Table 18) showed the only statistically significant difference between groups to be in reading and that was to simply ask another child the same question ($F (2,21) = 3.68, p < .04$). This difference was between the HiEx and AvPr Groups. An examination of the means in Table 17 showed that for the HiEx Group there were no such responses so for this group of high expectation teachers moving to another child was not a common practice for them. The most common practice for the HiEx Group teachers when students did not know the answers was to provide that student with support so that s/he was able to offer a successful response.

Table 17:

Mean Number of Teacher Responses in Each Lesson Following a Question in Reading and Mathematics for HiEx, AvPr and LoEx Groups of Teachers

		HiEx Group (No. = 6)		AvPr Group (No. = 3)		LoEx Group (No. = 3)	
		Mean	sd	Mean	sd	Mean	sd
Correct Response	Praise	Reading	2.83	1.40	6.17	6.18	.00
		Mathematics	1.42	1.00	9.33	4.68	2.17
	Feedback	Reading	2.50	2.11	.33	.52	.00
		Mathematics	1.25	1.48	.00	.00	.00
Incorrect Response	Question	Reading	13.00	6.58	11.83	2.93	4.00
	Further	Mathematics	8.33	8.25	7.67	1.63	4.00
	Repeat	Reading	16.25	7.58	26.00	10.33	9.00
	Answer	Mathematics	8.58	7.00	31.17	8.18	2.83
Unknown Answer	Rephrase	Reading	3.17	2.89	.33	.52	.50
	Question	Mathematics	4.17	4.39	3.50	1.97	.83
	Repeat	Reading	1.67	2.06	.17	.41	1.00
	Answer	Mathematics	.17	.39	3.50	2.51	1.17
Child Unknown	Supply	Reading	1.33	1.67	.17	.41	.33
	Answer	Mathematics	.50	.52	2.00	1.10	1.00
	Other	Reading	.00	.00	2.00	3.10	.17
	Child	Mathematics	.50	1.24	.50	.55	.67
Support	Provide	Reading	5.17	5.62	.17	.41	1.67
	Support	Mathematics	3.33	5.30	.00	.00	2.00

Table 18:

Summary of One-Way ANOVA for HiEx, AvPr and LoEx Groups of Teachers Showing Typical Teacher Responses in Reading and Mathematics After Student Questioning

Summary of findings for teacher questioning and responses for differing teacher expectation groups.

For these three groups of teachers observed over two lessons in reading and mathematics the AvPr Group teachers asked far more questions of their students than any of the other groups. Most of these questions were closed questions but for the teachers this would have provided a check on student learning and understanding. While the HiEx Group teachers asked fewer questions overall they asked more open questions than any other group. This would have meant that their students were more frequently being encouraged to offer their own ideas than either of the other two groups. The LoEx Group teachers in particular asked fewer questions of their students than either of the other groups. This may have influenced the results when teacher practices following a student response were examined. No analyses showed the responses of the LoEx Group teachers to be higher than those of either of the other two groups. For these students not only were their teachers seemingly checking on their learning less frequently but student ideas were being developed less often. Contrastingly the AvPr Group teachers asked more questions than the other groups and the consequent analyses related to what teachers did following student response most often revealed statistically significant differences between the AvPr Group teachers and one of the other groups.

Some patterns do appear to be evident, nevertheless. Both the HiEx and AvPr Group teachers commonly question their students further once they have given a correct response to a question. Another frequent practice of the AvPr Group teachers is to simply praise their students for answering correctly. In contrast the HiEx Group teachers often provide their students with some feedback to develop their learning further rather than praising their students. Similarly to when the HiEx Group teachers were instructing their students they

appear to be more frequently making their students aware of their academic progress and of the next steps in their learning.

There were also some contrasts when students answered incorrectly. The AvPr Group teachers commonly repeated the incorrect answer or supplied the student with the answer. This was most often true in mathematics. In contrast the HiEx Group teachers rephrased the questions so that the student could be successful. This was particularly true in reading. With questions for which the students did not know the answer, however, the AvPr Group teachers tended to move on to another child whereas the HiEx Group teachers provided support to the original child in order to lead him or her to the correct answer. In all of these cases it seems that the HiEx Group teachers were developing the learning of individual students in a supportive manner. This was not so evident among the AvPr Group of teachers. This may have meant that the socioemotional environment in which questioning and teacher responses were being provided for students was more encouraging for the students of the high expectation teachers than it was for the students in the classes of the other two groups of teachers.

Criticism, Praise and Feedback

Mean numbers of verbal interactions that were categorised as teacher criticism, praise and feedback directed at individuals, and a group or the class in reading, mathematics and physical education were analysed using a one-way ANOVA across teacher groups. For criticism used during reading lessons there was a statistically significant effect for that directed at individuals ($F (2, 21) = 7.97, p < .003$) as well as that towards groups ($F (2, 21) = 3.94, p < .04$) (see Table 19). Post hoc tests showed a statistically significant difference between the HiEx and AvPr Groups ($p < .005$) and the LoEx Group ($p < .006$) for criticism of individuals. For group criticism there was a statistically significant difference between HiEx and LoEx Groups ($p < .05$). An examination of the means in Table 19, however, shows that

the LoEx Group teachers did not criticise any individual across the two observed lessons in reading and that the HiEx and LoEx Group teachers did not criticise a group or the class.

The only other statistically significant difference in levels of criticism was found for individual criticism in mathematics ($F(2,21) = 4.16, p < .03$). This was between the HiEx and AvPr Groups ($p < .04$). In this case the mean number of criticisms for the AvPr Group was greater than that for HiEx Group.

It should be noted that for all groups, in all three curriculum areas, the levels of criticism in lessons are low. Additionally the numbers of teachers in the respective groups are also fairly small with standard deviations indicating some variability between individual teachers in their respective groups. This makes it difficult to draw any conclusions about patterns of criticism across different teacher expectation groups.

Table 19:

Mean Number of Criticisms for HiEx, AvPr and LoEx Groups of Teachers Directed at Individuals and a Group or the Class Across Two Lessons in Reading, Mathematics and Physical Education

Curriculum Area	Group	Individual Interactions		Group Interactions	
		Mean	sd	Mean	sd
Reading (No. = 12)	HiEx Group (No. = 6)	.25	.62	.00	.00
	AvPr Group (No. = 3)	2.00	1.79	.00	.00
	LoEx Group (No. = 3)	.00	.00	.33	.52
Mathematics (No. = 12)	HiEx Group (No. = 6)	.25	.62	.50	.67
	AvPr Group (No. = 3)	2.67	3.44	1.00	1.10
	LoEx Group (No. = 3)	.33	.52	.50	1.22
Physical Education (No. = 12)	HiEx Group (No. = 6)	.33	1.15	.00	.00
	AvPr Group (No. = 3)	.00	.00	.00	.00
	LoEx Group (No. = 3)	.33	.82	.50	.84

When examining praise for individuals and a group or the class in reading, mathematics and physical education the only statistically significant effect revealed by the one-way ANOVAs was for group interactions in mathematics ($F(2,21) = 3.62$, $p < .05$). A post hoc test showed no statistically significant effects between groups although that between the HiEx and AvPr Groups did approach significance ($p < .06$). Overall the amount of praise

that all teachers in this study imparted on their students was similar. Generally levels of both praise and criticism were fairly low across all classrooms.

With regard to feedback, however, there were some statistically significant differences evident, particularly for feedback directed at individuals in the three curriculum areas. In reading a one-way ANOVA showed there was a statistically significant difference between teacher groups ($F(2,21) = 8.60, p < .002$) for feedback to individuals. A post hoc test revealed a statistically significant difference between the HiEx and AvPr Groups ($p < .007$) and between the HiEx and the LoEx Group ($p < .01$) and Table 20 shows that the means for the HiEx Group are higher than those for the other groups. Similarly in mathematics there was also a statistically significant difference between groups when a one-way ANOVA was employed ($F(2,21) = 5.31, p < .01$). Again this significant difference was between the HiEx and AvPr Groups ($p < .04$) and the HiEx and LoEx Group ($p < .05$) (see Table 20) and means for the HiEx Group teachers were higher than those for the other groups of teachers. In physical education the pattern was similar. A one-way ANOVA revealed a statistically significant difference between the different groups of teachers ($F(2,21) = 4.98, p < .02$). A further post hoc analysis showed a statistically significant difference between the HiEx and LoEx Groups ($p < .04$) (see Table 20).

When examining the effects for feedback to groups or the class one-way ANOVAs revealed that the only statistically significant differences were in mathematics ($F(2,21) = 23.39, p < .001$) and further analysis uncovered a statistically significant difference between the HiEx and AvPr Groups ($p < .001$) and between the HiEx and LoEx Group ($p < .001$) (Table 20). This was because the AvPr and LoEx Group teachers did not give any feedback to their groups or the class over the two lessons observed for each teacher in mathematics whereas the HiEx Group teachers did provide their students with instructional feedback.

Table 20:

Mean Number of Feedback Statements for HiEx, AvPr and LoEx Groups of TeachersDirected at Individuals and a Group or the Class Across Two Lessons in Reading,Mathematics and Physical Education

Curriculum Area	Group	Individual Interactions		Group Interactions	
		Mean	sd	Mean	sd
Reading (No. = 12)	HiEx Group (No. = 6)	7.83	5.87	2.83	4.04
	AvPr Group (No. = 3)	.33	.52	1.17	1.47
	LoEx Group (No. = 3)	.67	1.63	.17	.41
Mathematics (No. = 12)	HiEx Group (No. = 6)	5.42	5.53	3.50	1.73
	AvPr Group (No. = 3)	.00	.00	.00	.00
	LoEx Group (No. = 3)	.17	.41	.00	.00
Physical Education (No. = 12)	HiEx Group (No. = 6)	5.50	5.63	1.83	2.79
	AvPr Group (No. = 3)	.50	.55	.00	.00
	LoEx Group (No. = 3)	.00	.00	.00	.00

Summary of findings for teacher criticism, praise and feedback for differing teacher expectation groups.

Some similarities and some differences have been uncovered between the HiEx, AvPr and LoEx Groups of teachers in their criticism, praise and learning feedback patterns. Levels of criticism and praise across all groups were generally low but while there were few

differences between the various teacher groups in levels of praise there were some differences for criticism where it seemed that the average progress teachers criticised their students more frequently than the other two groups. This may have created a less congenial socioemotional environment for the students in their classes.

There were more differences evident, however, between the groups with regard to feedback. In all lessons the HiEx Group teachers provided their students with instructional feedback. This was not the case for either of the other groups. For the students this may have meant that those children in the classes of the high expectation teachers were often receiving feedback about their learning which would have provided them with information about their achievement and about the next stages in their learning. This information did not appear to be so readily available to the students of the average progress and low expectation teachers.

Behaviour Management Interactions

There was a statistically significant difference between groups in reading, mathematics and physical education for positive management interactions between the teacher and the students. The mean scores for these analyses are shown in Table 21. For reading ($F(2,21) = 4.54, p < .02$) a post hoc test revealed that the differences were between the HiEx and AvPr Groups ($p < .04$). For mathematics ($F(2,21) = 4.54, p < .02$) the differences were between the HiEx and LoEx Groups ($p < .005$) while for physical education ($F(2,21) = 12.17, p < .001$) the differences were between the HiEx and AvPr Groups ($p < .002$) and the HiEx and LoEx Groups ($p < .002$). An examination of the means for these groups in reading, mathematics and physical education shows that for all statistically significant differences the means for the HiEx Group are higher than those for the AvPr and LoEx Groups. In this study teachers who had high expectations for their students made significantly more positive management statements to their students in all three curriculum areas being examined than the teachers in the other two groups (reading, mathematics and physical education).

Table 21:

Mean Number of Positive Behaviour Management Interactions for HiEx, AvPr and LoExGroups of Teachers Over Two Lessons in Reading, Mathematics and Physical Education

Group	Reading		Mathematics		Physical Education	
	Mean	sd	Mean	sd	Mean	sd
HiEx	10.50	5.74	12.25	6.38	11.42	6.05
Group (No. = 6)						
AvPr	4.33	3.78	6.50	5.05	2.17	1.94
Group (No. = 3)						
LoEx	5.50	1.22	2.83	1.60	2.33	1.63
Group (No. = 3)						

There were no statistically significant differences between any of the teacher groups for negative behaviour management interactions. The mean number of negative statements for all teachers in one lesson across all curriculum areas observed tended to be low (range = 1.16 to 4.83).

An examination of the means in Table 21 and Table 22 shows that the mean number of positive behaviour management statements (Table 21) made by high expectation teachers is higher than the mean number of negative statements (Table 22). For LoEx teachers, in contrast, this was not the case in mathematics and physical education. Hence these means for each teacher group were analysed using a paired-samples T-test. For the high expectation

teachers there was a statistically significant difference between the number of positive and negative behaviour management statements they used in reading ($t(6) = 5.84, p < .001$), in mathematics ($t(6) = 6.09, p < .001$) and in physical education ($t(6) = 5.57, p < .001$). For the AvPr Group this statistically significant difference was found for mathematics ($t(3) = 3.38, p < .02$) but not for reading ($t(3) = 2.28, p < .07$) or for physical education ($t(3) = 2.24, p < .08$). For the LoEx Group there was a statistically significant difference between the number of positive management statements used in reading ($t(3) = 4.04, p < .01$) but not in mathematics ($t(3) = -.89, p < .41$) or physical education ($t(3) = -1.87, p < .12$). It seems from these analyses that across all three curriculum areas the high expectation teachers (HiEx Group) used positive behaviour management statements to manage student behaviour more frequently than they used negative management statements and they used these more frequently than either average progress (AvPr Group) or low expectation teachers (LoEx Group). For these latter two groups they used negative statements as frequently as positive interactions at times.

Table 22:

Mean Number of Negative Behaviour Management Interactions for HiEx, AvPr and LoExGroups of Teachers Across Two Lessons in Reading, Mathematics and Physical Education

Group	Reading		Mathematics		Physical Education	
	Mean	sd	Mean	sd	Mean	sd
HiEx	1.75	1.42	2.08	1.78	2.33	3.39
Group (No. = 6)						
AvPr	1.33	.82	2.83	2.40	1.17	1.33
Group (No. = 3)						
LoEx	3.00	1.67	4.16	3.49	4.83	3.43
Group (No. = 3)						

Behaviour management statements were also separated into preventive and reactive statements to individual students, or to a group or the class. When one-way ANOVAs were conducted for preventive statements to individuals and to a group or the class, in every case where there were statistically significant differences these were with positive preventive statements. In reading there was a statistically significant difference between the three groups of teachers ($F(2,21) = 15.43, p < .001$) for statements to individual students. A post hoc test showed that this difference was between the teachers in the HiEx and AvPr Groups ($p < .001$) and the HiEx and LoEx Group ($p < .001$). The means in Table 23 show that in all cases the mean was higher for the teachers in the HiEx Group. Similarly when positive preventive

statements to a group or the class were analysed using a one-way ANOVA a statistically significant difference was found ($F(2,21) = 4.66, p < .02$). A post hoc test showed that there was a statistically significant difference in the mean number of preventive management statements to a group or the class between the teachers in the HiEx and AvPr Groups ($p < .02$). Again the mean for the HiEx Group was higher (see Table 23).

The results were similar in mathematics. The difference in preventive statements to individuals between the teachers approached significance ($F(2,21) = 3.40, p < .052$) and a post hoc test showed that this difference though not significant lay between the HiEx and AvPr Groups ($p < .054$). On the other hand the difference between the teachers in positive preventive behaviour management statements when a one-way ANOVA was conducted for the group or the class in mathematics also showed a statistically significant difference between the teachers ($F(2,21) = 15.57, p < .001$). A post hoc test showed the differences were between the HiEx and AvPr Groups ($p < .001$) and the HiEx and LoEx Group ($p < .001$). In all cases where statistically significant differences were found the mean for the HiEx Group was higher than that for the other groups (see Table 23).

In physical education the difference in preventive statements to individuals between the teachers was also statistically significant ($F(2,21) = 5.41, p < .01$) and a post hoc test showed that this statistically significant difference lay between the HiEx and AvPr Groups ($p < .03$). The difference between the HiEx and LoEx Groups approached significance ($p < .056$). On the other hand the difference between the teachers in positive preventive behaviour management statements when a one-way ANOVA was conducted for the group or the class in physical education showed a statistically significant difference between the teachers ($F(2,21) = 17.77, p < .001$). The differences were found to be between the HiEx and AvPr Groups ($p < .001$) and the HiEx and LoEx Group ($p < .001$). The mean for the HiEx Group was higher in all cases than that for the other groups (see Table 23).

Table 23:

Mean Number of Positive Preventive Behaviour Management Interactions for HiEx, AvPr and LoEx Groups of Teachers With Individuals and With a Group or the Class Across Two Lessons in Reading, Mathematics and Physical Education

Curriculum Area	Group	Individual Interactions		Group Interactions	
		Mean	sd	Mean	sd
Reading (No. = 12)	HiEx Group (No. = 6)	9.67	5.41	6.33	4.60
	AvPr Group (No. = 3)	.50	.55	1.33	.82
	LoEx Group (No. = 3)	.83	1.17	3.33	1.21
Mathematics (No. = 12)	HiEx Group (No. = 6)	3.50	2.02	7.75	3.17
	AvPr Group (No. = 3)	.50	.55	2.33	1.86
	LoEx Group (No. = 3)	3.00	3.69	1.50	1.51
Physical Education (No. = 12)	HiEx Group (No. = 6)	7.25	7.11	9.33	4.92
	AvPr Group (No. = 3)	.00	.00	.50	.55
	LoEx Group (No. = 3)	.67	.81	.67	.82

The mean number of negative preventive management statements used across all teacher groups was low (range 0 to 1.67) and there were no statistically significant differences between teacher groups other than for group preventive management statements in physical education ($F (2,21) = 6.30, p < .007$) where the means for both HiEx and AvPr Groups were zero while the mean for the LoEx Group was 1.33 ($SD = 1.63$).

On turning to reactive behaviour management statements, there were no statistically significant differences between teacher groups for negative statements to individuals or to groups. The same was true for positive statements to a student group or to the class. There were some statistically significant differences found, however, between teacher groups for positive reactive behaviour management statements to individuals. These were found for reading ($F (2,21) = 11.52, p < .001$) and physical education ($F (2,21) = 5.01, p < .02$). The mean number of interactions per lesson for these analyses may be found in Table 24. Post hoc tests revealed that the differences for reading were between the teachers in the HiEx and AvPr Groups ($p < .003$) and the HiEx and LoEx Groups ($p < .002$) while in physical education differences were found only between the HiEx and AvPr Groups ($p < .03$). The mean for the HiEx Group was higher than that for the teachers in the AvPr and LoEx Groups in every instance.

Table 24:

Mean Number of Positive Reactive Behaviour Management Interactions for HiEx, AvPr and LoEx Groups of Teachers With Individuals and With a Group or the Class Across Two Lessons in Reading, Mathematics and Physical Education

Curriculum Area	Group	Individual Interactions		Group Interactions	
		Mean	sd	Mean	sd
Reading (No. = 12)	HiEx Group (No. = 6)	8.83	4.28	4.17	2.25
	AvPr Group (No. = 3)	2.33	2.94	3.00	3.22
	LoEx Group (No. = 3)	1.83	.98	2.17	.98
Mathematics (No. = 12)	HiEx Group (No. = 6)	4.50	4.52	4.67	4.46
	AvPr Group (No. = 3)	1.33	2.07	4.17	3.19
	LoEx Group (No. = 3)	2.00	1.67	1.33	.82
Physical Education (No. = 12)	HiEx Group (No. = 6)	4.42	3.50	2.08	2.27
	AvPr Group (No. = 3)	.67	.52	1.67	2.34
	LoEx Group (No. = 3)	1.33	1.63	1.67	1.21

Summary of findings for behaviour management interactions for differing teacher expectation groups.

Looking at behaviour management overall, where any statistically significant differences were found these were always between the HiEx Group and one of the other groups. Moreover all statistically significant differences found were for positive behaviour

management statements in favour of the HiEx Group of teachers. It appears that among these teachers those who had high expectations of their students tended to use more positive behaviour management statements with their students than the average progress and low expectation teachers. Further these teachers used far more positive statements than they did negative statements whereas this was not always true for the other teachers. For the students this would mean that there was a classroom environment in which behaviour was managed positively in the classrooms of the high expectation teachers. This may have resulted in these students experiencing a warmer socioemotional environment compared to the students of the average progress and low expectation teachers. The students in these classes appeared to experience a quite different environment in which their teachers handled behaviour positively less often.

Procedural Interactions

There was a statistically significant difference between groups in reading for positive procedural contacts between the three teacher groups ($F (2,21) = 7.21, p < .004$) although the analyses for mathematics ($F (2,21) = 1.48, p < .25$) and physical education ($F (2,21) = .34, p < .71$) were not statistically significant. The mean scores for these analyses are shown in Table 25. The overall differences in scores for reading were further examined using a post hoc test revealing that there was a statistically significant difference between the HiEx and LoEx Groups ($p < .004$) and between the AvPr and LoEx Groups ($p < .02$). An examination of the means for these groups in reading shows that in both cases the teachers in the low expectation group had more positive procedural interactions with their students than did the teachers in the other two groups. These results show that in reading the teachers who had high expectations of their children (HiEx Group) as well as the teachers whose students made average progress over the year in reading (AvPr Group) had fewer procedural interactions

with their students than the teachers who had low expectations of their students (LoEx Group).

Table 25:

Mean Number of Positive Procedural Interactions for HiEx, AvPr and LoEx Groups of Teachers Across Two Lessons in Reading, Mathematics and Physical Education

Group	Reading		Mathematics		Physical Education	
	Mean	sd	Mean	sd	Mean	sd
HiEx Group (No. = 6)	24.50	8.74	29.08	7.46	34.00	16.23
AvPr Group (No. = 3)	26.33	19.14	36.50	11.61	27.83	11.44
LoEx Group (No. = 3)	49.50	15.77	25.67	16.62	33.83	17.75

There were few negative procedural interactions for any groups (mean range .17 to 2.67) and hence these were not investigated further.

Conclusions to Study Two

Although Bonferroni adjustments were used for multiple comparisons these were set at $p < .05$ as it was felt that this would help in establishing trends between the differing teacher groups, which was the aim of the current study. It was recognised that in some instances these should have been more rigorous. The large number of analyses in the current study appeared to show that the main differences between the various groups of teachers (HiEx, AvPr, LoEx) lay in the ways in which they instructed and questioned their students, and in the

socioemotional climate in which learning was framed. Hence in order to determine whether this proposition was valid effect sizes were combined across all curriculum areas for the significant analyses reported above. Those where the effect sizes were above 0.4 for a contrast between two of the teacher groups and those where the effect sizes were greater than 1.0 across all groups are included in Table 26.

This table appears to confirm that where there were differences the instructional environment for the students with high expectation, average progress and low expectation teachers did vary in meaningful ways. The high expectation and average progress teachers (both of whom had high expectations for their students) did appear to instruct their students similarly in some ways. They oriented their students to the current instruction and linked this to student prior knowledge more frequently than did the low expectation teachers. They also provided their students with more explanations of the concept they were teaching and more frequently provided their students with some form of visual recording that students could refer to while they were working than did the low expectation teachers. Taken together these differences would have meant that the students in the classes of the high expectation and average progress teachers would have had a more carefully constructed framework for their learning than the students of the low expectation teachers which may have assisted in them being successful on their learning tasks.

Table 26

Effect Size Differences for Classroom Interactions Between High Expectation, AverageProgress and Low Expectation Teachers

HiEx versus LoEx Teachers	d	HiEx versus AvPr Teachers	d	AvPr versus LoEx Teachers	d
Instruction					
Prior knowledge	1.79	Prior knowledge	1.02	Prior knowledge	1.02
Orientation	1.64			Orientation	2.06
Explanation	1.33			Explanation	1.44
Modification	.84	Modification	1.07	Modification	-.42
Recording	.69			Recording	1.19
Feedback and Criticism					
Feedback group	2.18	Feedback group	1.99		
Feedback individual	1.88	Feedback individual	1.98		
		Criticism individual	.69	Criticism individual	-1.98
Questioning					
Open questions	1.59	Open questions	1.75		
Closed questions	.90	Closed questions	-.82	Closed questions	1.72
Question further	1.44			Question further	2.36
Repeat answer	1.16	Repeat answer	-2.03	Repeat answer	3.83
Answer unknown – other child	-.48	Answer unknown – other	-.65	Answer unknown – other child	.42
Answer unknown - support	.66	Answer unknown - support	1.46	Answer unknown - support	-1.51
Feedback and Praise					
Praise	-1.88	Praise	1.83	Praise	-1.79
Feedback	2.05	Feedback	1.67	Feedback	-.63
Behaviour management					
Positive behaviour management	2.05	Positive behaviour management	1.54		
Positive preventive group	2.24	Positive preventive group	2.41	Positive preventive group	-.58
Positive preventive individual	1.51	Positive preventive individual	2.48	Positive preventive individual	-1.07
Positive reactive individual	1.56	Positive reactive individual	1.54		
Negative behaviour management	.56			Negative behaviour management	.68

The students in the classes of the high expectation teachers made much greater learning gains than those of the average progress teachers, however, so it was important to consider what factors may have led to these differences. There were aspects of the

instructional environment that did differ in the classes of the high expectation teachers from those of the other two groups of teachers. Table 26 shows that one of these aspects was feedback. When feedback was considered both in relation to teacher instruction and teacher questioning, in all instances the high expectation teachers provided their students with considerably more feedback about their learning than did the teachers in either of the other two groups. This would have meant that the students in the classes of the high expectation teachers, more so than the students in the classes of the other two groups of teachers, would have been having more frequent interactions with their teachers related to their achievement and hence may have had a clearer conception of the next steps in their learning.

A further area of the instructional environment that could have contributed to the comparative success of the students in the classrooms of the high expectation teachers was questioning. Table 26 also reveals some differences in this aspect of the instructional environment between the various groups of teachers. Both the high expectation and average progress teachers asked more questions of their students than did the low expectation teachers. While the average progress teachers asked their students more closed questions than either of the other two groups of teachers the high expectation teachers asked more open questions. In terms of student learning this would have meant that the students of the high expectation teachers were being given more opportunities to extend and develop their cognitive thinking than would the students of the teachers in either of the other two groups. Again this may have contributed to the enhanced academic achievement of the students in the classes of the high expectation teachers.

The high expectation teachers and the average progress teachers had similar expectations for their students' achievement and yet only the students of the high expectation teachers made considerable gains in their learning. This study was designed to explore some differences in the instructional environment that may have contributed to these superior

learning gains for the students in the classes of the high expectation teachers. Some differences have been located and where there were differences in the interactional environment for the students of high expectation and average progress teachers these same differences could also be found between the students of the high and low expectation teachers.

There were not just differences found in the instructional environment, however, for the students of these various teacher groups. As importantly some differences were located in the socioemotional environment for the students of these differing teacher groups. One area that appeared to contribute to the affective climate of the classroom was behaviour management. Table 26 shows that the high expectation teachers managed their classrooms far more positively than the teachers of either of the other two groups of students. In both their individual and group interactions with students the high expectation teachers were overwhelmingly positive when compared with the average progress and low expectation teachers. This could have created a more pleasant socioemotional climate for the students of the high expectation teachers.

Feedback is a further aspect that possibly contributed towards a positive socioemotional climate for the students of the high expectation students since this recognises where students are currently in their learning and provides them with positive learning goals; such comments are often framed in a positive context.

Another feature analysed and shown in Table 26 that may have contributed to students' emotional well-being in the classroom was the way in which teachers responded to student answers to questions when they were incorrect. High expectation teachers appeared to reframe their questions or provide student support in some way so that the student was ultimately able to answer the question correctly. Average progress and low expectation teachers on the other hand tended to move to another child when the first was unable to answer the question posed. This also has implications for the students. In the former scenario

with high expectation teachers the students would be likely to feel supported and able to achieve a correct answer. In the latter context, however, the student who was unable to correctly answer a question may not have felt so positive when the teacher then asked another student who could answer correctly.

The original observation schedule used in the current study was not specifically designed to locate differences in the socioemotional climate of the classroom; it was more specifically designed to explore the instructional environment. Nevertheless some differences in the affective climate of the classrooms of high expectation, average progress and low expectation teachers have been found (particularly when aggregated). It is possible that these differences also contributed to the enhanced academic achievement of the students in the classrooms of the high expectation teachers by the end of the year. Several other researchers (Babad, 1990a; Babad et al., 1989b, 1991; Rosenthal, 2002; Wentzel, 1997) have also pointed to the importance of the socioemotional climate in enhancing student progress. It appears that a warm, supportive, pleasant affective climate can increase student motivation which in turn may result in improved learning achievement.

The current study has lent some weight to the argument that expectations alone are not sufficient to raise student achievement. The instructional and socioemotional climate has been found to differ in several meaningful ways in the current study for students placed in the classrooms of high expectation, average progress and low expectation teachers and it is suggested that it is these differences in the classroom environment that may account to some degree for the ultimate differences in achievement found for these students. The classroom context is only one possible area in which high and low expectation teachers may differ, however. The beliefs that teachers hold about how instruction should be delivered to students and what is appropriate for particular students may ultimately affect the learning opportunities provided in specific classrooms. The third study in this thesis will explore the beliefs that the

teachers in the three groups identified in the initial study held about the grouping of students and how instruction should be delivered to students of differing abilities once they had been placed in homogeneous ability groups. The aim of the next study, then, was to determine whether or not teacher beliefs might also ultimately play a role in the differential achievement of students in the classrooms of teachers with differing expectations for their students.

CHAPTER FIVE

STUDY THREE: TEACHER BELIEFS ABOUT PLANNING LEARNING

OPPORTUNITIES FOR CHILDREN OF DIFFERING ABILITIES

In the previous chapter the instructional practices of teachers having uniformly high or low expectations for their students were explored. Some differences were located between the classroom interactions of high expectation, average progress and low expectation teachers. Teacher beliefs about how learning should be delivered to particular students may be a further mechanism underlying expectation effects. Low ability students are one group for whom teachers may have low expectations and who may be vulnerable to such expectations. If teachers have differing beliefs about how learning should be delivered to low ability students compared to high ability students and corresponding expectations, these may in turn influence the opportunities to learn that are provided for the respective groups. Further if teachers who have uniformly high or low expectations for their students hold differing beliefs about how learning should be delivered to students then this could provide a further mechanism for teacher expectation effects. The main research question for this study was: Do teachers who hold uniformly differing expectations for their students also hold differing beliefs about how instruction should be delivered to high and low ability students?

Hence Study Three was designed to explore the beliefs held about how learning should be delivered to students of high and low ability by the groups of teachers identified in Study One, i.e. the teachers who had uniformly high expectations for their students and whose students made significant progress over the year of the current research (HiEx Group), the teachers who had uniformly high expectations for their students but whose students made only average progress (AvPr Group) and the teachers whose expectations overall for their students were significantly below their actual performance and whose students made limited

gains in achievement over the year (LoEx Group). Questions were framed around the ways that teachers planned to promote the success of children of differing abilities. Three aspects of teacher planning were investigated:

- 1) The implicit beliefs that teachers held about how learning should be provided to children of differing abilities.
- 2) The ways in which teachers planned to support the learning of students of differing abilities.
- 3) The types of learning opportunities planned for children of differing abilities when children were grouped homogeneously.

The present study sought to explore these aspects by soliciting the views of the 12 practising primary school teachers identified in Study One who were interviewed individually. The findings will be presented as a thematic analysis of the teachers' beliefs about how learning opportunities should be provided to students of differing abilities.

Method

Participants

The participants in this study were 12 practising primary school teachers from eight different schools working in the Auckland area. The demographic details for these teachers were provided in the previous chapter in Table 14. The teachers were identified in Study One as having expectations for their students' learning that were significantly above or below the children's level of achievement at the beginning of 2001. These 12 teachers formed the three groups observed in the previous study. Hence the HiEx Group were those previously identified as the high expectation teachers; the AvPr Group were those classified in the preceding study as the average progress teachers; and the LoEx Group were those called the

low expectation teachers. The pseudonyms used in the current study together with the teacher numbers from Study One and their respective groups are provided in Table 27.

Table 27

Pseudonyms for Teachers in HiEx, AvPr and LoEx Groups by Teacher Number

Teacher No.	Group	Pseudonym
3	HiEx	Helen
9	HiEx	Heidi
10	HiEx	Hannah
17	HiEx	Heather
18	HiEx	Holly
19	HiEx	Hayley
5	AvPr	Angela
6	AvPr	Alice
16	AvPr	Andrea
11	LoEx	Luke
13	LoEx	Lana
14	LoEx	Lauren

Settings for Interviews

The interviews were conducted individually with teachers at their particular schools during the latter part of Term One, 2001. Teachers chose the setting for the interview within their particular school but were asked to select a venue where privacy would be maintained

and where there would be no interruptions. All teachers brought along their copies of the interview schedule for reference.

Interview Schedule

A standard interview schedule was developed to provide consistency between interviews held at different times and in different locations, as well as to reduce the likelihood of interviewer bias (Powney & Watts, 1987). This methodology was adopted to obtain data that would have been difficult to elicit using more formal structured instrumentation. The methodology also permitted the interviewer to explain and clarify questions, as well as to follow up on incomplete or unclear responses by asking probing questions. The interview schedules were hand delivered to all interviewees a week prior to the planned interview to allow respondents an opportunity to ask any questions they had about the research as a whole or the interviews in particular.

A range of open and closed questions was incorporated into the interview schedule to investigate the ways in which the teachers in each group planned for children of differing abilities and to explore the underlying assumptions and beliefs that the teachers in the HiEx, AvPr and LoEx Groups held about their students. All closed questions included a request for further explanation, expansion and clarification by the interviewee. The questions were framed in educational language familiar to teachers. An initial version of the interview schedule was designed and reviewed in separate discussions with two researchers skilled in interview methodology. This initial version was administered to two currently practising teachers not otherwise involved in the study. As a result of these discussions limited changes were made to the wording of two questions. This version of the interview schedule was subsequently pre-tested on a further three teachers. No difficulties in understanding or interpretation were encountered. Table 28 provides a copy of the interview schedule used in this study.

Table 28

Teacher Interview Schedule

Name: _____
 Ethnicity: _____
 Years experience _____

1. Are the children in your class grouped for reading? For any other subjects?
 2. On what basis did you group children?
 3. Why do you group children?
 4. What differentiation do you make in planning lessons for your high ability children as compared to your low ability children?
 5. What activities (if any) would you provide for your high ability children that you would not give to your low ability children? Why?
 6. What activities (if any) would you provide for your low ability children that you would not give to your high ability children? Why?
 7. What provisions (if any) do you make in your teaching for the high ability children that you do not make for the low ability children?
 8. What provisions (if any) do you make in your teaching for your low ability children that you do not make for your high ability children?
 9. How do you determine the learning outcomes for your high ability children?
 10. How do you determine the learning outcomes for your low ability children?
 11. How do you decide on the learning experiences for your high ability children?
 12. How do you decide on the learning experiences for your low ability children?
 13. How do you ensure the cognitive engagement of the high ability children?
 14. How do you ensure the cognitive engagement of the low ability children?
 15. How do you monitor engagement?
 16. How do you ensure the success of the high ability children?
 17. How do you ensure the success of the low ability children?
 18. Are your high ability children making the expected progress? Why/why not?
 19. Are your low ability children making the expected progress? Why/why not?
 20. Are the children in your class aware of who is considered high ability/ low ability? Is this important to you/ to the children?
 21. Have any of the children in your class changed groups during the year so far? Why/ why not? Do you expect any children to change groups by the end of the year? Why/ why not?
 22. Do you have any further comments you wish to make regarding ways in which you provide opportunities to learn for the differing abilities in your class?
-

Procedure

All interviews were conducted between weeks six and ten of term one in 2001. Prior to the interviews teachers had been given a participant information sheet which informed

them about the project and invited them to participate. The interview, conducted by the researcher, was constant for all participants and lasted between 30 and 40 minutes. There were no objections by any of the individuals being interviewed. Researcher effects were controlled in a number of ways. Standard interview schedules were used. Each interviewee was fully informed of the purposes of the research (Schutt, 2001). All interviews were tape recorded by the researcher and then transcribed by a professional transcriber. Following this a sample of transcriptions was assessed by the researcher for accuracy by comparing the audiotape with the transcription. An agreement rate of 99.5% was obtained. All interviewees were sent a copy of their transcript so that they could comment on any inaccuracies. None were reported.

Data Collection and Analysis

The researcher read through all transcriptions twice initially to gain some sense of consistent ideas being expressed. The qualitative data from the transcriptions were then initially coded manually in relation to each group of questions associated with a common theme. The data from the transcriptions were then coded, clustered and summarised through a process of selecting and teasing out information that supported the criteria set out under the purposes of the study. In examining the responses of the participants, the procedures of Dey (1993) were adapted. This consisted of generating a list of key ideas, words, phrases and verbatim quotes; using ideas to formulate categories and placing ideas and quotes in appropriate categories; examining the contents of each category for subtopics; and selecting the most frequent and most useful quotes and illustrations for the various ideas.

The coded data were displayed using the following headings: grouping of children; planning for the teaching, and learning of students with differing abilities; social relationships in the classroom, and other factors.

To ensure the dependability of the findings, the analysis of data was cross validated, using QSR NUD*IST 4 (Richards, 1998), a software programme designed to manage documents, create ideas and manage categories. It allows the researcher to index and code text, and collate ideas (Schutt, 2001). The transcriptions were entered into the computer using the same headings as for the initial manual analysis but independently of the initial coding.

The three themes that had emerged from the original analysis were thus used to establish categories within QSR NUD*IST 4 (Richards, 1998) which allowed authentication of the themes and a means of testing the legitimacy of the initial analysis. The original transcripts were then re-entered into QSR NUD*IST 4 (Richards, 1998) and the program was used to ascertain the frequency of the established themes from the initial manual coding in order to validate their significance. The researcher then meticulously compared the coding established in QSR NUD*IST 4 (Richards, 1998) with that of the initial manual coding in order to locate any anomalies. A 99% agreement rate was reached. Next, a second researcher with an interest in classroom practice coded the data according to the themes that had emerged. An agreement rate of 96% between the two codings was achieved. The words and phrases used in the QSR NU*DIST 4 pattern searches (Richards, 1998) were scrutinised by a researcher familiar with classroom research in order to authenticate their use in the current study.

As comparisons of the frequencies of the use of some descriptors by the HiEx, AvPr and LoEx Groups of teachers were to be included in the analyses it was important that these be examined with respect to the relative length of the transcripts. Table 29 provides a word count for the transcripts of each individual as well as the mean for each group. As can be seen in this table the mean length of the transcripts for the HiEx and LoEx Groups of teachers were similar while the mean for the AvPr teachers was lower than that for the other two. For this reason where frequencies of descriptors are explored in the following sections

comparisons will mainly be made between the HiEx and LoEx Groups of teachers whose means were more similar.

Table 29

Word Count for Interview Transcripts for Each Teacher by Teacher Group

HiEx Teachers	Transcript Word Count	AvPr Teachers	Transcript Word Count	LoEx Teachers	Transcript Word Count
Helen	2440	Alice	2064	Luke	2544
Heidi	2643	Angela	1439	Lauren	3083
Hannah	2568	Andrea	1900	Lana	2314
Heather	2946				
Holly	3687				
Hayley	1012				
Mean	2549.33	Mean	1801	Mean	2647

Results and Discussion

The analysis of the data did not superimpose categories but rather allowed themes to emerge from the teachers' responses to the interview questions. These themes mostly reflected the HiEx, AvPr and LoEx teachers' beliefs about how learning could best be supported for children of differing abilities. Accordingly three themes were identified and provide a focus for discussion. For the purposes of maintaining anonymity all participant names used throughout this study are pseudonyms. The three themes discussed are as follows:

- 1) Grouping children homogeneously by ability

- 2) Planning, teaching and learning when children are grouped homogeneously by ability
- 3) The socioemotional climate of the classroom

1) Grouping Children Homogeneously by Ability

Every teacher in the current study reported grouping his or her students by ability for instructional reading and most (9 of 12) also grouped their students for mathematics. This reflects the results of the IEA survey where New Zealand was found to have the greatest occurrence of within-class ability grouping of the 32 countries surveyed (Wagemaker, 1993; Wilkinson and Townsend, 2000). When the teachers in each group in the current study were questioned further, however, some between-group differences were found. All the teachers in both the AvPr and LoEx Groups arranged their students by ability for instruction in reading and their students remained in these ability groups throughout the time that was allocated to reading. This was not the case for all the HiEx Group teachers, however. Of these six teachers only Hayley maintained her groupings for both instruction as well as the completion of reading activities. Two of the teachers (Hannah and Heidi) ran individualised programmes where students were grouped for instruction based on similar learning needs at the time. Heidi then had all her students completing similar activities with some variation for ability. She said: "*Like if we are making a booklet, they are all making a book. Some of them are making it for themselves. Some of them are making it to teach others with and things like that. I try to get them all to do roughly the same sort of activity but try not to make it obvious that they're doing – well trying to differ the parts within that activity for each group rather than them all doing totally different work.*" Hannah, Holly and Heather, on the other hand, instructed their students in their ability groups but then allowed the students to choose the activities they would like to complete. Whilst these learning experiences did vary in terms of the skills required to complete them none of these teachers placed any restrictions on their students. For example, Holly reported: "*The children can choose the activities they do so*

they are not grouped for actual activities.” Heather had also married up her first and third quartiles and second and fourth quartiles so that these students read together daily as well. The remaining teacher in this group, Helen, instructed her students in their ability groups and they then completed task board activities in different groupings. The groups for these learning experiences were socially based so that the teacher could take behaviour and personality clashes into account. This meant that the instructional groups were quite different to the activity-based groupings.

It appeared that the high expectation teachers structured their grouping arrangements differently to those of the other two groups of teachers in that their students experienced dissimilar learning experiences to those of the students in the classes of the average progress and low expectation teachers. There are some possible implications of this for student opportunity to learn. The high and low ability students in the classrooms of the average progress and low expectation teachers participated in quite discrete learning activities. This may mean that they had correspondingly differing opportunities to learn. On the other hand both the low and high ability students in the classrooms of the high expectation teachers appeared to mainly participate in similar learning experiences which may mean less differentiation in the learning opportunities presented to their students. This will be discussed further in the following section specifically related to planning and teaching for students of high and low ability.

Basis for grouping in reading.

All teachers within each group reported assessing their students’ reading skills using Running Records. Almost all primary schools in New Zealand require teachers to conduct running records on their students for reading at regular intervals. As reported earlier running records enable teachers to meticulously record a child’s oral reading behaviours using a set of carefully developed procedures and conventions. Once the running record has been

completed the teacher can then analyse the student's reading behaviours to facilitate their teaching and the child's learning (Ministry of Education, 2000, p.4). In most schools running records are conducted on a regular basis to ensure that every child's instructional level is current and accurate. Some teachers (five from the HiEx Group, two from the AvPr Group and two from the LoEx Group) in the current study, however, also used additional methods of assessing their students. Other methods used to determine the reading levels of students included using the Progressive Achievement Tests (Reid & Elley, 1991), using information supplied by the previous teacher of the students and closely observing student reading patterns in the classroom.

Group changes.

The interviews were all conducted during the mid- to latter stages of term one of the school year when the students had been at school for approximately six to eight weeks. By then one teacher in each group (high expectation, average progress and low expectation) said that no children had changed groups. When asked why their students had not changed groups, Heidi who was one of the high expectation teachers explained: "*Probably because it's taken us a while to settle down and we don't do official assessments to get reading ages until about Week Five.*" And: "*Because I haven't made a big focus of it this term, of doing group work. We have mostly done whole class stuff.*" When Angela, one of the AvPr Group teachers, was asked why none of her students had changed groups she said: "*Because we are still working on the same levels as when we started at the beginning of the year.*" Luke, one of the LoEx Group teachers, responded similarly to Angela when he replied that none of his students had changed groups because he had not completed another set of running records on his students since the beginning of the year.

All other teachers in each of the respective groups had moved students to different reading groups as a result of additional monitoring completed since the beginning of the year.

In classroom situations where within-class ability grouping was in place we would expect to see frequent monitoring of groups and regular changes according to individual progress if the teaching was to be targeted at an appropriate level (Barr & Dreeben, 1983; Slavin, 1988). In this study most of the teachers across all three groups reported closely monitoring their students and making regular group changes according to current achievement.

Similarly when asked whether or not teachers expected some of their students to change groups by the end of the year only Alice, an AvPr Group teacher, did not think any children in her class would change groups by the end of the year. She said that the groups were now sorted and the children were content with their placements. All other teachers (11) expected groups to change during the year. Hayley, a HiEx Group teacher, replied: "*I hope so. I am definitely not into this is where you start, this is where you finish...I want them all to be progressing, but it's just some will progress faster through their levels.*" Andrea, an AvPr Group teacher, said: *I wouldn't like to think that you were in the green group forever or for the whole year.*" Lana, a LoEx Group teacher, responded: "*They change all the time, they are never static.*"

Reasons why children were grouped by ability for reading.

Researchers cite four main reasons that proponents use for supporting ability grouping (Cahan et al., 1996; Davenport, 1993; Fuligni et al., 1995; Hoffer, 1992; Mills, 1998; Oakes, 1985; Slavin, 1987). The first relates to making the management of children at different reading levels easier for the teacher. The second is that teachers believe that children's learning is more effective in groups where the teacher can adapt the content for those groups. The third is that teachers are able to provide an appropriate pace and level of instruction for their students. The final reason given for ability grouping is that this structure improves the self-esteem of the students. Teachers in the current study gave similar reasons for grouping.

Of the six HiEx Group teachers interviewed about why children were grouped by ability for reading four gave reasons relating to teacher management stating that grouping better enabled them to manage the diversity in their classrooms and/or that the teaching task became more manageable through grouping. Two of the AvPr Group teachers related grouping to ease of management and one of the LoEx Group teachers made a similar comment. A typical comment from Hannah was: “*Just to make it easier for planning. You know you have got a whole group at the same level, working on the same thing, rather than sort of bits all over the place. It’s really just ease of planning.*” Several researchers have also found that a common reason given by proponents of ability grouping relates to making the teaching task more manageable (Davenport, 1993; Mills, 1998; Slavin, 1987).

Only one teacher, Heidi, stated that she grouped children for reading because children learnt more effectively in groups. Heidi was a HiEx Group teacher who stated: “*So that we can provide learning experiences and activities that they can actually learn from, rather than something that’s too hard, or something that’s too easy.*” One argument presented by researchers for grouping by ability is that students learn more effectively when they are grouped with those of similar ability (Cahan et al., 1996; Fuligni et al., 1995; Hoffer, 1992) but in the current study only one teacher advanced this reason.

Another reason that three teachers from the HiEx Group, one teacher from the AvPr Group and two teachers from the LoEx Group gave for grouping children by ability was that in this way the teacher was able to provide an appropriate pace and level of instruction. A typical response from Heather, a HiEx Group teacher was: “*So that children can have material that’s suitable for their level given to them.*” Slavin (1987) argued that for within-class ability grouping to be effective teachers needed to provide an appropriate pace and level of instruction. At least one teacher in each group in this study appeared to believe that they were better able to provide such instruction when children were ability grouped.

Two teachers gave personal or social reasons for grouping students. Lana, a LoEx Group teacher, said that grouping students by ability boosted their confidence. Alice, an AvPr Group teacher, responded: "*There is a big reason why I want to put them in groups, because they have to help each other, share their knowledge, because the children learn from each other and not only that I have to encourage them to work together.*" No teachers in the HiEx Group reported using ability groups as a means of promoting student self-esteem or social relationships.

Overall the reasons that these teachers gave for why they grouped their students by ability for reading were consistent with the available literature. Although the size of the respective teacher groups were small in the current study, it is worth noting that only one teacher, Heidi, from the HiEx Group, expressed a belief that children learnt more effectively in ability groups. It is also interesting that none of the HiEx Group teachers, most of whom did not use ability grouping for their students' learning experiences, articulated a belief that ability grouping enhanced student self-esteem.

Generally the teachers with high expectations for their students' learning, those whose students made average progress, and those who had low expectations for their children's achievement, held similar beliefs about how ability groups should be formed in reading; about why their groupings had already changed or why they thought these would change later in the year; and about why they grouped their students into within-class ability groups. One notable difference, however, was that most of the high expectation teachers did not retain the same ability groupings while their students completed their reading tasks. This was not true for the students in the classes of the other two groups of teachers. It would seem possible that for the low ability students working in the classrooms of the high expectation teachers their lower achievement may not have been so obvious to them or to their peers. Hence this may have been a way of helping to preserve their self-perceptions of achievement. At one point

Heather, a high expectation teacher said: "*I think everybody has to be exposed to it (more advanced reading activity) or else I am differentiating and I think the effect will be difficult on the children who may be not quite ready for it, but you know they are still listening and they are still absorbing.*" The high expectation teachers do appear to be more aware of differentiating between their students and of the possible impact of this on student self-perceptions and learning. This may be why no teachers in this group expressed a belief that grouping enhanced student self-esteem.

2) Planning, Teaching and Learning When Children Are Grouped Homogeneously by Ability

Given the findings above that the high expectation teachers appeared to structure the learning opportunities for their ability-grouped students differently from the teachers in the average progress and low expectation groups it seemed important to more closely investigate the ways in which these groups of teachers reported designing their programmes in order to enhance their students' learning.

Incremental and fixed notions of intelligence.

During their interviews all of the teachers in all of the groups expressed the viewpoint that learning was incremental, that all students could learn given appropriate instruction. Heather, a HiEx Group teacher, stated: "*They may not all progress at the same rate because they put their energies into different things and then you have to say, well, have to talk about some goal setting and resetting goals and going forward again and then coming back and reflecting on it.*" Andrea, an AvPr Group teacher, said: "*I think some children often they come in, they take time to get going and then they just shoot off and they could make that accelerated learning and yeah I think other children might just be at that plateau and then take off. I mean I just think anything is possible.*" Lauren, a LoEx Group teacher, responded at one point: "*If they start to see it becoming too tough or whatever, that's when I step in and*

I break it down and make it more manageable for them, so that they can still succeed.” These responses also point to the role of the teacher in ensuring that learning is achievable for the students.

Wilkinson and Townsend (2000) reported a developmental notion of ability among the teachers in their study as well. As a further check on the frequency of this idea across the three groups of teachers the researcher searched for all words reflecting an incremental notion of ability (e.g. pre-testing, developmental, the next step, where they are at, scaffolding, goals). Using the QSR NUD*IST 4 pattern search facilities (Richards, 1998) the researcher searched for appropriate words and word patterns retrieving the context where the words were used and matching the utterances to high expectation teachers, average progress teachers and low expectation teachers (Table 30). Any instances that were not appropriate were deleted (e.g. where ‘goals’ was used to refer to the teacher rather than the students). A similar search was instigated for words that may show a fixed notion of ability (Table 31). In this way disconfirming evidence was also included. In interpreting Tables 30 and 31 it must be remembered that there are six teachers in the HiEx Group and three teachers in both the AvPr and LoEx Groups. Hence we might expect more responses for the HiEx Group teachers.

The first five searches in Table 30 relate more to the teachers determining the ways in which they might structure learning incrementally while the latter three searches relate more to the students having some responsibility for their own learning. By focusing on this first group of searches it can be seen that the incidence of teachers expressing the view that they need to break learning down into incremental or achievable steps is expressed more frequently by teachers with low expectations for their students than it is by either of the other two groups of teachers. On the other hand when the last three searches are considered the group of high expectation teachers more frequently make reference to their students setting their own goals and being successful in achieving these through their own efforts. This may align with the

idea presented in the previous section that the high expectation teachers appeared to give their students more choice in the activities they completed in reading. It may be that the high expectation teachers then placed some of the responsibility for student learning on the children themselves. Contrastingly the low expectation teachers appeared from the previous section to take more control of what the learning opportunities were to which their students were exposed (as did the average progress teachers) and so it may follow that they also felt more responsibility to ensure that the learning tasks were sequentially organised for their students. This aspect of student choice will be more fully explored in a later part of this section. Of course it must be remembered that the current study reflects teacher beliefs and self-reported practices rather than actual teacher practice. We cannot be certain that these espoused beliefs would be evident in practice. The literature, however, often shows that teacher beliefs have strong alignment with teaching practice (Babad, 1998; Borko & Niles, 1983; Fang, 1996; Flowerday & Schraw, 2000).

Table 30

Number of Teacher Utterances Containing Descriptors Relating to an Incremental Notion of Learning by Teacher Group

Descriptors	HiEx Group (No. = 6)	AvPr Group (No. = 3)	LoEx Group (No. = 3)
[small parts small steps success orientated steps the right steps next step next stage developmental achievable]	2	1	5
[scaffold scaffolds scaffolded scaffolding]	1	0	0
[pushing them push them pushing as far moving them on ready for it go the extra bit get up there extend them that bit further]	4	2	2
[breaking the tasks down break it down breaking it right down]	0	0	2
[what they know baseline at the appropriate level where they are at where they're at what level they're at the level of the children at their level just right ready for]	7	3	6
Subtotal	14	6	15
[effort trying hard trying really hard]	6	1	2
[setting up goals the next goal small achievable goals achieve their goals goal setting goals]	10	1	4
[clicked reach for the stars boom just fly they are away the light goes on shoot off take off suddenly get it twig leaps and bounds]	4	1	0
Subtotal	20	3	6

Table 31 shows how frequently teachers refer to students as having high or low intelligence reflecting a view that this is fixed. Because many of the questions in the interview (refer Table 28) were framed in terms of high and low ability the current table does

show a large number of utterances framed in these terms. It is of note, however, that there are very few other statements for any group of teachers in which a fixed notion of intelligence might be assumed. The idea that the teachers do not have such a view was further reinforced by two of the high expectation teachers, Helen and Heather, saying during their interview that they did not like the terms "high" and "low ability." Helen expressed her opinion by saying: "*Well as I said at the beginning low ability to me is not a tag that I particularly care for. I would prefer to see it as greater needs.*" It seems possible that had the questions not been framed in terms of high and low ability then these terms might not have been used so frequently by the teachers.

Table 31

Number of Teacher Utterances Containing Descriptors Relating to a Fixed Notion of Learning When Referring to Low Ability or High Ability Students by Teacher Group

Descriptors	HiEx Group (No.= 6)	AvPr Group (No. = 3)	LoEx Group (No. = 3)
[low expectations lower expectations]	0	0	0
[high expectations higher expectations greater expectations]	1	0	0
[stuck fixed stable]	0	0	0
[intelligence]	0	0	0
[high ability low ability]	36	18	12

Teacher support.

It would seem possible that if Helen's conception of low ability students as having greater needs were more pervasive among the teachers in this study, then it would be likely that the teachers would report providing the low ability students with more support than the high ability students. Hayley, a HiEx Group teacher, when speaking about low ability students, reported: "*They get more individual attention on a regular basis.*" Alice, an AvPr Group teacher, said: "*I work more with the lower ones than my higher ones.*" Luke, a LoEx Group teacher, also expressed a similar view in relation to his low ability students: "*I spend more time with them every day; my top groups I am only seeing them every second or third day, but my lower group I see every day.*"

As a consequence it would seem that the teachers might then spend less time with the high ability students. This appeared to be confirmed by the teachers. Holly, a HiEx Group teacher stated: "*The high groups probably get a lot more freedom and they don't see the teacher as much.*" Angela, an AvPr Group teacher said: "*They have more advanced work than my lower group. I work with my lower ones and leave the higher ones to carry on by themselves.*" Lauren, a LoEx Group teacher reported: "*Those children usually have good independent work habits so with those children as long as you can spare five or ten minutes a session just to have a little quick chat with them you can then basically leave them after that.*"

In order to determine whether this belief about teacher support did vary across the different teacher expectation groups QSR NUD*IST 4 pattern search facilities (Richards, 1998) were used by the researcher to search for appropriate words and word patterns relating to the amount of time the teachers in the different expectation groups spent with students of varying abilities (e.g. more one on one, more independent, more support, more time). The context where the words were used was retrieved and the utterances matched to high ability and low ability students according to the teachers' statements. Any instances that were not

appropriate were deleted (e.g. where a teacher spoke about families giving their children more support). Table 32 reveals the results and shows the extent to which teachers in the different groups spent differing proportions of time with their students. Four HiEx Group teachers, one AvPr Group teacher and all LoEx Group teachers reported spending additional time with low ability students. On the other hand, four HiEx Group teachers, one AvPr Group teacher and one LoEx Group teacher said that they gave the high ability students more independent activities and saw them less often than the low ability students.

Remembering that the data is self-reported and that the numbers of teachers in each group are small, Table 32 shows that proportionately the low expectation teachers more frequently reported spending additional time with the low ability students than did the high expectation teachers. In contrast the high expectation teachers more frequently reported allowing their high ability students to work independently. This finding is perhaps not surprising given the differences found between these two groups in the previous sections. The differences reported earlier seemed to suggest that the high expectation teachers allowed their students more choice in terms of the activities they asked their children to complete and also saw student achievement as related to some degree to student efforts and goal setting. In contrast the low expectation teachers seemed to design particular activities for specific students and then saw themselves as contributing to designing achievable learning steps for students to a greater degree than did the high expectation teachers. Given these findings it is perhaps not surprising that the high expectation teachers would give their high ability students more frequent opportunities for independent learning. It may also be that because they saw their students as having a role in their own achievement that spending additional time with their low ability students was not so important as it was for the low expectation teachers.

Current research remains divided about whether or not teachers spend more or less time with students of low ability. Several researchers have reported that teachers spend more

time with low ability students (Babad, 1993a, 1998; Good & Thompson, 1998; Jussim et al., 1998; Wilkinson & Townsend, 2000) while others have found the opposite (Barr & Dreeben, 1991; Gamoran, 1986; Linchevski & Kutscher, 1998). It may be that were this question to be examined in relation to specific types of teachers as in the current study that a more conclusive answer may be possible.

Table 32

Number of Teacher Utterances Containing Descriptors Relating to the Amount of Time the Teacher Spends With Children of Varying Abilities by Teacher Group

Descriptors relating to low ability students	HiEx Group (No. = 6)	AvPr Group (No. = 3)	LoEx Group (No. = 3)
[one on one one to one more individual attention]	4	1	3
[more time a lot more time see me more often more teacher time]	1	1	2
[do their own thing more independence more independent more freedom]	0	0	0
[less time don't need me don't see the teacher as much]	0	0	0
Descriptors relating to high ability students	HiEx Group (No. = 6)	AvPr Group (No. = 3)	LoEx Group (No. = 3)
[one on one one to one more individual attention]	0	0	0
[more time a lot more time see me more often more teacher time]	0	0	0
[do their own thing more independence more independent more freedom]	5	2	1
[less time don't need me don't see the teacher as much]	1	0	0

Given the findings in the current study it could be surmised that the high expectation teachers perhaps viewed their role more as facilitative than directive. Were this to be one possible explanation then it might be expected that the high expectation teachers would report a higher degree of monitoring of their students than the low expectation teachers. This would be the case since in a facilitative role the teacher would perhaps need to monitor students closely in order to ensure that the activities which students were choosing and at times completing independently were at an appropriate level. This may not be so important when the teacher's role was directive since in this role the teacher would be more conspicuously involved in teaching and assigning particular activities to different groups of students. Their approach would be more hands on. Hence the level of student monitoring for high and low expectation teachers will be explored in the following paragraph.

In order to discover whether or not the high expectation teachers did talk about assessing or monitoring their students more frequently than the low expectation teachers the QSR NUD*IST 4 pattern search facilities (Richards, 1998) were again used by the researcher to search for appropriate words and word patterns relating to the assessment and monitoring of students. The results are presented in Table 33. As can be seen from this table the HiEx Group teachers (all six) did speak more frequently about assessing and monitoring their students' learning than the AvPr Group teachers (one teacher) or the LoEx Group teachers (three teachers). This perhaps serves to confirm that while the high expectation teachers did not appear to differentiate to the same extent as the low expectation teachers between the activities for their students and seemed to provide them with more independence, at the same time, from the self-report evidence and their beliefs about assessment, they appeared to be monitoring their student learning fairly closely. Beliefs about the place of assessment and monitoring for student learning were more often expressed by this group than they were by

either of the other two groups. This may further support the conception of a belief by the high expectation teachers that their role was facilitative.

Table 33

Number of Teacher Utterances Containing Descriptors Relating to the Assessment and Monitoring of Students by Teacher Group

Descriptors	HiEx Group (No. = 6)	AvPr Group (No. = 3)	LoEx Group (No. = 3)
[monitoring monitor pre-test diagnostic identify their learning what they can do]	17	2	3
[assess assessment assessments assessing assessed]	17	0	9
[feedback about their learning feedback]	6	0	2

The following comment from Heather is typical of that expressed by the HiEx Group of teachers: “*The lessons are needs-based in that I give a lot of feedback to children and in the talking you know about them, and the watching, the observing, that's the time when I actually identify their learning or lack of learning and what skill they need to sharpen next, so then I weave that into whatever I am doing.*”

It has been suggested in previous sections that the high expectation teachers may give their students more independence in the learning opportunities in which they engage than the low expectation teachers. If this were found then it might also be expected that they would need to ensure that the activities were appealing to the students so that the children would be more likely to remain motivated and engaged in their learning. Both these aspects will be investigated in the following sections.

Student participation in learning.

It was reported previously that the high expectation teachers did not appear to differentiate between the learning opportunities that their high and low ability students would complete to the same extent as the low expectation and average progress teachers reported. It was suggested that the high expectation teachers might also give their students more choice in their learning experiences. This will be more fully explored in the following section.

During their interviews, Helen, a HiEx Group teacher, had said: "*There are activities that they can go to by choice. There are computer activities...*" and she went on to list the types of activities that were available to all her students. Holly, another HiEx Group teacher, also appeared to give her students some choices. She said: "*I basically give them a choice to a point and as long as they are going in the right direction that I want them to be going in...So often I try and let them decide on their own learning experiences.*" Hannah, a HiEx Group teacher, expressed a similar view: "*I might give them a range and say we could work on this, or we could work on that, what would you like to work on? So that they have got to take ownership of it.*"

In order to determine whether teachers in the high expectation group did more frequently report giving their students some choices in their learning particularly with respect to the learning experiences they completed QSR NUD*IST 4 pattern search facilities (Richards, 1998) were used by the researcher to search for appropriate words and word patterns relating to the choice that teachers in the different expectation groups gave to their students. Searches were conducted for high ability students alone as well as across all students to determine whether choice was given only to high ability students or to all students. Any instances that were not appropriate were deleted (e.g. where a teacher spoke about choosing the activities for students herself). Hence the initial section of Table 34 includes

teachers referring to both high and low ability students while the latter section relates only to teacher references to high ability students.

Table 34 presents the results and does show that the high expectation teachers (four) in this group did report giving their students more choice in their learning more frequently than did the teachers in the other two groups. Of the other two groups one LoEx Group teacher reported giving her students some choice. This implies that the learning opportunities for students would be quite different in the classes of these high expectation teachers to those provided by the average progress and low expectation teachers in their classrooms. Students with the high expectation teachers in this study would all have access to challenging learning experiences. The low ability students may not so frequently be exposed to the lower level, repetitive activities that have been reported in some of the literature (Barr & Dreeben, 1991; Davenport, 1993; Dawson, 1987; Gamoran, 1992; Good & Brophy, 1997; Hacker et al., 1992). This will be investigated at a later stage in the current study. A further implication of students having choices in their learning is that through having these they are likely to have more opportunities to work with a variety of their peers and hence the lower ability students may benefit from positive peer modelling. It would be important, though, when students were given choices that their learning was carefully monitored and it was reported earlier that the high expectation teachers certainly identified using assessment and monitoring in their classrooms more frequently than their colleagues. A further factor in giving students choices in their learning would be to ensure that students were motivated to learn. The following section will explore ways in which the teachers in the current study endeavoured to ensure that their students were enthusiastic about their learning.

Table 34

Number of Teacher Utterances Containing Descriptors Relating to Student Choice in Their Learning by Teacher Group

Descriptors related to all students (high and low ability)	HiEx Group (No.= 6)	AvPr Group (No. = 3)	LoEx Group (No. = 3)
[choice choose pick they choose they decide ownership]	17	0	2
Descriptors related to high ability students only	HiEx Group (No.= 6)	AvPr Group (No. = 3)	LoEx Group (No. = 3)
[choice choose pick they choose they decide ownership]	6	0	0

One of the ways in which some teachers can provide students with clear learning steps is through goal setting. Teachers whose students set goals believe that this provides students with achievable learning, is motivating for students and enables them to monitor their own progress. In the current study five teachers expressed the view that goal setting assisted student learning. Three of these were HiEx Group teachers while of the remaining two one was from each of the AvPr and LoEx Groups. One observation from Heather, a HiEx Group teacher, in talking about goal setting was: “*Well I think they have to know what they can do... Actually knowing what it is that they are learning to do is really powerful and potent. So it's easy for the children to know what they are working on and I try to always be specific about why we are doing it because I just think that's educationally sound. I think they need to know when they have made personal progress.*” Again setting clear learning goals with their students appeared to be a more common practice with the HiEx Group teachers than with the

other groups of teachers. The high expectation teachers seemed to believe that goal setting helped to motivate their students.

A further way which was mentioned by teachers to motivate and enthuse students to learn was to ensure that the learning opportunities were centred round student interests. Since the high expectation teachers appeared to give their students more freedom in choosing their learning opportunities it might be expected that these teachers would endeavour to provide a range of activities that they felt would interest and excite their students in order to keep them motivated and wanting to learn. Indeed this was what was found with five of the six HiEx Group teachers speaking at some stage of their interviews about maintaining student interest in their learning. Helen stated: "*I'm always looking to see what interests children.*" It appeared that these teachers placed significance in student interest and enthusiasm as a means of promoting learning. Holly reported: "*I have a couple of really low kids who aren't interested in maths and just don't like it, but they love cricket so we found some batting averages activities and they just loved it and they worked on that problem for 40 minutes until they worked it out... Sometimes it's finding activities that they are interested in, rather than just doing something they are not into.*" Heather who gave her students a lot of choice in the activities they completed and how they were completed said: "*I just think that having mixed ability with the ability is really important so that they have all got a contribution to make and their skills, their particular skills are valued this way because if you have a pecking order in the class, motivation can go out the window and you won't see star charts and stuff like that in my room. I am more interested in intrinsic motivation than extrinsic so I don't have them.*"

Within the other two groups of teachers two average progress teachers and two low expectation teachers spoke about considering student interests when planning activities.

Andrea, an AvPr Group teacher, stated: "*I think at first I try to get things that will engage their interest and sometimes that's asking the children themselves you know what they*

are interested in, what they would like to do, how they would like to do it.” Lana, a LoEx Group teacher, made a similar response: “*If they enjoy it, they tend to put more effort into it, so I have tried to base it around their interest...So I base my topics around their interests so that motivates them to put that extra effort in.*”

In order to establish the degree to which teachers in the three groups spoke about using student interests and exciting activities to motivate them QSR NUD*IST 4 pattern search facilities (Richards, 1998) were used by the researcher to search for appropriate words and word patterns. These are presented in Table 35 and show that the high expectation teachers spoke far more often about student motivation and interest than the teachers in the other two groups.

By now there is a pattern across the many analyses and pattern searches conducted thus far in the current study of the high expectation teachers expressing beliefs related to planning for the learning of their students and teaching their groups which differ to some degree from the beliefs expressed by the other groups of teachers. The greater degree to which the high expectation teachers appear to value student interest and motivation in planning and designing activities for their learning is a further example of these patterns. As implied earlier utilising student interest and enthusiasm in the designing of learning opportunities may be one way of ensuring student engagement in their tasks.

Table 35

Number of Teacher Utterances Containing Descriptors Related to Utilising Student Interest,
Motivation and Enthusiasm in Planning Learning Experiences by Teacher Group

Descriptors	HiEx Group (No.= 6)	AvPr Group (No. = 3)	LoEx Group (No. = 3)
[motivation motivate motivated motivates motivating]	5	1	1
[enjoy enjoyment enjoying excited exciting keen]	12	0	8
[interest their interest interested interests student interest interesting]	28	9	2

Providing differentiated learning opportunities.

The previous sections have explored the ways in which the high expectation teachers believed that learning opportunities should be offered to all their students. One interesting finding was that among these teachers their students were given more opportunities to select their learning experiences and the teachers did not report discriminating between activities for their low ability and high ability students to the same degree as seemed evident from the self-reports of the average progress and low expectation teachers. Hence it was important to explore the degree to which these separate groups of teachers did actually differentiate between their respective high and low ability students. Given the findings already presented it might be anticipated that the high expectation teachers would report discriminating between their high and low ability students to a lesser extent than the average progress and low expectation teachers.

QSR NUD*IST 4 pattern search facilities (Richards, 1998) were used by the researcher to search for appropriate words and word patterns relating to the types of activities

sometimes reported as being used in relation to students of high ability (e.g. extension, problem solving, research) in contrast to those found to be used in relation to low ability students (e.g. concrete, repetitive, structured). The context where the words were used was retrieved and the utterances matched to high expectation, average progress and low expectation teachers. This allowed for both confirming and disconfirming evidence to be included. Any instances that were not appropriate were deleted (e.g. where a teacher spoke about her own knowledge of research). The results are presented in Table 36.

Not surprisingly given the previous analyses Table 36 shows less frequent differentiation by the high expectation teachers than by the low expectation teachers. This was particularly true when the statements related to low ability students were considered. Three of the six high expectation teachers made statements including words at times associated with the teaching of low ability students. In contrast all of the average progress and low expectation teachers made such statements. Hayley, who was the one high expectation teacher who did report providing separate activities for her high and low ability students, said: "*The low ability children require more activities using concrete materials.*" Angela, an average progress teacher said: "*There is a big difference between the activities for my high group and my low group. The work that my high group is doing is more advanced but my low group is reinforcing and practising the work that they are doing from day to day. My high group doesn't do that.*" Luke, a low expectation teacher who also reported planning quite different activities for his low and high ability students, when referring to his low ability students, stated: *A lot of repetition, every day...until they can start recalling their basic number facts.*"

On turning to the references to high ability students and their learning opportunities, five of the high expectation teachers used statements related to providing them with independent, extension types of activities, two of the average progress teachers made such

statements and all of the low expectation teachers made such references. Most of the high expectation teachers seemed to have similar activities available for all their students but then also provided more advanced activities in learning centres for the high ability students to complete independently although they did not usually confine such activities only to their high ability students. Interestingly there were four statements made by the HiEx Group teachers when referring to low ability students where the words ‘independent,’ ‘research’ and ‘problem solving’ were used. This was not true for any of the average progress or low expectation teachers. Hannah, a HiEx Group teacher said: “*For the high ability...to develop independence in their learning the children can go to the learning centre and do the problem solution chart and really think about what they have read and things like that.*” On the other hand the average progress and low expectation teachers appeared to mostly have separate activities for the high ability students that only they completed. For example, Alice, an AvPr Group teacher, reported: “*I would be looking at more independent type activities for my high ability children compared to the low ability children. Yes, I think just for my high ability group I would be looking at more complex tasks, tasks that they would have to work on in a more independent way.*”

Table 36

Number of Teacher Utterances Containing Descriptors Where Teachers Differentiate Between the Learning Experiences Provided for High and Low Ability Students

Descriptors related to high ability students	HiEx Group (No.= 6)	AvPr Group (No. = 3)	LoEx Group (No. = 3)
[extension independent research problem solving complex]	12	5	9
[higher order thinking beyond the text thinking outside the square inferential]	1	0	5
Descriptors related to low ability students	HiEx Group (No.= 6)	AvPr Group (No. = 3)	LoEx Group (No. = 3)
[repetitive repetition structured simple easy reinforcing reinforcement simplified]	3	7	5
[hands on concrete kinaesthetic games]	4	0	5
[short concentration lack concentration]	0	0	2

By examining the beliefs and reported practices of the high expectation, average progress and low expectation teachers some interesting differences have been uncovered which have implications for the learning opportunities provided for the students in these classes and perhaps also for student engagement and success on these tasks. It was suggested earlier that in the classrooms of the high expectation teachers, students may have more opportunity to work with a range of their peers and that this may result in low ability students being more regularly exposed to high quality peer modelling. One other feature that was also of interest in the current study was aspects which the high expectation, average progress and low expectation teachers reported that might contribute to the promotion of the

socioemotional environment in the classroom. Both these facets will be explored in the following sections.

3) The Socioemotional Climate of the Classroom

One way in which the socioemotional climate of the classroom can be promoted is through the enhancement of the social relationships in the classroom both between peers as well as with the teacher. Of interest in the current section were not only how peer relationships were developed but also whether or not students of differing abilities were given the opportunity of working together on a regular basis.

Promoting peer relationships.

In an earlier section it was suggested that in the classrooms of the high expectation teachers where students appeared to have more freedom in selecting their learning opportunities and where teachers differentiated less between the activities for high and low ability students, that low ability students may have had more opportunity to work with high ability students than might be found in classrooms where learning experiences were more specifically designed for students with particular abilities. It did appear from the interviews that teachers allowed and encouraged their students to work together. Helen, a HiEx Group teacher, reported: "*I often pair them up because they make a lot of gains that way.*" Andrea, an AvPr Group teacher, said: "*The higher ability children, they would be chosen for tasks like peer tutoring...give them that, yeah, opportunity to extend their skills while helping the lower ability ones.*" Luke, a LoEx Group teacher, said: "*When we come together into our groups there is a lot of buddy tutoring. So my top groups actually take the role of the teacher as the educator.*"

Hence a QSR NUD*IST 4 pattern search was conducted to search for appropriate words and word patterns relating to an indication that students would be working together

rather than on their own (e.g. peer, buddy, partner) and that such groupings involved students of high and low ability working together.

Five of the HiEx Group teachers, two of the AvPr Group teachers and all of the LoEx Group teachers made reference to using peer arrangements which meant that students would be working together on activities. An examination of Table 37, however, shows that the high expectation teachers made proportionately more responses where they referred to their students working together than did the average progress or low expectation teachers. If this in turn meant that the students spent more of their time working together rather than alone or in ability groupings then this may also mean that the low ability students were more frequently receiving high quality modelling from their peers than students in the classes of average progress and low expectation teachers. Furthermore when students had the opportunity to work with a range of peers in a classroom this may have also contributed to enhancing the cooperative and social environment of the classroom.

The HiEx Group teachers appeared to believe that peer grouping did contribute to a supportive classroom environment. Hannah said: *The girl that is still on emergent, well they all want to buddy with her and help and she feels special because of that I guess.*" Heidi stated: "*They seem very supportive of each other ...I think consciously they try and help each other if they know they need help and things like that.*" It is possible that in the classrooms of the average progress and low expectation teachers where the students often worked in their own ability groups that students would tend to form social relationships mainly with the students in their respective groups. In the classrooms of the high expectation teachers, on the other hand, where students more often worked with a range of their peers it may be that this helped to create a warmer, more supportive social climate in the classroom. The following section will investigate further ways in which teachers possibly promoted the socioemotional climate of the classroom.

Table 37

Number of Teacher Utterances Containing Descriptors Related to Students Working With Their Peers, by Teacher Group

Descriptors	HiEx Group (No. = 6)	AvPr Group (No. = 3)	LoEx Group (No. = 3)
[peer buddy partner cooperative groups pair help each other work together]	23	3	6

Promoting the socioemotional climate of the classroom.

Teachers in all groups appeared to recognise the value of creating a positive and caring socioemotional climate. Many seemed to actively endeavour to promote student self-esteem. Helen, a HiEx Group teacher, observed: “*There are times when we applaud you’re a good artist and you are good at throwing the ball and I am very, very careful that they all have an opportunity to shine in something...I think for self-esteem it’s important to be high ability in something.*” Alice, an AvPr Group teacher, reported: “*I just encourage them and reinforce them to empower them and that way they won’t be shy.*” Lana, a LoEx Group teacher, stated: “*That is my main goal to build their self-esteem up.*”

In order to establish the prominence of discussion about teacher caring and promotion of the socioemotional climate of the classroom a QSR NUD*IST 4 pattern search was conducted to search for appropriate words and word patterns relating to promoting self-esteem and feelings of self-worth (e.g. encourage, celebrate, confidence). Instances that did not directly relate to the socioemotional climate were eliminated, e.g. when a teacher spoke about her own success. Every teacher in all groups at some stage included at least one of the descriptors used in the pattern searches. Table 38 shows, however, that the high expectation

teachers used descriptors related to a positive socioemotional climate more often than either of the other two groups of teachers. Assuming that the self-report evidence of the teachers is accurate then it may be that the high expectation teachers more actively promoted the socioemotional climate of their classrooms. In reducing his four-factor theory to a two-factor theory (affect and effort) Rosenthal (1991) recognised the socioemotional climate of the classroom as being as important as the instructional climate in mitigating teacher expectation effects. It appears that, providing that the high expectation teachers do what they have described in their classrooms, then not only would the instructional environment be different from that of the other groups of teachers but the socioemotional environment would possibly differ as well.

The high expectation teachers appeared from the evidence in their interviews to take an active role in promoting both peer relationships and individual self-perceptions. This may in turn have created a positive socioemotional climate in their classrooms. Some researchers have reported that students are more likely to be motivated to work when they feel that their teacher cares about them (Archer, 2000; Wentzel, 1997). It would seem that a pleasant social environment where students felt valued could have had positive implications for the motivation and learning of the students in the classrooms of the high expectation teachers.

Table 38

Number of Teacher Utterances Containing Descriptors Relating to the Socioemotional Climate of the Classroom by Teacher Group

Descriptors	HiEx Group (No.= 6)	AvPr Group (No. = 3)	LoEx Group (No. = 3)
[encourage encouraging encouragement]	7	5	0
[praise reinforcement]	4	1	1
[happy happiness shine gorgeous fantastic wonderful]	8	0	3
[success successful]	2	0	2
[self-esteem confidence]	4	0	2
[celebrate applaud clap]	4	0	3
Total	29	6	11

Conclusions to Study Three

In the current study the beliefs of the high expectation, average progress and low expectation teachers in relation to the grouping of students, planning for their learning and the socioemotional climate of the classroom have been explored and examined. Some important differences have been located between the beliefs and self-reported practices of these respective groups. The high expectation teachers in the current study appeared to assume a facilitative role rather than a directive role with respect to the designing of learning opportunities for their students. This means that they provided the learning opportunities for their students but appeared to make less differentiation in the kinds of activities that students

of differing abilities would complete and seemed to give their students more choice in their learning experiences. On the other hand the average progress and low expectation teachers appeared to have set and separate activities for their high and low ability students. They directed their learning to a greater extent. These teachers appeared to differentiate more than the high expectation teachers between the learning experiences that they reported designing for their low and high ability students. This is not to say, however, that the high expectation teachers gave their students complete freedom and lacked awareness of their achievement. In fact the high expectation teachers appeared to monitor their students' learning more closely than the other two groups of teachers. This has some important implications for their students. Firstly the children would be given more responsibility for their own learning which could increase their internal motivation. Furthermore because their teachers were closely monitoring their learning the students may be being reminded regularly of their successes and achievement; many of them also appeared to be provided with clear learning goals so that they had a direction to their learning. For the teachers this facilitative role meant that they needed to provide learning opportunities that would appeal to their students so that the children's motivation and enthusiasm were maintained. This may mean that teachers would need to be more closely guided by their students' particular needs and interests rather than the strict dictates of the curriculum documents. This would, in turn, require considerable pedagogical knowledge on the part of the teachers in order to ensure that appropriate learning opportunities were provided for their students.

In the more directive role that the average progress and low expectation teachers appeared to assume their high and low ability students seemed to work quite separately and hence were likely to interact less frequently with a range of peers than seemed to be the case for the students of the high expectation teachers. The high expectation teachers appeared to believe that enabling all students to work together more frequently would enhance the

learning of the low ability students. A possible implication of this is that because the students had more opportunities to work together in mixed ability groupings that this would augment the socioemotional climate, that the classroom would become a more cooperative, cohesive group of students who were used to working with and supporting each other. Coupled with teachers who appeared to believe in the importance of enhancing student self-perceptions and in creating a positive classroom environment it is possible that the socioemotional climate in the classrooms of the high expectation teachers was more supportive and conducive to learning than that of the average progress and low expectation teachers.

Given the differences found in the current study between the beliefs and reported practices of high and low expectation teachers it would seem possible that teachers' beliefs are one mechanism through which differing learning opportunities are provided to their students. The learning opportunities that teachers provide for their students will ultimately determine what the students are able to learn. No other studies have been located that have explored teacher beliefs as a mechanism for teacher expectation effects. The current study has discussed some of the possible outcomes for students as a result of being placed in classes with teachers who hold differing expectations for their learning and seemingly differing beliefs about how learning should be delivered.

In Study One it was shown that some teachers did have uniformly high or low expectations for their students. For some high expectation teachers in reading their students made significant achievement gains over the year of the study. There was another group of high expectation teachers, however, whose students did not make significant academic progress. For the students with the low expectation teachers they made small or negative gains. Studies Two and Three have investigated some possible instructional practices and teacher beliefs that may have led to these differential learning gains for the students. The

final study will examine any effects on student self-perception as a result of being placed in the classes of high or low expectation teachers.

CHAPTER SIX

STUDY FOUR: INVESTIGATING THE SELF-PERCEPTIONS OF STUDENTS WHOSE TEACHERS HAVE VARYING EXPECTATIONS FOR THEIR PERFORMANCE

Study Four was designed to explore relationships between teacher expectations for student performance and student perceptions of their abilities in reading, mathematics and physical skills. In Study One it was shown that the academic achievement in reading of the students in the classes of the high expectation teachers improved significantly over the year while that of the students in the classes of the average progress and low expectation teachers did not. In Study Two it was shown that the high expectation and average progress teachers instructed their students similarly while the low expectation teachers' instructional interactions with their students differed somewhat from the other two groups. In Study Three it was found, however, that the average progress and low expectation teachers believed that high and low ability students needed quite differing opportunities to learn while the high expectation teachers reported less discrimination. In both Studies Two and Three it was found that the high expectation teachers appeared to create a warmer and more supportive socioemotional climate in their classrooms than did the average progress and low expectation teachers. Given the relationship uncovered in Study One between teacher expectations and academic outcomes for students and given the differing instructional environments created by the high expectation, average progress and low expectation teachers, the current study was designed to explore whether or not there was any relationship between teacher expectations and the social-emotional outcomes for students. This aspect was examined by focusing on student self-perceptions and any changes in these over one year. Hence the main research question for this study was: Is there a relationship between teacher expectations for their classes and student self-perceptions?

Method

Participants

The participants in this study were 381 students drawn from eight different schools and taught by those 12 teachers included in the previous study. Of these students, 195 were in the classrooms of the high expectation teachers identified in the previous studies (HiEx Group), 96 were in the classrooms of the average progress teachers (AvPr Group) and 90 were in the classrooms of the low expectation teachers (LoEx Group). The demographic make up of the students in each of these groups may be found in Table 39. This table includes numbers of students by gender, by socioeconomic area (deciles 1-5 are defined as low and deciles 6-10 are defined as high), by class level (where Year One and Two students are classified as junior and Year Five and Six students are classed as senior) and by ethnicity.

Table 39:

Demographic Data by Teacher Group for the Students in the Current Study

	HiEx Group	AvPr Group	LoEx Group
Total No. of Students	195	96	90
Boys	107	49	45
Girls	88	47	45
High Decile	130	31	62
Low Decile	65	65	28
Junior Level	129	31	27
Senior Level	66	65	63
NZ European	108	19	45
Maori	17	20	30
Pacific Island	25	45	0
Asian	44	11	15
Other	1	1	0

Settings

All students completed the self-perception scale designed for this study in March and November of 2001. Surveys were completed in the students' classrooms in small groups if it was a junior class and as a whole class if it was a senior class. The researcher and six assistants conducted all testing; the classroom teachers were released during the testing. In the junior classes the students were divided into seven small groups with each administrator taking one group; in the senior classes the researcher read the survey statements while the

assistants wandered around the classroom ensuring that students were on-task and were completing the surveys correctly. Having the junior students in small groups was designed to help ensure that they stayed on task and to ease any language difficulties they may have had (Measelle et al., 1998).

Materials

The self-perception scale used for surveying the students' feelings about themselves in various areas was adapted from the Self Description Questionnaire – 1 (SDQ-I (Marsh, 1990)) with the permission of the author. The SDQ-I consists of eight scales designed to illustrate a child's perceptions in separate areas of self-concept. These scales which consist of both academic and non-academic areas are: the physical abilities scale, the physical appearance scale, the peer relations scale, the parent relations scale, the reading scale, the mathematics scale, the general school scale and the general self scale (Marsh, 1990). Of these the physical abilities scale, the reading scale, and the mathematics scale were of particular interest in the current study. The peer relations scale was also included. The statements from the Self-Perception Scale are included in Table 40. As well as these scales two additional items were added. These were: the teacher thinks I am good at reading, the teacher thinks I am good at maths. These items were added in order to determine whether there were any changes over the year in the students' perceptions of how their teachers viewed their abilities.

Table 40:

Statements Contained in the Student Self Perception Questionnaire

-
- | | |
|---|---|
| 1. I can run fast | 21. I am good at sports |
| 2. I get good marks in READING | 22. I enjoy doing work in READING |
| 3. I hate MATHS | 23. I learn things quickly in MATHS |
| 4. I have lots of friends | 24. Other kids want me to be their friend |
| 5. I like to run and play hard | 25. I can run a long way without stopping |
| 6. I like READING | 26. Work in READING is easy for me |
| 7. Work in MATHS is easy for me | 27. I like MATHS |
| 8. I make friends easily | 28. I have more friends than most other kids |
| 9. I hate sports and games | 29. I am a good athlete |
| 10. I am good at READING | 30. I look forward to READING |
| 11. I look forward to MATHS | 31. I am good at MATHS |
| 12. Most kids have more friends than I do | 32. I am popular with kids of my own age |
| 13. I enjoy sports and games | 33. I am good at throwing a ball |
| 14. I am interested in READING | 34. I hate READING |
| 15. I get good marks in MATHS | 35. I enjoy doing work in MATHS |
| 16. I get along with kids easily | 36. Most other kids like me |
| 17. I have good muscles | 37. I learn things quickly in READING |
| 18. I am dumb at READING | 38. I am dumb at MATHS |
| 19. I am interested in MATHS | 39. The teacher thinks I am good at
READING |
| 20. I am easy to like | 40. The teacher thinks I am good at MATHS |
-

For each item which is a simple statement the students are asked to respond on a five-point scale as follows: false, mostly false, sometimes true/ sometimes false, mostly true, true. For each of the four scales used in the current investigation the eight positively worded items included in the original questionnaire were used. As well as this the six negatively worded statements from the original questionnaire which related to the areas currently being explored were also included to ensure more thoughtful consideration of each item (Marsh, 1990). Marsh (1990) proposes that these not be included in the scores for the four scales and hence these were excluded from the scoring.

The 40-item questionnaire was then trialled with a class of 24 Year One and Two students not otherwise involved in the current study to determine the ease with which the items could be understood. The only difficulty encountered was in understanding the word ‘mathematics’, the students more readily comprehended ‘maths’ and hence the latter was substituted for the former in the questionnaire which was used in the current study. Marsh (1990) reported that the questionnaire was suitable for students in Grades Two to Six. In a subsequent study Marsh, Craven and Debus (1991) found that students aged from kindergarten to grade two exhibited differentiated perceptions of themselves on the SDQ-I in eight separate self-concept domains including academic, physical and social dimensions.

The current study comprised students in Years One and Two (mostly aged five and six years) and students in Years Five and Six (mostly aged nine and ten years). Because the normative percentiles were not being used in the current study, since the Year One and Two students were to be administered the questionnaire in small groups, and because there were only 10 students across the entire sample in Year One, it was felt that these younger students could also successfully complete the questionnaire. The internal consistency coefficients across the normative sample used in the original study ($N = 3562$) were .83 for physical abilities, .85 for peer relations, .89 for reading and .89 for mathematics. The correlations

among the factors, however, were much lower, ranging from .32 for peer relations and physical abilities to .05 for mathematics and reading. Marsh (1990) argued that these low correlations between factors provided support for the notion of self-concept as being multifaceted with distinct and measurable domains. Hymel, LeMare, Ditner and Woody (1999) reported significant correlations between scores on comparable domains for the SDQ-I and the Self-Perception Profile for Children (Harter, 1982, 1985).

The classroom teacher was not present for the administration of the questionnaire which was carried out according to the original manual (Marsh, 1990). The students were informed that the questionnaire was not a test, that the researcher was interested in how they felt about some aspects of school and that their responses would be kept confidential. They were told that their teacher would not see the questionnaires. The administration instructions were then read through with the students and the examples were completed. Students were given an opportunity to ask any questions and then they quietly completed the questionnaire.

Six student teachers completing the final year of the Bachelor of Education (Teaching) assisted with the administration of the self-perception scale. These student teachers were trained in the procedures for implementation of the questionnaire. They were given an opportunity to ask any questions and participated in the administration with a pilot Year One and Two classroom. At this stage the researcher supervised the administration to ensure consistent implementation procedures and to clarify any further queries. With each Year One and/or Two group once the researcher had informed the students of the purpose of the questionnaire the children in each class were divided into seven groups so each student teacher and the researcher had no more than four children in each group. The adults then read each item aloud for their respective groups and supervised the completion of the questionnaires closely. In this way any missed items could be monitored and student engagement could be enhanced. With the Year Five and/or Six students the researcher read

all items aloud and the student teachers monitored the children to again assist with accurate completion of the questionnaire. As a result few responses were omitted, seven in total of a possible 20,080. Where these did occur the manual suggested finding the mean of completed items for that scale, rounding it to a whole number and using that for the missing items (Marsh, 1990). This was what was done. The manual suggested this would only be suitable where three or fewer items were missed. In every case in the current study only one item was omitted.

In order to score each component of the self-perception scale the raw scores were totalled and the mean of these total scores determined. Means were then used in all analyses. Further analyses were to be conducted across time by comparing the means across the three groups at Time One (beginning of year) and Time Two (end of year). For these reasons it was decided to use the mean scores for each scale. Marsh (1990) suggested that the raw score allowed 'absolute' differences between scales to be determined and that these may be lost when scales were normalised or standardised as with the percentiles and the T scores.

Data Collection and Statistical Analysis

The individual student responses were entered into the Smartadata program (Davies, 2001) which immediately stored the entries into a database. The program allowed ease of entry by automatically moving onto the next questionnaire item until all items were completed and then onto the next student. The program was also designed not to accept any entry outside the 1-5 scale which helped to minimise errors. Once all entries were completed for each teacher at each time period, these were checked by the researcher and any errors corrected. Very few were located.

The major analyses in this study involved a factorial analysis of variance (ANOVA) of student self-perceptions for Group (HiEx, AvPr, LoEx) by Time (beginning of year and end of year) with repeated measures on the second factor. Where significant interaction effects

were obtained across the groups post hoc tests using a Bonferroni adjustment of $p < .0083$ for multiple comparisons were conducted to determine where the differences lay.

Results and Discussion

The Self-Perception of Students With High and Low Expectation Teachers

The self-perceptions of students at the beginning and end of the year (2001) in the classrooms of the teachers with high expectations (HiEx), the average progress teachers (AvPr) and the low expectation teachers (LoEx) were analysed using a repeated measures analysis of variance (ANOVA). Independent analyses were performed for students' overall self-perceptions and then across the subscales of reading, mathematics, physical abilities, peer relations and teacher perception.

Student overall self-perception.

Student self-perception overall was a composite of reading, mathematics, physical abilities, peer relations and teacher perception. The means and standard deviations for this aggregation of scores are presented in Table 41. Figure 10 provides a visual representation of these means. The table and graph appear to show an increase for the students in the classes of the AvPr Group teachers and a decline for those students with the LoEx Group teachers. Hence a repeated measures ANOVA was performed between the students from teachers in the high expectation group (HiEx), the students from teachers in the average progress group (AvPr) and the students from teachers in the low expectation group (LoEx) at the beginning (Time 1) and the end of the year (Time 2). As Table 42 shows there was a statistically significant Group x Time interaction ($F(1, 2) = 4.88, p < .008$) indicating that there were variations in the changes for groups over time. Table 42 illustrates that at Time 1 there was no statistically significant difference across the groups ($F(2, 293) = 3.12, p < .05$). At the end of the year, however, a statistically significant difference in overall student self-perception

was found. A post hoc test showed that there were statistically significant differences between the HiEx and LoEx Groups ($p < .001$) and between the AvPr and LoEx Groups ($p < .001$). This appears to be mainly because the mean for the LoEx Group students had declined ($d = -0.28$) by the end of the year while the mean for the AvPr Group students had increased ($d = 0.36$).

Table 41

Means and Standard Deviations for Overall Self-Perceptions of Students With HiEx, AvPr and LoEx Groups of Teachers at the Beginning and End of the Year

Group	Beginning of Year			End of Year		
	No.	Mean	sd	No.	Mean	sd
HiEx	153	106.89	15.59	155	108.37	15.86
AvPr	77	101.40	20.11	76	107.64	14.65
LoEx	66	102.94	15.38	75	98.52	16.38

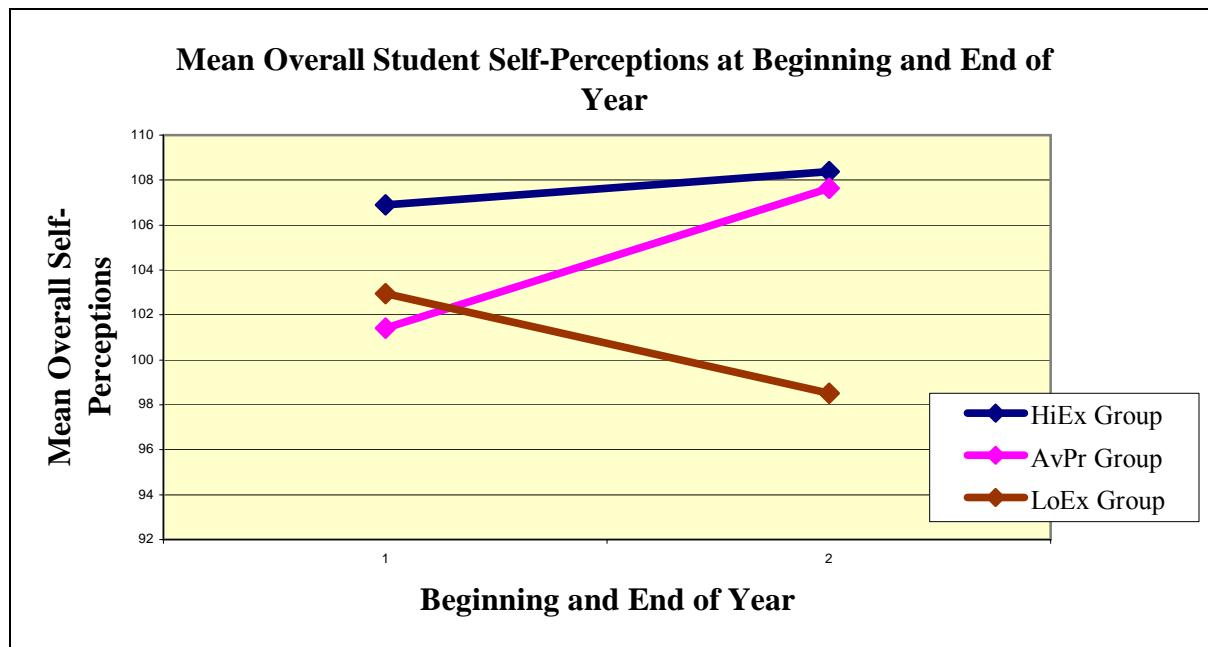


Figure 10. Mean overall self-perceptions for students with HiEx, AvPr and LoEx Groups of teachers at beginning and end of year

Table 42:

Summary of Repeated Measures and One-Way ANOVA Results for Student Self-Perception Overall at the Beginning and End of 2001

	df	Mean Square	F	p
Group x Time	1,2	728.97	4.88	.008
Time 1	2, 293	885.33	3.12	.05
Time 2	2, 303	2627.64	10.66	< .001

Student reading self-perception.

The mean scores and standard deviations for reading self-perception for the students in the classes of the HiEx, AvPr and LoEx Groups are presented in Table 43 and Figure 11 provides a visual representation of these means. The table and graph show some increase for the students in the classes of the HiEx and AvPr Groups and a decline for those students with the LoEx Group teachers. Hence a repeated measures ANOVA was performed between the students from teachers in the high expectation group (HiEx Group), the average progress group (AvPr Group) and the low expectation group (LoEx Group) at the beginning (Time 1) and the end of the year (Time 2). Table 44 shows there was a statistically significant Group x Time interaction ($F(1, 2) = 5.97, p < .003$) indicating that there were variations in the changes for groups over time. Table 44 reveals that at Time 1 there was no statistically significant difference across the groups ($F(2, 293) = .218, p < .80$). At the end of the year, however, a statistically significant difference in student reading self-perception was found ($F(2, 303) = 9.78, p < .001$). This time a post hoc test showed that there were statistically significant differences between the students in the HiEx and LoEx Groups ($p < .001$) and between the students in the AvPr and LoEx Groups ($p < .001$). This statistically significant difference appears to be partly because the mean for the students of the HiEx and AvPr Groups had increased by the end of the year ($d = 0.12$ and $d = 0.28$) but the main reason seems to be the decline for the students with the LoEx Group teachers ($d = -0.45$).

Table 43

Means and Standard Deviations for the Self-Perceptions in Reading of Students with HiEx, AvPr and LoEx Groups of Teachers at the Beginning and End of the Year

Group	Beginning of Year			End of Year		
	No.	Mean	sd	No.	Mean	sd
HiEx	153	32.89	6.97	155	33.74	6.68
AvPr	77	32.29	6.80	76	33.96	5.0
LoEx	66	32.82	5.84	75	30.05	6.60

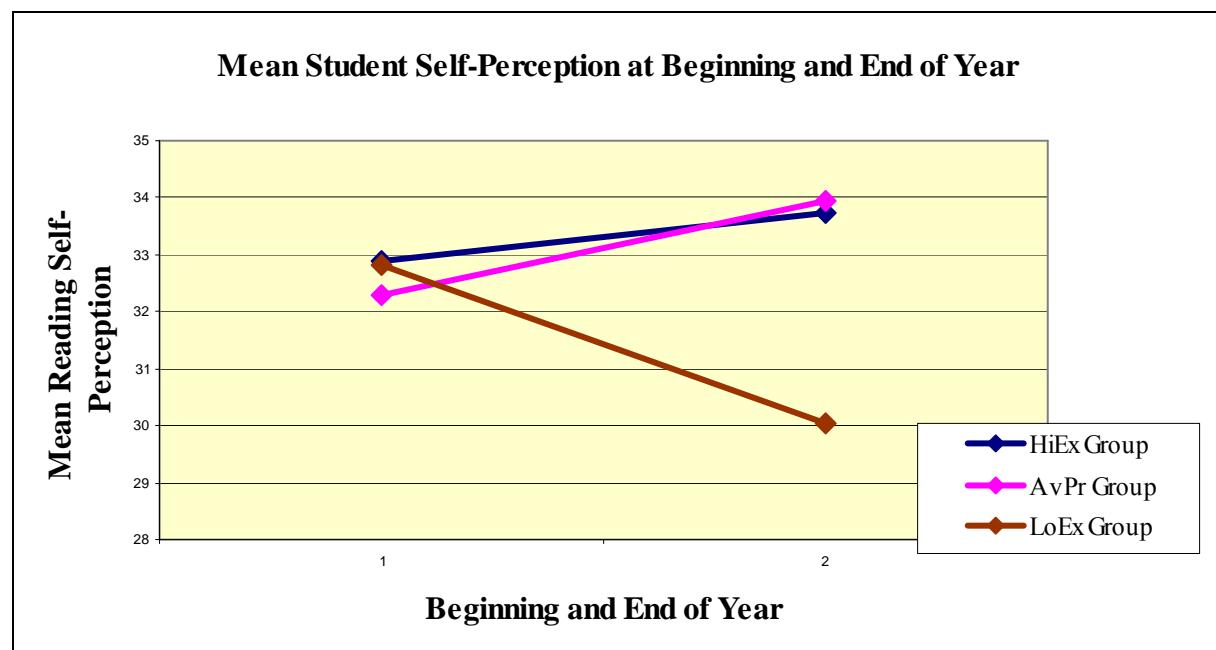


Figure 11. Mean reading self-perceptions for students with HiEx, AvPr and LoEx Groups of teachers at beginning and end of year

Table 44:

Summary of ANOVA Results for Student Self-Perception in Reading at the Beginning and End of 2001

	df	Mean Square	F	p
Group x Time	1,2	127.24	5.97	.003
Time 1	2, 293	9.76	.218	.804
Time 2	2, 303	401.55	9.78	.000

Student mathematics self-perception.

The mean scores and standard deviations for mathematics self-perception for the students in the classes of the HiEx, AvPr and LoEx Groups of teachers are presented in Table 45 and Figure 12 provides a visual representation of these means. The table and graph appear to show some increase for the students in the classes of the HiEx and AvPr Groups of teachers and a decline for those students with the LoEx Group teachers. Hence a repeated measures ANOVA was performed between the students from teachers in the high expectation group (HiEx), the average progress group (AvPr) and the low expectation group (LoEx) at the beginning (Time 1) and the end of the year (Time 2). Table 46 shows, however, that there was no statistically significant Group x Time interaction effect ($F(1, 2) = 2.81, p < .06$) and hence no further analyses were performed.

Table 45

Means and Standard Deviations for the Self-Perceptions in Mathematics of Students With HiEx, AvPr and LoEx Groups of Teachers at the Beginning and End of the Year

Group	Beginning of Year			End of Year		
	No.	Mean	sd	No.	Mean	sd
HiEx	153	31.97	7.27	155	32.97	7.14
AvPr	77	30.45	7.93	76	32.87	5.96
LoEx	66	30.83	7.23	75	30.00	7.36

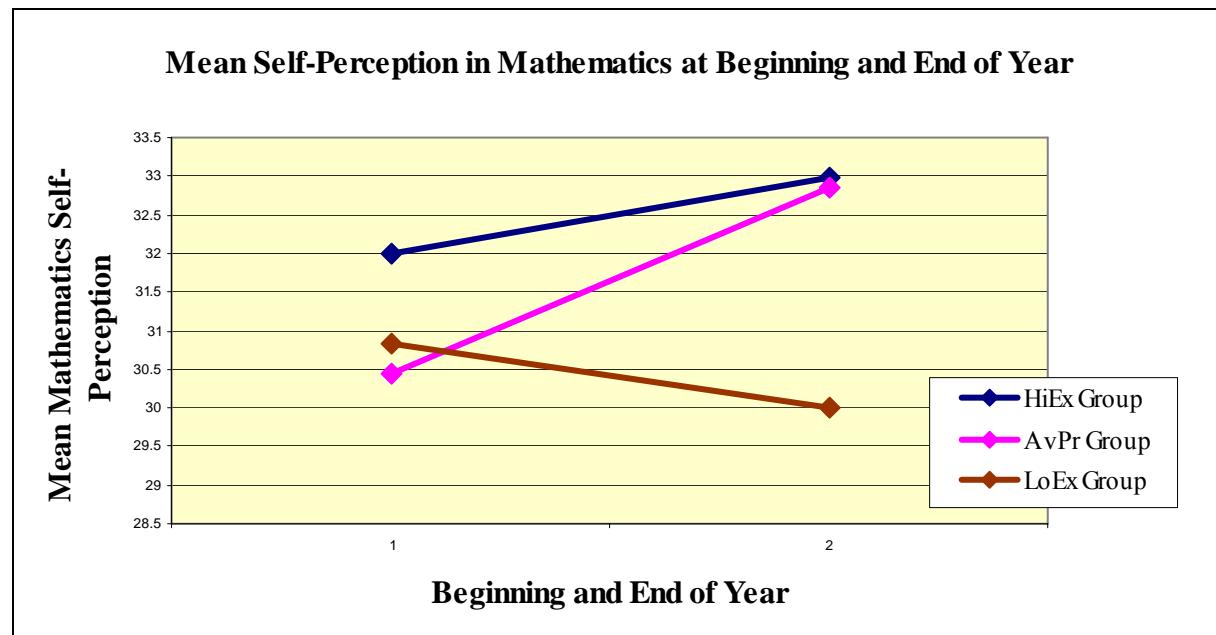


Figure 12. Mean mathematics self-perceptions for the students of HiEx, AvPr and LoEx Groups of teachers at beginning and end of year

Table 46:

Summary of ANOVA Results for Student Self-Perception in Mathematics at the Beginning and End of 2001

	df	Mean Square	F	p
Group x Time	1,2	77.27	2.82	.06

Student perception of physical skills.

The mean scores and standard deviations for physical skills self-perception for the students in the classes of the HiEx, AvPr and LoEx Group teachers are presented in Table 47 and Figure 13 provides a visual representation of these means. The table and graph appear to show some increase for the students with the AvPr Group teachers but little change for the other two groups. A repeated measures ANOVA was performed between the students from teachers in the high expectation group (HiEx Group), the average progress group (AvPr Group) and the low expectation group (LoEx Group) at the beginning (Time 1) and the end of the year (Time 2). Table 48 shows, however, that there was no statistically significant Group x Time interaction effect ($F(1, 2) = 2.43, p < .09$) and hence no further analyses were conducted.

Table 47

Means and Standard Deviations for the Self-Perceptions in Physical Skills of Students With HiEx, AvPr and LoEx Groups of Teachers at the Beginning and End of the Year

Group	Beginning of Year			End of Year		
	No.	Mean	sd	No.	Mean	sd
HiEx	153	33.41	5.76	155	33.21	5.74
AvPr	77	30.88	6.66	76	32.52	5.72
LoEx	66	31.21	6.21	75	30.91	6.26

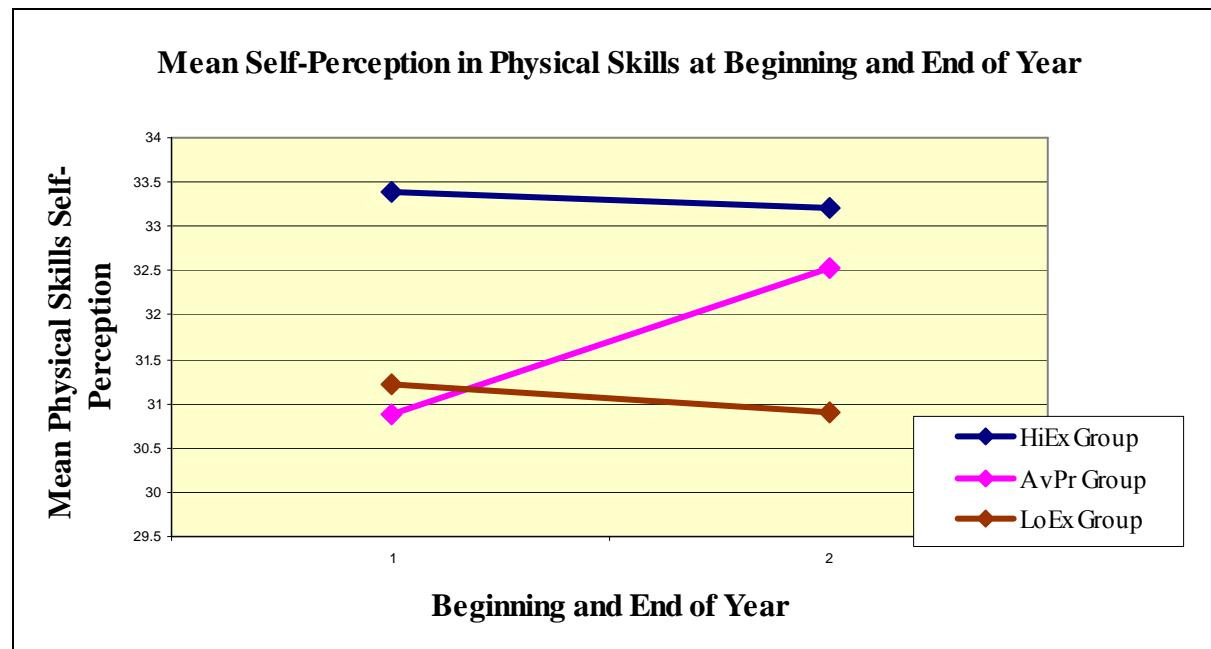


Figure 13. Mean physical skills self-perceptions for the students of HiEx, AvPr and LoEx Groups of teachers at beginning and end of year

Table 48:

Summary of ANOVA Results for Student Self-Perception in Physical Skills at the Beginning and End of 2001

	df	Mean Square	F	p
Group x Time	1,2	44.46	2.43	.09

Student perception of peer relations.

The mean scores and standard deviations for student self-perceptions of their peer relations at the beginning and end of the year are shown in Table 49 and Figure 14 is a line graph indicating these means. The table and graph reveal a different pattern to all other analyses thus far in that the students' self-perceptions of their peer relations for those children with AvPr and LoEx Group teachers appeared to increase over the year while those of the students with HiEx Group teachers appeared to decline. Figure 14 appears to show that the students' self-perceptions of their peer relations differed across the three groups at the beginning of the year but by the end of the year these seemed to be almost exactly the same. A repeated measures ANOVA was performed between the students with the HiEx Group teachers, those with AvPr Group teachers and the students with the LoEx Group teachers (Group) at the beginning and end of the year (Time). As can be seen in Table 50, however, there was no statistically significant Group x Time interaction ($F (1,2) = 3.51 p < .03$) and hence no further analyses were conducted.

Table 49

Means and Standard Deviations for the Self-Perceptions of Peer Relations for Students in the Classes of HiEx, AvPr and LoEx Groups of Teachers at the Beginning and End of the Year

Group	Beginning of Year			End of Year		
	No.	Mean	sd	No.	Mean	sd
HiEx	153	31.59	6.91	155	30.68	7.53
AvPr	77	28.86	7.74	76	30.79	6.45
LoEx	66	29.83	6.92	75	30.71	6.88

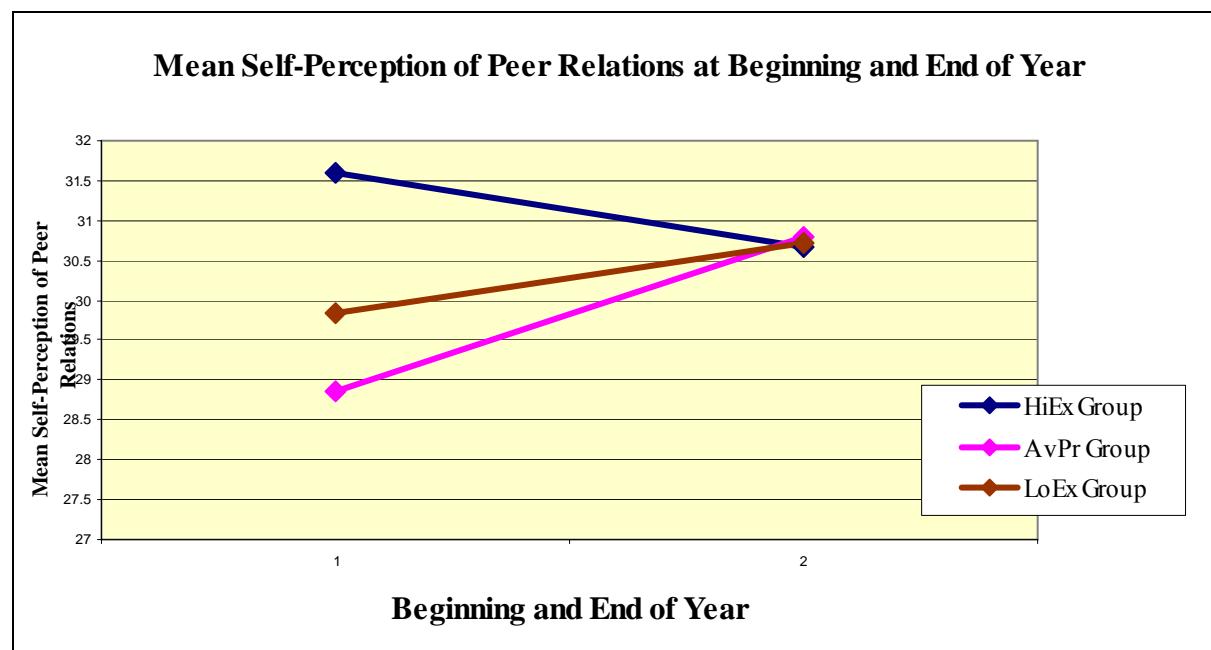


Figure 14. Mean self-perceptions of peer relations for the students of HiEx, AvPr and LoEx Groups of teachers at beginning and end of year

Table 50:

Summary of ANOVA Results for Student Self-Perception of Peer Relations at the Beginning and End of 2001

	df	Mean Square	F	p
Group x Time	1,2	102.75	3.51	.03
Time 1	2, 293	209.15	4.11	.02
Time 2	2, 303	.29	.01	.99

Student perception of teacher opinion.

The mean scores and standard deviations for student self-perception of their teachers' opinions for the children in the classes of the Groups One, Two and Three teachers are presented in Table 51. Figure 15 provides a visual representation of these means. The table and graph appear to show some increase for the students in the classes of the HiEx and AvPr Groups of teachers and a decline for those students with the LoEx Group teachers. A repeated measures ANOVA was performed between the students from teachers in HiEx, AvPr and LoEx Groups (Group) at the beginning (Time 1) and the end of the year (Time 2). Table 52 shows, however, that there was no statistically significant Group x Time interaction effect ($F(1, 2) = 2.88, p < .06$) and hence no further analyses were performed.

Table 51

Means and Standard Deviations for Student Self-Perceptions of Teacher Opinions for Children with HiEx, AvPr and LoEx Groups of Teachers at the Beginning and End of the Year

Group	Beginning of Year			End of Year		
	No.	Mean	sd	No.	Mean	sd
HiEx	153	8.60	1.71	155	8.60	1.71
AvPr	77	7.78	2.28	76	7.78	2.28
LoEx	66	8.08	1.96	75	8.08	1.96

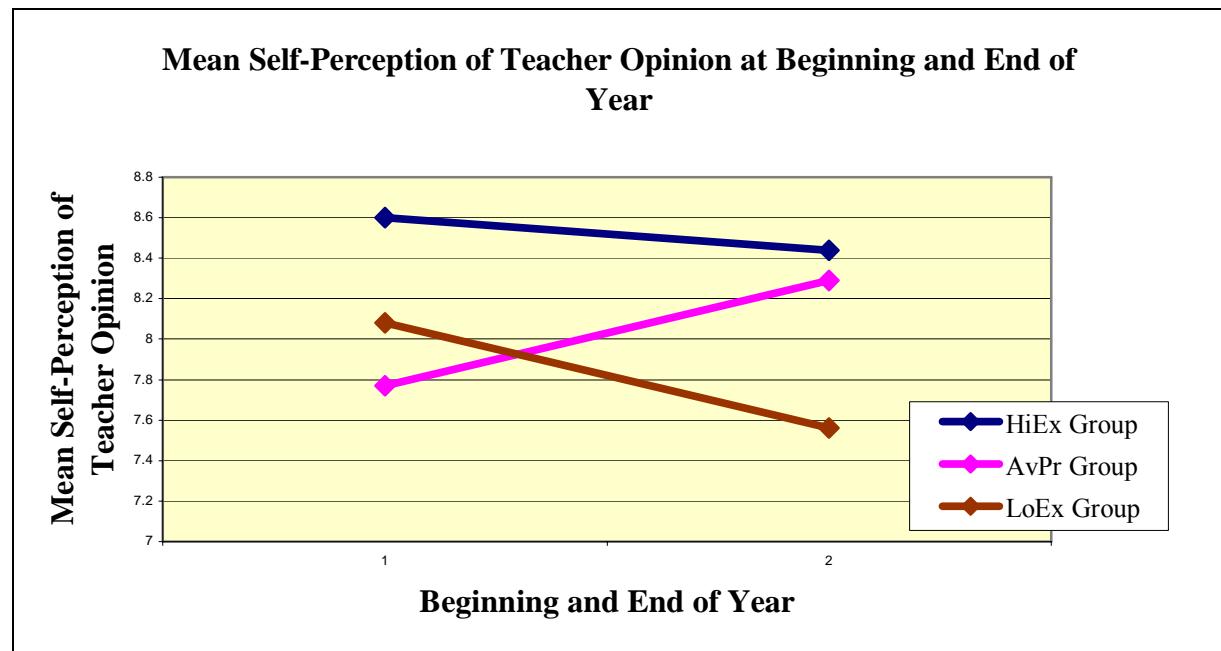


Figure 15. Mean self-perceptions of teacher opinion for the students of the HiEx, AvPr and LoEx Groups of teachers at beginning and end of year

Table 52:

Summary of ANOVA Results for Student Self-Perceptions of Teacher Opinion at the Beginning and End of 2001

	df	Mean Square	F	p
Group x Time	1,2	77.27	2.82	.06

Summary.

A statistically significant difference was found for overall student self-perceptions and reading self-perceptions from the beginning to the end of the year between the students of the high expectation, average progress and low expectation teachers. While there was a small increase across the students of the high expectation teachers and a greater increase across those students in the classes of the average progress teachers the major difference was the decline in student self-perceptions for the students in the classes of the low expectation teachers. While not statistically significant a similar pattern was found for student self-perception in mathematics and in student perceptions of their teachers' opinions of them in reading and mathematics.

Conclusions to Study Four

The main research question for the current study was: Is there a relationship between teacher expectations for their classes and student self-perceptions? This study builds the argument that teacher expectations may have effects on student self-perceptions particularly in the academic areas where student self-perceptions appeared to change over the year to correspond with their teachers' expectations. This was particularly true of the students in the classes of the low expectation teachers whose self-perceptions in reading declined

significantly over the year. Wigfield and Harold (1992) also reported in a longitudinal study that teacher expectations influenced student beliefs more in some curriculum areas than in others.

It is possible, of course, that the decline in self-perceptions reported in the current study for the students with low expectation teachers was related to achievement since these students' academic progress over the year was limited. The students in the classes of the average progress teachers, however, made only average gains in achievement across the year and yet their self-perceptions increased more than those of the other groups. Their teachers had high expectations for their achievement. It would seem possible then that the changes in the students' self-perceptions are teacher-related rather than achievement-related. These changes may relate not only to the actual teacher expectations but also to the ways in which these are put into operation in the classroom. The findings in the current study support those of Kuklinski and Weinstein (2001) who reported greater effects of teacher expectations for student self-perceptions when teachers were in the classes of high differentiating teachers. In the current study the low expectation teachers in particular appeared to have a negative impact on their students' self-perceptions.

The research in this thesis has explored the uniform expectations that teachers may have for their classes and examined how these may be enacted in the classroom. It has also investigated the possible academic and social consequences for students when teachers have correspondingly high or low expectations for their achievement. In the concluding chapter the findings of the four studies that comprised the present research will be integrated and discussed with particular reference to their educational implications.

CHAPTER SEVEN

DISCUSSION

The research in this thesis has examined the role of teacher expectations for student learning. A major contribution of the thesis has been the focus on teachers with high or low expectations for their classes rather than on teacher expectations for specific students. A major claim has been that the effects of these expectations are more located at the teacher level and that the effects are pervasive across all students. While it has been noted that there can be expectancy effects for individual students the main aim of the series of studies that comprise the current thesis has been to investigate the classification of teachers as having high and low expectations. Differences between these types of teachers have been explored with the aim of identifying factors that may differ in their contributions to learning for children. The relationship of teachers' expectations for the future performance of their classes of students has been investigated along with the academic outcomes for children. The interactional patterns of teachers having uniformly high and low expectations for their students have been examined, as have their pedagogical beliefs. The academic and social self-perceptions of students in the classrooms of high and low expectation teachers have been tracked.

The first section of this chapter will provide a brief summary of the findings in relation to the propositions presented at the beginning of the thesis. The second section will form the major part of the discussion and will more specifically discuss the findings across all studies in relation to the implications for student learning of the differential teacher practices and beliefs uncovered for high and low expectation teachers in the current research. The third section will provide a discussion of the findings of the current research related to the accuracy of teacher expectations. The fourth section will revisit the model of teacher expectations

presented in the second chapter. The final section will discuss the educational implications of the current findings and provide possible directions for future research.

The Research Propositions

The first proposition was that some teachers would have uniformly high or low expectations for their classes and that this may result in differential academic outcomes for their students overall. This proposition was not rejected by the current research. Three teacher groups in particular were identified for further investigation: one teacher group who had expectations for their students' performance that were above their children's actual performance in reading and whose students made large achievement gains over the year (the high expectation teachers); another teacher group who also had high expectations for their students' achievement but whose students made average gains (the average progress teachers); and a further teacher group who had low expectations for their students and whose students made limited gains over the year (the low expectation teachers). It appeared that while high expectations alone may not be sufficient to enhance student learning, low expectations had a detrimental affect on student learning gains.

The second research proposition was that teacher expectations would mediate the effects between the classroom climate and student outcomes. This proposition was not rejected by the current investigation. Both the self-report evidence and beliefs of the high expectation teachers, the average progress teachers and the low expectation teachers as well as their instructional practices indicated that the high expectation teachers more so than either of the other groups of teachers created a more positive and supportive socioemotional climate in which peer cooperation and collaboration were promoted.

The third proposition of the thesis was that the instructional behaviours of teachers with high expectations for all their students and those of teachers who had low expectations for their students would differ. Again this proposition was not rejected with the instructional

behaviours of the two high expectation groups of teachers being more similar than those of the group of low expectation teachers.

The fourth proposition of the thesis was that the beliefs that the teachers with uniformly high and low expectations had about how learning should be delivered to students would differ, and that this might contribute to differential learning opportunities being provided to their students. Again this proposition was not rejected by the current research with some of the pedagogical beliefs of the high expectation teachers being different from those of the average progress and low expectation teachers whose beliefs were more similar.

The final proposition of the current research was that high or low expectation teachers' attitudes and practices would affect student academic self-perceptions. These effects could be mediated by differing teacher interactions with the class and a differing socioemotional classroom climate. This proposition was also not rejected. The self-perceptions of the students who were in the classes with teachers who had high expectations for their learning (including those students with the average progress teachers) increased across the school year while those in classrooms with teachers who had low expectations for their learning decreased.

The following section will more carefully describe and discuss the possible implications for student learning of the differential teacher practices and beliefs found for high and low expectation teachers in the current study. It will include those related to the propositions outlined above but will also include others uncovered in the study.

Differential Instructional Practices and Beliefs

Taken together the results of the current research have shown that some teachers do have uniformly high or low expectations for their students and that this may result in differential academic or social outcomes for their students. More importantly though, these teacher expectations are then enacted differently in the classrooms of high and low

expectation teachers as well as in the classes of average progress teachers and this seems to have a considerable impact on the learning and academic self-perceptions of the students in their classrooms. Teachers who have high expectations for their students' learning appear to have different beliefs about how instruction should be delivered to their students and also interact differently with their students in the classroom when compared with their low expectation counterparts. The students in the classes of these contrasting types of teachers appear to benefit or be disadvantaged depending on the type of teacher with whom they are placed.

It would seem, however, that teacher expectations are not the only answer since some aspects of the instructional and affective environments differed for the high expectation and average progress teachers both of who had high expectations for their students' learning. The instructional and the socioemotional environments of the classroom operated differently in some respects in the classrooms of high expectation, average progress and low expectation teachers. The ways in which these three classroom environments were enacted and their implications for students and their learning will be discussed in the following paragraphs.

The students in all the classrooms of the high expectation teachers made marked academic gains over the year when compared with students in the classes of the other types of teachers and also made some improvements in their academic self-perceptions and hence it would appear that these improvements were located at the teacher level rather than the student level. It is thus important to endeavour to identify the teacher practices that may have led to these improvements. The beliefs and practices of the high expectation teachers were quite different in many respects from those of the other two groups of teachers and hence by examining the differences these may provide clues as to which types of teacher practices actually led to the gains found for the students in the classrooms of high expectation teachers. Differences between the beliefs and instructional practices of the high and low expectation

teachers will be discussed first followed by a discussion of the variations found between the high expectation and the average progress teachers.

Compared to the high expectation teachers the low expectation teachers spent less time instructing their students, asked them fewer questions and appeared to provide less of a framework for learning than did the high expectation teachers. As well as this from their self-report evidence they appeared to provide quite separate and differentiated opportunities to learn for their high and low ability students when compared with the high expectation teachers.

The socioemotional climate in the classrooms of the high and low expectation teachers also differed. The low expectation teachers managed their students' behaviour less positively than the high expectation teachers. In fact at times they were quite negative towards their students. The high expectation teachers also appeared to support their students more than the low expectation teachers did: they provided their students with a lot of feedback about their learning, they criticised individuals less frequently, they supported students when they were unsure of the answers to questions. It is possible that the high expectation teachers were seen as being more caring towards their students and that this contributed to a more supportive socioemotional climate in their classrooms. Moreover it seemed from the self-report evidence of the teachers that the high expectation teachers provided their high and low ability students with more opportunities to work together than did the low expectation teachers whose high and low ability students appeared to more frequently work in separate groups. This may have also contributed to a differing socioemotional climate in the classrooms of these types of teachers with the students in the classes of the high expectation teachers being more used to working with a range of their peers, and to working more as a cooperative whole, whereas the students with the low expectation teachers seemed to more frequently work in differentiated groups.

It has been shown that the learning and social environment provided by the high expectation teachers differed from the environments provided by the low expectation teachers and it has been argued that these differences may have resulted in the differing outcomes found for their students. While the beliefs and instructional practices of the high expectation and the low expectation teachers were shown to vary quite considerably in many areas looking at the practices of the average progress teachers may shed some further light on the significance for students of some specific practices since this group of teachers were similar in some ways to the high expectation teachers and dissimilar in others. Moreover the learning outcomes for their students were different while the social outcomes (academic self-perception) were not. At the end of one year the students of the average progress teachers had made less achievement gains in reading than those of the high expectation teachers and yet their overall and reading self-perceptions were similar. The instructional practices of the average progress teachers were similar to those of the high expectation teachers but their beliefs about how instruction should be structured for students and the learning opportunities they reported providing for their students appeared to differ. Hence while the instructional practices appeared to be similar the instructional framework in which teaching took place seemed to be more dissimilar. The average progress teachers appeared to differentiate between the learning opportunities provided for their high and low ability students in similar ways to the low expectation teachers. The high and low ability students in their classrooms completed quite different learning tasks when they were grouped.

Furthermore the average progress teachers appeared to manage their students' behaviour less positively than the high expectation teachers and it seemed that their students had less opportunity to work together in varying combinations than the students of the high expectation teachers. The average progress teachers also provided their students with less support than did the high expectation teachers. Together these aspects may have meant that

the socioemotional climate of the classroom was less positive for the students of the average progress teachers than it was for the students in the classrooms of the high expectation teachers. This did not appear to affect student academic self-perceptions, however, since as for the children in the classes of the high expectation teachers, the academic self-perceptions of the students in the classes of the average progress teachers increased across the school year.

It would seem that the instructional practices of the average progress teachers which were similar to those of the high expectation teachers might have contributed to their students being more successful in their end of year academic achievement than the students in the classes of the low expectation teachers. It may be that these instructional practices also influenced student academic self-perceptions since the instructional interactions with students was the only area examined in proximal classroom interactions where similarities between the average progress and high expectation teachers were found and for both these groups their students self-perceptions improved across the year. This was not true for the students in the classes of the low expectation teachers; their self-perceptions declined over the year.

The academic gains made by the students with the high expectation teachers, however, were significantly greater than those of either of the other two groups. The teachers in this group reported structuring their learning environment differently to that of the other two groups of teachers in that there was less differentiation made between the learning experiences of the high and low ability students, students were given more choice in the activities they completed, their learning was regularly assessed and monitored, and they were set clear and achievable learning goals. This may have created a different learning environment to that created by the average progress and low expectation teachers whose students had set activities and differentiated learning experiences for the high and low ability students. Their teachers appeared to be more directive while the high expectation teachers were perhaps more facilitative. Structuring the learning environment in these ways may also

have contributed to the socioemotional climate of the classroom with differing contexts created by the differing types of teachers.

As well the high expectation teachers appeared to create a more positive and supportive socioemotional climate in their classrooms through the ways in which student behaviour was managed, through the ways in which they supported students when they were having difficulties, through the provision of clear learning feedback and through the ways in which they seemed to promote a cooperative, cohesive classroom environment where their students regularly worked with and supported each other in a variety of contexts.

It would seem that the structure of the learning environment and the socioemotional climate in the current study differed in several quite major ways when the classrooms of high expectation teachers were compared with those of the average progress and low expectation teachers. It is suggested that it may be these differences rather than the actual instructional practices that could have led to the significantly different achievement outcomes found for the students in the classrooms of high expectation teachers when compared with students in the classrooms of average progress and low expectation teachers. Both Rosenthal (1991) and Babad (1998) have pointed to the importance of the socioemotional climate in the portrayal of teacher expectation effects for individual students and the current study lends weight to this argument when teacher expectations for their classes are considered.

A directive and a facilitative approach to instruction.

It was suggested earlier that the high expectation teachers had a more facilitative approach to instruction while the other two groups appeared to have a more directive approach. This was originally proposed in relation to the self-report evidence and beliefs advanced by the different types of teachers but can also be found in the observational data. The average progress and low expectation teachers appeared to distinguish between their high and low ability students to a greater degree than did the high expectation teachers. This

resulted in them designing quite different learning experiences for these groups of students which in turn suggests that their students were then presented with different opportunities to learn depending on the students' ability. Their students were given little choice in the learning experiences in which they engaged. The average progress and low expectation teachers asked closed questions more frequently than the high expectation teachers and students mostly knew the correct answers. It would seem that students were given less opportunity to develop their ideas than the students in classrooms with high expectation teachers. Finally the average progress and low expectation teachers managed student behaviour more negatively than did the high expectation teachers. This meant that they were directing students not to act in a particular manner or directing them to pursue alternative behaviour. Taken together this evidence appears to show that the average progress and low expectation teachers seem to be directing their students' learning and behaviour.

On the other hand the high expectation teachers did report instructing their high and low ability students in separate groups but they then appeared to either provide less differentiation between the learning experiences of their high and low ability students or they allowed them more choice in the activities they would complete. One way in which these teachers endeavoured to assist their students to be successful in their learning was by encouraging their students to work together in mixed ability peer groups. The high expectation teachers also reported monitoring and assessing their students' learning to a greater extent than did the other two groups of teachers. By instructing in this way the high expectation teachers appeared to provide a range of activities for their students which they felt would interest and motivate them. The high expectation teachers also reported setting clear learning goals with their students and the students appeared to be given more responsibility for achieving the goals. The high expectation teachers also provided their students with more learning feedback than the average progress or low expectation teachers. In this way the

students were made more aware of their academic progress than the students in the other types of classrooms. The high expectation teachers asked their students more open questions than the other types of teachers and supported their students to acceptable answers when they had difficulties so that they more actively appeared to facilitate and encourage students' cognitive processing. The high expectation teachers then, seemed to facilitate student learning rather than to direct it to the same extent as the average progress and low expectation teachers.

Accuracy of Teacher Expectations

Accuracy of teacher expectations was examined for individual teachers in the current research. Researchers have generally reported that teacher expectations are accurate (Brophy, 1989; Jussim et al., 1998) and have indicated that expectations arise from interactions with students and student completion of learning experiences. They have suggested that accurate expectations enable teachers to plan appropriately for student learning (Brophy & Good, 1986; Good & Brophy, 2000; Good & Thompson, 1998; Jussim et al., 1998). In the current study, however, it was the teachers whose expectations were inaccurate in reading who formed the three groups that were studied. These teachers had expectations that were either substantially above or below student achievement. It has been shown that these inaccurate expectations ultimately had a profound effect on student outcomes mainly because of the unique ways in which these expectations were carried over into the instructional environment. For the students in the classrooms of both the low and high expectation teachers the instructional and socioemotional environments which the teachers created for student learning translated into self-fulfilling prophecies for their students. For the students in the classrooms of the low expectation teachers this meant they made limited achievement gains across the year. Their teachers had Golem effects on their learning. For the students with the high expectation teachers, however, their students made substantial gains across the year. Their teachers had Galatea effects on their learning. In this instance while the teachers' original

expectations may not have been accurate the students ultimately benefited. On the other hand, however, there was a further group of teachers who had high expectations for their students but whose students did not make substantial gains. This further suggests that the ways in which the original expectations are converted into the classroom environment are important. The results of the current study do not lend weight, however, to the view that inaccurate expectations are necessarily dire for student learning; whether these are positive or negative and the ensuing classroom environment created appears to be of more consequence than whether or not the original expectations were accurate.

Examination of the Proposed Model

The model of teacher expectation effects proposed by the researcher in Chapter Two and depicted in Figure 1 was originally designed to integrate and complement the models of other researchers (Brophy & Good, 1970; Cooper & Good, 1983; Darley & Fazio, 1980; Rosenthal, 1974, 1991). It was, however, also designed to show that teachers who had uniformly high or low expectations for their classes could influence student outcomes. It was further intended to show that teacher beliefs could impact on the opportunities to learn that were provided for students. What has been found in the current study, however, has been not only that some teachers did have uniformly high or low expectations for their classes but more importantly that these expectations appeared to be accompanied by particular teacher beliefs and instructional practices which seemed to have substantial implications for students in terms of both academic and social outcomes. The socioemotional climate of the classroom also appeared to vary depending on whether the teacher had uniformly high or low expectations for their classes. Although the model presented at the beginning of this research provided a useful framework for the traditional conceptions of the mediation of teacher expectations it does not fully reflect the findings of the current research which has related specific teacher beliefs and practices to teachers with particular expectations for their classes. Hence a new

model is put forward to more fully reflect the substantial outcomes found for students in the present study as a result of teachers having uniform expectations for their classes and then providing differing instructional and socioemotional environments for their students. The model is designed to provide a framework for future investigations into the beliefs and practices of teachers with differing expectations for their classes. It is provided in Figure 16 and will be explained in the following paragraphs.

A model of teacher expectations and teacher types.

The model presented in Figure 16 is designed to show that it may be possible to categorise particular types of teachers and that this identification may ultimately allow prediction of possible social and learning outcomes for students. Where teachers have particular expectations for their classes and their beliefs about teaching and learning are known then it may be possible to predict the socioemotional and instructional environment that will be created by the teacher, the instructional practices that may be used in the classroom, the types of opportunities that may be provided for student learning, and the possible social and academic outcomes for their students.

In the current study both the high expectation teachers and the average progress teachers had high expectations for their students but the academic outcomes for their students differed. One discriminating factor between these two groups of teachers appeared to be their beliefs about how instruction should be delivered to students and about the kind of socioemotional environment in which learning should be framed. Hence by determining the teachers' expectations for their class and their beliefs this may assist in predicting the possible outcomes for students. The model, therefore, begins with the identification of the type of teacher through ascertaining their expectations for their class and their beliefs.

Given the evidence in the current study it would seem that the pedagogical beliefs of the teachers could result in the creation of particular instructional and socioemotional

environments depending on the type of teacher identified. Along with the teacher expectations for the class and the teachers' pedagogical beliefs, the learning opportunities provided in the classroom and the instructional practices of the teacher may also contribute to the socioemotional and instructional environments in the classroom. In the model this is shown by the single-headed arrows from each factor to the classroom environments.

The opportunities that would be provided for learning may also be influenced by the teachers' expectations for their students' academic achievement and teacher pedagogical beliefs about how learning experiences for students should be presented. In the classroom the instructional practices of teachers and their interactions with their students may be framed differently depending on their expectations for that class. It is possible given the evidence from the current research that one type of teacher may provide differing opportunities to learn for their students from another type of teacher and yet both groups may instruct their students similarly. Differences may, however, be located in the socioemotional climate created for their students. There appear to be links between the teachers' expectations for their classes, the teacher beliefs, the opportunities provided for learning and the instructional practices of the teacher. In the model these links are shown by the double-headed arrows indicating the interrelationship of these factors and their ultimate contribution to student outcomes.

The differences in teachers' expectations for the class, in their pedagogical beliefs, in the instructional and socioemotional climate created for student learning, in the opportunities to learn provided by the teacher and in the proximal interactions of students with their teachers may result in differing academic and social outcomes for students depending on the type of teacher with whom the student is placed.

One of the debates in the expectation literature has centred round the direction of the expectancy effect. Does student behaviour affect teacher expectations or do teacher expectations influence student behaviour? The current investigation provides evidence to

support the latter scenario. Because the present research investigated expectation effects for particular teacher types (high expectation, average progress, low expectation) it was possible to examine expectation effects in relation to their classes as a whole. The differing social and achievement outcomes for students in the classes of the differing types of teachers were presented earlier. As was reasoned earlier, however, it does not appear to be expectations alone that contribute to achievement and social gains for students but also the differing instructional and social environments created by the different types of teachers. This adds additional weight to the argument that the direction of effect is to a greater extent from the teacher to the student than it is from the student to the teacher. In several other investigations the researchers have also concluded that the teacher expectation effect is more salient from the teacher to the student than it is from the student to the teacher (Gill & Reynolds, 1999; Kuklinski & Weinstein, 2001; Muller et al., 1999). It is recognised, however, that teachers may have differing expectations for students in particular schools and hence in this way students may contribute to the teacher expectations. This aspect was not investigated in the current study. Accordingly in the proposed model the arrow from students to teachers is a dotted line where all other lines are solid in order to symbolise the lesser effect of students on their teachers.

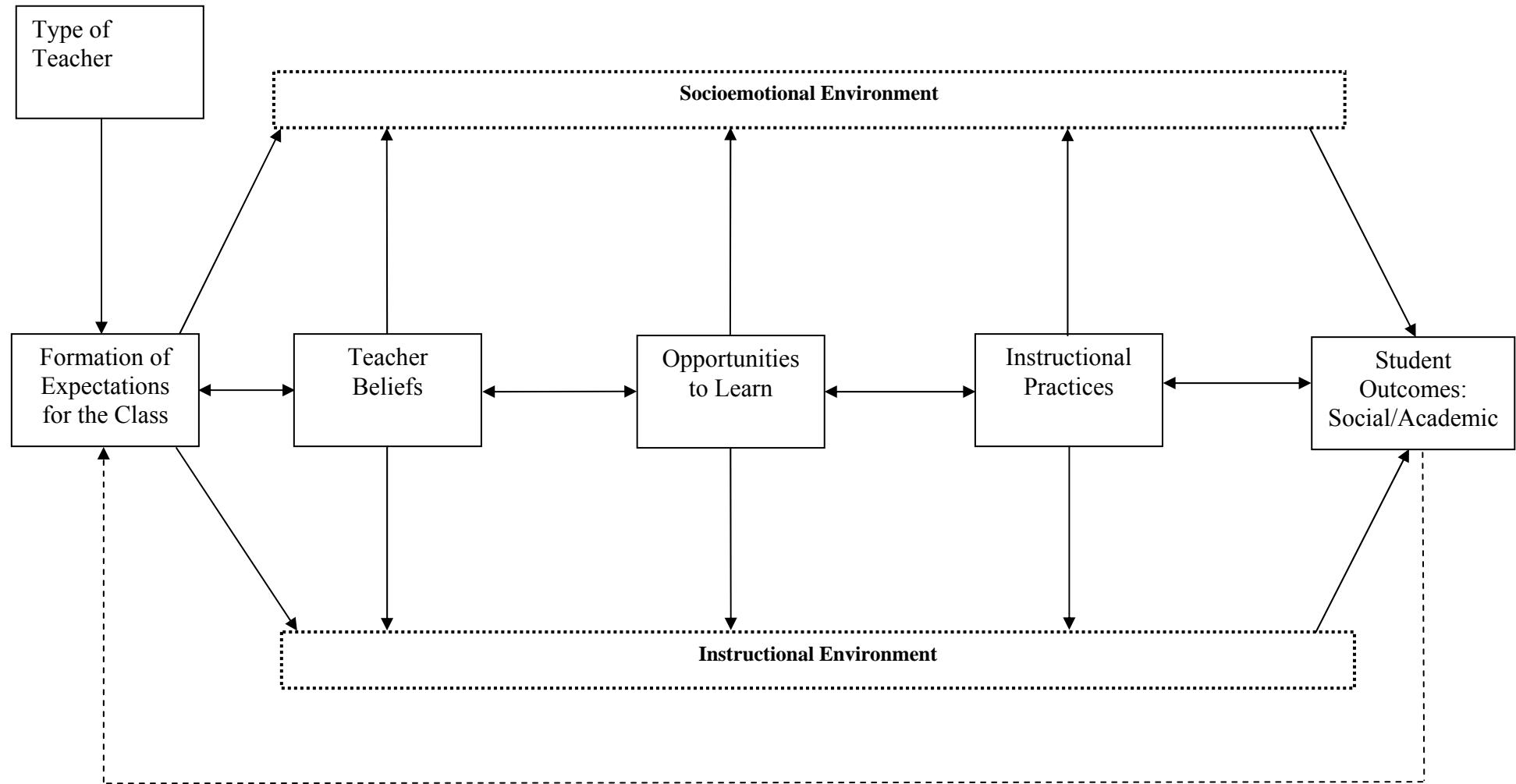


Figure 16. The contribution of teacher type to learning and social outcomes for students

Educational Implications, Future Directions and Concluding Comments

The current research has explored an aspect of teacher expectations not previously investigated, that of the ways in which teacher expectations may be enacted with entire classes of students. Several researchers have previously pointed to the possible significance of expectations for a class rather than individual students (Brophy, 1985; Good & Thompson, 1998) but this had not been empirically investigated. Not only has the current study uncovered teachers who do have differing expectations for their entire classes but it has also been found that these expectations then appear to align with differing instructional and social implementation practices which in turn have important implications for student outcomes. While it is noteworthy that the present research found significant differences between high and low expectation teachers and the ways in which these expectations appeared to translate into classroom practices, given the sizes of the respective groups, future research with larger groups of these teacher types would enable further confirmation and generalisation of the results. Such research would be important since should such differing expectations and corresponding teacher practices be found in other investigations this has important implications for current pre-service and in-service teacher education programmes. It may be possible, for example, to identify particular types of teachers and to implement appropriate professional development programmes which would ultimately enhance student learning. It is also possible that specific measures could be developed that would enhance the identification of specific types of teachers.

The current investigation also concentrated on three differing groups of teachers and identified differing beliefs and practices among them. While it will be important for future research to re-affirm these differences it is also possible that other types of teachers may be able to be identified and investigated.

The debate related to the direction of the expectation effect has not yet been fully resolved. The current study where types of teachers and their practices were explored and analysed seemed to provide evidence that teachers had more effect on students than the alternative. While it is probable that both play a part the application of Kuklinski and Weinstein's path model (2001) within the context of high and low expectation teachers may provide additional insights into directionality and the implications thereof.

One aspect that was beyond the scope of the current research was whether or not there was any relationship between teacher expectations for the class and teacher efficacy. It may be anticipated that high expectation teachers would have high teaching self-efficacy given the research in this area (Brouwers & Tomic, 2000; Flowerday & Schraw, 2000; Ross, 1998; Tschannen-Moran & Hoy, 2001; Warren, 2002) but this has yet to be established through empirical research. Were such links to be established this could have further important educational implications.

It was suggested earlier that the high expectation teachers seemed to provide a more facilitative classroom environment while the average progress and low expectation teachers appeared to provide a more directive environment. This resulted in different opportunities to learn for students and their teachers displaying different instructional practices. Ultimately this had important consequences for student achievement. The differing instructional environments created by the teachers appeared to be related to their need for control with the low expectation teachers appearing to want to more directly control their students and the classroom environment while the high expectation teachers seemed to give their students more choices in their learning. While teacher control and student choice have previously been identified in the literature as contributing to student outcomes (Cooper & Good, 1983; Flowerday & Schraw, 2000) this has not previously been identified in relation to the expectations of teachers for their classes and hence the ways in which a facilitative classroom

environment is promoted and fostered is worthy of further investigation as a means of enhancing student outcomes.

The current investigation showed how student achievement and self-perceptions appeared to alter according to the type of teacher with which the students were placed. Given the dramatic differences found between the students of high and low expectation teachers by the end of the year the question of accumulation by teacher type may also be worthy of investigation. Previous research has provided equivocal results related to the question of accumulation (Blatchford et al., 1989; Jussim et al., 1998). It is possible that if students placed with a succession of high or low expectation teachers were tracked that this issue may be able to be resolved.

The evidence in this thesis related to the examination of different teacher types and the effects of their differing beliefs and practices for primary-aged students. Some important consequences for students were found. It would be useful for future research to also examine whether such differential teacher types are present among secondary school teachers and if so whether or not their beliefs and practices differ in similar ways to those of their primary school counterparts and have similar consequences for the older students. Some recent research (Lee & Burkam, 2003) in secondary schools has shown that students are less likely to drop out where they have positive relationships with their teachers. This has reaffirmed the research of Wentzel (1997) who reported that middle school students were more motivated to achieve when they perceived that their teachers cared about them. In the current research the high expectation teachers appeared to have more positive relationships with their students. The socioemotional climate of their classrooms was more supportive. Future research at the secondary level may find that the teachers who have positive relations with their students also have high expectations for their learning and create a different learning environment from the teachers who do not have such good relations with their students.

The present research has not only answered but has also raised important questions concerning the differing instructional and socioemotional classroom environments created by high and low expectation teachers. The findings in the current study have important implications for practising teachers as well as pre-service teacher education programmes since the differential teacher types and practices identified in this research ultimately appear to have dramatic consequences for student learning. The clear identification of teachers' expectations, beliefs and practices could provide enhanced insights into the ways in which teachers can affect our children's learning. This could have far-reaching consequences for the achievement of all students.

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APPENDICES

APPENDIX A

PARTICIPANT INFORMATION SHEETS, CONSENT FORMS ASSENT FORMS FOR ALL STUDIES

APPENDIX A – 1

Participant Information Sheet for Principals and Boards of Trustees

APPENDIX A – 2

Consent Form for Principals and Boards of Trustees

APPENDIX A – 3

Participant Information Sheet for Teachers

APPENDIX A – 4

Consent Form for Teachers

APPENDIX A – 5

Information Sheet for Parents/Caregivers

APPENDIX A – 6

Consent Form for Parents/Caregivers

APPENDIX A – 7

Assent Form for Students

APPENDIX A – 1**PARTICIPANT INFORMATION SHEET****PRINCIPALS/ BOARDS OF TRUSTEES**

Title of project: The influence of teacher expectations on the opportunities to learn that are provided for students.

My name is Christine Rubie. I am the Deputy Director of Teacher Education at the University of Auckland within the School of Education. I am conducting this research as the thesis project for my PhD in Educational Psychology at the University of Auckland.

At the beginning of each year, teachers are given a range of information which is designed to assist them in making initial decisions about the levels of student learning and achievement in their classrooms. I am interested in researching how this information is transformed into the opportunities to learn that are provided to the children in the classroom. For example, how do teachers decide to place children into particular ability groups? How do teachers make decisions on the learning outcomes for particular children? Are different types of tasks provided for children of differing abilities? Are different questioning techniques used for children of differing abilities? Do teachers cater for differing abilities in physical education as well as in academic areas? To this end you are invited to participate in this research project the purpose of which is to obtain a clearer understanding of the planning and implementation decisions that teachers make for the benefit of the learning of the children in their classrooms.

Your school is being invited to participate in this study along with others being recruited from the University of Auckland Consortium of Schools. Schools who choose to be involved are asked to provide the names of Year One/Two and Year Five/Six teachers in their schools. One teacher at each level will be invited to participate in the research project. The data collection for this project will run throughout 2001.

As part of this research project, the researcher would require access to summative testing results on the children in each participating classroom from 2000. This may include, for example, PAT results, Six Year Net results, SEA assessments. As a participating school, the teachers involved will be asked to complete three questionnaires, one at the beginning of the year and two towards the end of the year (The one given at the beginning of the year will be repeated at the end of the year). Each questionnaire involves rating each child in each class on a 7-point scale. This should take no more than fifteen minutes per questionnaire.

Teachers will be interviewed early in the year about their grouping and teaching decisions. This interview will be audio taped and should take about 20 – 30 minutes to complete.

Thirty-minute observations will be conducted by trained student teacher observers of two lessons in each of maths, reading and physical education. These lessons will be audio taped. The lessons to be observed should be part of the normal classroom programme and hence these observations should not involve any additional effort on the part of the teacher. A copy of the questionnaire packet will be provided for your review prior to its administration at your school.

The children in the classes from each school who become involved in this project will also be invited to participate. Caregivers will be asked for consent and the children will be asked to complete an assent form. A translation can be provided for parents for whom English is not their first language. The children involved will be asked to complete a self-perception scale which will be read to them by the researcher and/or trained student teachers. This scale will be administered at the beginning of the year and again at the end of the year. Each administration should take approximately 30 minutes. As the scale involves questions relating to friendships as well as academic and physical skills, the classroom teacher and/or the appropriate senior staff member (whichever the school sees as most appropriate) will be asked to be on hand in cases where any children may become distressed. The children will also be asked to participate in a physical skills test which will also be administered by the researcher and trained student teachers both at the beginning of the year and at the end of the year. This test will take approximately one hour to complete per class. It has been used on numerous occasions previously without any children sustaining any form of injury. Any physical risks involved in this test have been carefully considered and children are extremely unlikely to endure any physical injury. Every effort will be made to ensure their utmost safety. The researcher will ensure that the person at your school who is in charge of First Aid is aware that the children will be involved in physical activities. The researcher will also make herself aware of any children with health or related problems. Both the self-perception scale and the physical skills test will be provided for your review prior to their administration at your school.

Participation is purely voluntary and can be declined without giving a reason. You may also withdraw your school and the teachers and students involved from the research at any time without giving reasons. Furthermore, any of the participants from your school may withdraw information they have provided at any time prior to the completion of data collection on 18 December 2001.

As a participating school you will receive no direct material benefit or financial remuneration from participation in this study. However, information obtained from this research may have important implications for the practice of teachers, educators and researchers interested in improving the opportunities to learn which are provided to the children in our schools.

Every effort will be made to maintain the confidentiality of participants' documents. All data collected will be number-coded once relevant information has been recorded, e.g. age of children, gender, ethnicity. At this point all identifiable information will be removed from questionnaires and test data. The data collected from this study will be used for educational and publication purposes; however no schools, teachers or students will be identified by name. The confidentiality of the data will be maintained throughout the time it is required to be stored after which time it will be destroyed.

The investigator is willing to answer any questions you may have as well as those of the participating teachers, caregivers of the children, or the children themselves. If you or any of the participants have additional questions during the course of this study about the research or any related problem, you may contact Christine Rubie by phone on (09) 3737 599 extn 2974 or by email on c.rubie@auckland.ac.nz. Similarly if you have any concerns or questions after the data has been collected at your school, or want to express your feelings about any aspect of this study, please let the researcher know.

If you would like to participate in this research please complete the attached consent form and post it to me or you can phone me on (09) 3737 599 extn 2974 during office hours. Thank you very much for your time and assistance in making this study possible. If you have any queries or wish to know more please phone me at the number given above or write to me at:

School of Education
The University of Auckland
Private Bag 92 019
AUCKLAND Tel. 3737 599 extn 2974

My supervisors are:

Dr. Richard Hamilton, Dr. Michael Townsend
and Professor John Hattie
The School of Education
The University of Auckland
Private Bag 92019
AUCKLAND. Tel. 3737 599 extn. 5619 and
extn. 7851

The Head of School is:

Professor John Hattie
The School of Education
The University of Auckland
Private Bag 92019
AUCKLAND Tel. 3737 599 extn. 2496

For any queries regarding ethical concerns regarding this study please contact:

The Chair
The University of Auckland Human Subjects Ethics Committee
The University of Auckland
Research Office – Office of the Vice Chancellor
Private Bag 92019
AUCKLAND. Tel. 3737 599 extn. 7830

**APPROVED BY THE UNIVERSITY OF AUCKLAND HUMAN SUBJECTS ETHICS
COMMITTEE on 14 March 2001 for a period of two years, from 14/03/01 Reference
2001/007**

APPENDIX A – 2

PRINCIPAL/ BOARD OF TRUSTEES CONSENT TO SCHOOL PARTICIPATION

THIS CONSENT FORM WILL BE HELD FOR A PERIOD OF SIX YEARS

Title of Project: The influence of teacher expectations on the opportunities to learn that are provided for students.

Researcher: Christine Rubie, M.Ed. (Hons)
The School of Education
The University of Auckland
Private Bag 92019
AUCKLAND
Phone: 09 3737 599 extn. 2974 Fax: 09 3737 036
Email: c.rubie@auckland.ac.nz

I am/ we are being asked for permission for this school to participate in the aforementioned project. Approval for permission in this study is entirely voluntary and I am/ we are free to withdraw the school at any time up to the 18 December 2001 and to have all data identifiable as originating from this school returned without needing to provide any explanation. Should I/ we withdraw or refuse to participate in the study, my decision will involve no penalty or loss of benefits to which I am/ we are otherwise entitled. The participant information sheet has been read carefully and I/ we realise that a copy of it to keep will be supplied by the researcher if I/we decide that this school will participate in the study.

The signature below acknowledges voluntary participation, on behalf of the school, in this research project. Such participation does not release the investigator(s) or the University of Auckland from their professional and ethical responsibility to the school.

I HAVE READ THE PARTICIPANT INFORMATION SHEET PROVIDED AND MY QUESTIONS HAVE BEEN ANSWERED TO MY SATISFACTION. I VOLUNTARILY AGREE TO MY SCHOOL'S PARTICIPATION IN THIS STUDY.

Signature of Research Participant (Principal/ Chairperson BOT)

Date

Participating Principal's/ Chairperson BOT's Name (Please Print)

Signature of Principal Researcher

Date

APPROVED BY THE UNIVERSITY OF AUCKLAND HUMAN SUBJECTS ETHICS

COMMITTEE on 14 March for a period of two years, from 14/ 03/ 01

Reference 2001/ 007

APPENDIX A -3**PARTICIPANT INFORMATION SHEET FOR
TEACHERS OF YEAR 1/2 OR YEAR 5/6 CHILDREN**

Title of project: The influence of teacher expectations on the opportunities to learn that are provided for students.

My name is Christine Rubie. I am the Deputy Director of Teacher Education at the University of Auckland within the School of Education. I am conducting this research as the thesis project for my PhD in Educational Psychology at the University of Auckland.

At the beginning of each year, teachers are given a range of information which is designed to assist them in making initial decisions about the levels of student learning and achievement in their classrooms. I am interested in researching how this information is transformed into the opportunities to learn that are provided to the children in the classroom. For example, how do teachers decide to place children into particular ability groups? How do teachers make decisions on the learning outcomes for particular children? Are different types of tasks provided for children of differing abilities? Are different questioning techniques used for children of differing abilities? Do teachers cater for differing abilities in physical education as well as in academic areas? To this end you are invited to participate in this research project the purpose of which is to obtain a clearer understanding of the planning and implementation decisions that teachers make for the benefit of the learning of the children in their classrooms.

You are being invited to participate in this study as part of a group of teachers being recruited from the University of Auckland Consortium of Schools. One teacher in Year 1/2 and one teacher in Year 5/6 at various schools are being invited to participate in the research project. The data collection for this project will run throughout 2001.

As a participating teacher you will be asked to complete three questionnaires, one at the beginning of the year and two towards the end of the year (The one given at the beginning of the year will be repeated at the end of the year). Each questionnaire involves rating each child in each class on a 7-point scale. This should take no more than fifteen minutes per questionnaire. Two of the rating scales relate to the achievement levels you are expecting children in your class to achieve in the next year (administered at the beginning and end of the year) and the other one relates to the exact levels achieved by each child in your classroom by the end of the year in reading and physical education. Participating teachers will be interviewed early in the year about their grouping and teaching decisions. This interview will be audio taped and should take about 30 minutes to complete. Thirty-minute observations will be conducted by trained student teacher observers (two at any one time) of two lessons in each of maths, reading and physical education during the middle of the year. The lessons to be observed should be part of the normal classroom programme and hence these observations should not involve any additional effort on the your part. These lessons will be audio taped. A copy of the questionnaire packet will be provided to your principal for your review prior to your participation.

The children in your class will also be invited to participate. Caregivers will be asked for consent and the children will be asked to complete an assent form. The children involved will be asked to complete a self-perception scale which will be read to them by the researcher and/or trained student teachers. This scale will be delivered at the beginning of the year and again at the end of the year. Each administration should take approximately 30 minutes. Although highly unlikely, as the scale involves questions relating to friendships as well as academic and physical skills, either yourself or your senior teacher (whichever your school sees as most appropriate) will be asked to be on hand in cases where any children may become distressed. The children will also be asked to participate in a physical skills test which will be delivered by the researcher and trained student teachers both at the beginning of the year and at the end of the year. This test will take approximately one hour to complete per class. The children normally thoroughly enjoy this test and particularly enjoy looking at their progress when it is re-administered later in the year. This test has been used on numerous occasions previously without any children sustaining any form of injury. Any physical risks involved in this test have been carefully considered and children are extremely unlikely to endure any physical injury. Every effort will be made to ensure their utmost safety. The researcher will ensure that the person at your school who is in charge of First Aid is aware that the children will be involved in physical activities. The researcher will also ask you to make her aware of any children with health or related problems. Both the self-perception scale and the physical skills test will be provided for your review prior to their administration at your school.

Participation is purely voluntary and can be declined without giving a reason. You may also withdraw from the research at any time without giving reasons. Furthermore, you may also withdraw information you have provided at any time prior to the completion of data collection on 18 December 2001.

As a participating teacher you will receive no direct material benefit or financial remuneration from participation in this study. However, information obtained from this research may have important implications for the practice of teachers, educators and researchers interested in improving the opportunities to learn which are provided to the children in our schools.

Every effort will be made to maintain the confidentiality of all your documents. All data collected will be number-coded once relevant information has been recorded, e.g. age of children, gender, ethnicity. At this point all identifiable information will be removed from questionnaires and test data. The data collected from this study will be used for educational and publication purposes; however no schools, teachers or students will be identified by name. The confidentiality of the data will be maintained throughout the time it is required to be stored after which time it will be destroyed.

The investigator is willing to answer any questions you may have. If you have additional questions during the course of this study about the research or any related problem, you may contact Christine Rubie by phone on (09) 3737 599 extn 2974 or by email on c.rubie@auckland.ac.nz. Similarly if you have any concerns or questions after the data has been collected at your school, or want to express your feelings about any aspect of this study, please let the researcher know.

If you would like to participate in this research please complete the attached consent form and post it to me or you can phone me on (09) 3737 599 extn 2974 during office hours.

Thank you very much for your time and assistance in making this study possible. If you have any queries or wish to know more please phone me at the number given above or write to me at:

School of Education
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My supervisors are:

Dr. Richard Hamilton, Dr. Michael Townsend
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Private Bag 92019
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extn. 7851

The Head of School is:

Professor John Hattie
The School of Education
The University of Auckland
Private Bag 92019
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For any queries regarding ethical concerns regarding this study please contact:

The Chair
The University of Auckland Human Subjects Ethics Committee
The University of Auckland
Research Office – Office of the Vice Chancellor
Private Bag 92019
AUCKLAND. Tel. 3737 599 extn. 7830

**APPROVED BY THE UNIVERSITY OF AUCKLAND HUMAN SUBJECTS ETHICS
COMMITTEE on 14 March 2001 for a period of two years, from 14/03/01. Reference
2001/007**

APPENDIX A – 4

TEACHER CONSENT TO PARTICIPATION IN RESEARCH

THIS CONSENT FORM WILL BE HELD FOR A PERIOD OF SIX YEARS

Title of Project: The influence of teacher expectations on the opportunities to learn that are provided for students.

Researcher: Christine Rubie

I have been given and have understood an explanation of this research project. I have had an opportunity to ask questions and have them answered. I understand that I may withdraw from participating in this research or assisting the researcher at any time prior to 18 December 2001 without giving a reason.

I agree to take part in this project.

I agree that interviews and classroom observations may be audio taped for this purpose.

Signed: _____

Name: _____
(Please print carefully)

Date: _____

**APPROVED BY THE UNIVERSITY OF AUCKLAND HUMAN SUBJECTS ETHICS
COMMITTEE on 14 March 2001 for a period of two years, from 14/03/01. Reference
2001/007**

APPENDIX A – 5

INFORMATION ON RESEARCH PROJECT

FOR PARENTS/ CAREGIVERS OF PARTICIPANTS

To Parents/ Caregivers of Participants

Title of Project: The influence of teacher expectations on the opportunities to learn that are provided for students.

My name is Christine Rubie. I am the Deputy Director of Teacher Education at the University of Auckland within the School of Education. Prior to entering the university I had been a primary school teacher for a number of years. I am conducting this research as the thesis project for my PhD in Educational Psychology at the University of Auckland.

At the beginning of each year, teachers are given a range of information which is designed to assist them in making initial decisions about the levels of student learning and achievement in their classrooms. I am interested in researching how this information is transformed into the opportunities to learn that are provided to the children in the classroom. For example, how do teachers decide to place children into particular ability groups? How do teachers make decisions on what will actually be taught to particular children? Are different types of tasks provided for children of differing abilities? Are different questioning techniques used for children of differing abilities? Do teachers cater for differing abilities in physical education as well as in academic areas? To this end your child is invited to participate in this research project the purpose of which is to obtain a clearer understanding of the planning and teaching decisions that teachers make for the benefit of the learning of the children in their classrooms.

Your child is being invited to participate in this study as part of a group of children in different classrooms in schools in the Auckland area. One teacher in Year 1/2 and one teacher in Year 5/6 at each of the schools are being invited to participate in the research project. The children in these classes will also be invited to participate in the research project. The data collection for this project will run throughout 2001. The children will be asked to complete an assent form to ensure they are also happy to be a part of this study.

I will be gathering the results of some of their tests from last year in reading and physical education (if these were done).

The children involved will complete a self-perception scale which will ask them how they feel they are doing in reading, mathematics and physical education and whether or not they like these curriculum areas. It will also ask them questions about their friendships at school. The researcher and/or trained student teachers will read the questionnaire to them and they will be given individual assistance should they need it. This is not a test; it simply asks for the children to express their opinions and feelings. The scale will be delivered at the beginning of the year and again at the end of the year. Each administration should take approximately 30 minutes. A staff member will remain close by should any child become distressed in any way. The children will also be asked to participate in a physical skills test which will also be delivered by the researcher and trained student teachers both at the beginning of the year and at the end of the year. This test will take approximately one hour for each class to complete. The children normally thoroughly enjoy this test and particularly

enjoy looking at their progress when it is re-administered later in the year. This test has been used on numerous occasions previously without any children sustaining any form of injury. It has been designed by a teacher with extensive experience in teaching physical education to children at all levels of the primary school and who also has advanced coaching qualifications in several sports. Any physical risks involved in this test have been carefully considered and children are extremely unlikely to endure any physical injury. Every effort will be made to ensure their utmost safety. The researcher will ensure that the person at your school who is in charge of First Aid is aware that the children will be involved in physical activities. Please make me aware if your child has any health or related problems. I am happy to leave a copy of both the self-perception scale and the physical skills test at your school for your perusal.

Trained student teacher observers will conduct thirty-minute observations of teacher-student interactions. The observers (two at any one time) will be seated in the classroom (or outside in the case of physical education) and will tape record each lesson. They will observe two lessons in each of maths, reading and physical education during the middle of the year. The lessons to be observed will be part of the normal classroom programme so this will not involve any interruption to your child's regular classroom programme.

Participation in this research project is purely voluntary and can be declined without giving a reason. You may also withdraw from the research at any time without giving reasons. Furthermore, you may also withdraw information you have provided at any time prior to the completion of data collection on 18 December 2001. Whether or not you wish your child to become a part of this project because s/he may be present in the classroom during the observations it is possible that some interactions with the teacher may be observed. The researcher is interested in the ways in which the teacher interacts with the children and so has no interest in the individual children. However, should you not wish your child to be a part of this research any recording of your child during the observations will be erased.

Every effort will be made to maintain the confidentiality of all your child's documents. All data collected will be number-coded once relevant information has been recorded, e.g. age of child, ethnicity, gender. At this point all identifiable information will be removed from questionnaires and test data. The data collected from this study will be used for educational and publication purposes; however no students will be identified by name. The confidentiality of the data will be maintained throughout the time it is required to be stored after which time it will be destroyed.

If you are willing to allow your son/ daughter to participate in this research please complete the attached consent form and return it to the Principal or fax it to me on 3737 036 by 25 March 2001. If you have any queries or wish to know more please phone me at the number given above or write to me at:

School of Education
The University of Auckland
Private Bag 92 019
AUCKLAND Tel. 3737 599 extn 2974

My supervisors are:

Dr. Richard Hamilton, Dr. Michael Townsend
and Professor John Hattie
The School of Education
The University of Auckland
Private Bag 92019
AUCKLAND. Tel. 3737 599 extn. 5619 and
extn.7851

The Head of School is:

Professor John Hattie
The School of Education
The University of Auckland
Private Bag 92019
AUCKLAND Tel. 3737 599 extn. 2496

For any queries regarding ethical concerns regarding this study please contact:

The Chair
The University of Auckland Human Subjects Ethics Committee
The University of Auckland
Research Office – Office of the Vice Chancellor
Private Bag 92019
AUCKLAND. Tel. 3737 599 extn. 7830

**APPROVED BY THE UNIVERSITY OF AUCKLAND HUMAN SUBJECTS ETHICS
COMMITTEE on 14 March 2001 for a period of two years, from 14/03/01. Reference
2001/007**

APPENDIX A – 6

PARENT/ CAREGIVER CONSENT TO PARTICIPATION IN RESEARCH

THIS CONSENT FORM WILL BE HELD FOR A PERIOD OF SIX YEARS

Title of Project: Teacher expectations: How do these impact on aspects of the children's curriculum learning and social interactions?

Researcher: Christine Rubie

I have been given and have understood an explanation of this research project. I have had an opportunity to ask questions and have them answered. I understand that I may withdraw my child from participating in this research or assisting the researcher at any time prior to 18 December 2001 without giving a reason. I understand that lesson observations will be audio taped.

I agree that who is under my guardianship may take part in this project.

Signed: _____

Name: _____
(Please print carefully)

Date: _____

APPROVED BY THE UNIVERSITY OF AUCKLAND HUMAN SUBJECTS ETHICS COMMITTEE on 14 March 2001 for a period of two years, from 14/ 03/ 01. Reference 2001/007

APPENDIX A – 7

To all children in Room _____

School _____

26 March 2001

This year the children in Room _____ will be helping me with a study I am doing at the University of Auckland. I am looking at how your teacher helps you to learn and how s/he chooses activities for you to do.

Sometimes I will be working with you and sometimes I will be working with your teacher. I would like you to help me by answering some questions about how you feel about your friends and people in your class, about maths, reading and physical education and whether or not you like them. I will help you to answer the questions if you would like me to. We will also be doing some fun activities like running, throwing a ball as far as we can and balancing on one leg. We will be doing all these things once very soon and again near the end of the year.

In the middle of the year some of my friends will be coming to watch you work with your teacher at school. We will be watching you doing maths, reading and phys ed.

Your help will help my work at university.

If you would like to take part in these activities, please sign your name below:

Thank you

Christine Rubie

Signed: _____

Print your name: _____

Date: _____

APPENDIX B

STUDY ONE: SAMPLES OF TEACHER SURVEYS AND SCREEN SHOTS OF SURVEYS

ACADEMIC AND NON-ACADEMIC RATING SCALE – YEAR TWO

(Beginning of Year Scale)

Name: _____ School: _____

Class Level: _____

Please rate each child in your class in reading and physical skills according to the achievement you expect each child to make during the year s/he is in your class, according to the following criteria:

Relative to the curriculum levels provided in the curriculum documents for Year 2, I would expect this child to achieve this level by the end of this year:

1. Very much below average (i.e. I would expect this child to be just beginning or not yet ready for Level 1 work from the curriculum by the end of this year)
 2. Moderately below average (i.e. I would expect this child to be about half way through the work at Level 1 of the curriculum by the end of this year)
 3. Just below average (i.e. I would expect this child to have almost completed the work at Level 1 of the curriculum by the end of this year)
 4. Average (i.e. I would expect this child to have completed the work at Level 1 of the curriculum by the end of this year)
 5. Just above average (i.e. I would expect this child to be just beginning Level 2 work from the curriculum by the end of this year)
 6. Moderately above average (i.e. I would expect this child to have completed work from the curriculum at the beginning of Level 2 by the end of this year)
 7. Very much above average (i.e. I would expect this child to be at least half way through the work at Level 2 of the curriculum by the end of this year)

ACADEMIC AND NON-ACADEMIC RATING SCALE – YEAR FIVE (Beginning of Year Scale)

Name: _____ School: _____

Class Level:

Please rate each child in your class in reading and physical skills according to the achievement you expect each child to make during the year s/he is in your class, according to the following criteria:

Relative to the curriculum levels provided in the curriculum documents for Year 5, I would expect this child to achieve this level by the end of this year:

1. Very much below average (i.e. I would expect this child to be about half way or less through the work at Level 2 of the curriculum by the end of this year)
 2. Moderately below average (i.e. I would expect this child to be almost completing the work at Level 2 of the curriculum by the end of this year)
 3. Just below average (i.e. I would expect this child to be beginning the work at Level 3 of the curriculum by the end of this year)
 4. Average (i.e. I would expect this child to have almost completed half the work at Level 3 of the curriculum by the end of this year)
 5. Just above average (i.e. I would expect this child to have completed half the work at Level 3 of the curriculum by the end of this year)
 6. Moderately above average (i.e. I would expect this child to have completed the work from the curriculum at Level 3 by the end of this year)
 7. Very much above average (i.e. I would expect this child to be working at Level 4 of the curriculum by the end of this year)

ACHIEVEMENT RATING SCALE IN ACADEMIC AND NON-ACADEMIC AREAS – YEAR FIVE (End of Year Scale)

Name: _____ School: _____

Class Level: _____

Please rate the current level of achievement for each child in your Year 5 class in reading, and physical skills according to the following criteria:

Relative to the curriculum levels provided in the curriculum documents for Year 5, this child's achievement is at the following level:

1. Very much below average (i.e. this child is about half way or less through the work at Level 2 of the curriculum now)
 2. Moderately below average (i.e. this child is completing the work at Level 2 of the curriculum now)
 3. Just below average (i.e. this child is beginning the work at Level 3 of the curriculum now)
 4. Average (i.e. this child has almost completed half the work at Level 3 of the curriculum now)
 5. Just above average (i.e. this child has completed half the work at Level 3 of the curriculum now)
 6. Moderately above average (i.e. this child has completed the work from the curriculum at Level 3 now)
 7. Very much above average (i.e. this child is working at Level 4 of the curriculum now)

ACADEMIC AND NON-ACADEMIC RATING SCALE

School:	Oakland Primary	
Teacher:	Jeff	
Student No:	1	
Student Name:	Tom	
Reading:	3	Just Below Average
Physical skills:	1	Very Much Below Average

1 = Very Much Below Average
 (ie I would expect this child to be about half way or less through the work at Level 2 from the curriculum by the end of this year)
 2 = Moderately Below Average
 (ie I would expect this child to be almost completing the work at Level 2 of the curriculum by the end of this year)
 3 = Just Below Average
 (ie I would expect this child to be beginning the work at Level 3 of the curriculum by the end of this year)
 4 = Average
 (ie I would expect this child to have almost completed half the work at Level 3 of the curriculum by the end of this year)
 5 = Just Above Average
 (ie I would expect this child to have completed half the work at Level 3 of the curriculum by the end of this year)
 6 = Moderately Above Average
 (ie I would expect this child to have completed work from the curriculum at Level 3 by the end of this year)
 7 = Very Much Above Average
 (ie I would expect this child to be working at Level 4 of the curriculum by the end of this year)

NEXT **PREV** **FINISH**

Christine Rubie's PhD Program

File Tools Help

Teacher:	1	Jeff	<input type="checkbox"/> New	School:	Oakland Primary	Room:	2	Level:	2
Student:	1	Tom	<input type="checkbox"/> New	Test Type:	Start of Year				
Age:	7	Years	2	Months					
Sex:	m	Male							
Ethnic Group:	p	Pacific Islander							
Class Level:	3								

Ethnic Groups
 a = Asian
 e = European
 i = Indian
 m = Maori
 n = NZ European - Pakeha
 o = Other
 p = Pacific Islander

Next **Previous** **Delete** **Change Name**

Christine Rubie's PhD Program

File Tools Help

Teacher:	1	Jeff	<input type="button" value="New"/>	School:	Oakland Primary	Room:	2	Level:	2
Student:	1	Tom	<input type="button" value="New"/>	Test Type:	Start of Year				
Run Fast:	5	True		Good At Sports:	4	Mostly True			
Good Marks Reading:	1	False		Enjoy Reading:	4	Mostly True			
Hate Maths:	5	True		Learn Maths Quickly:	5	True			
Lots Of Friends:	1	False		Others Want Me Friend:	5	True			
Run And Play Hard:	5	True		Run A Long Way:	5	True			
Like Reading:	4	Mostly True		Reading Is Easy:	5	True			
Maths Is Easy:	5	True		Like Maths:	5	True			
Make Friends Easily:	1	False		More Friends Than Most:	4	Mostly True			
Hate Sports:	1	False		Good Athlete:	2	Mostly False			
Good At Reading:	5	True		Look Forward To Reading:	5	True			
Look Forward To Maths:	5	True		Good At Maths:	4	Mostly True			
More Friends Than I Do:	4	Mostly True		Popular With Kids:	5	True			
Enjoy Sports:	4	Mostly True		Good Throwing Ball:	4	Mostly True			
Interested In Reading:	4	Mostly True		Hate Reading:	1	False			
Good Marks Maths:	4	Mostly True		Enjoy Maths:	5	True			
Get Along Easily:	4	Mostly True		Most Kids Like Me:	5	True			
Good Muscles:	5	True		Learn Reading Quickly:	5	True			
Dumb At Reading:	2	Mostly False		Dumb At Maths:	2	Mostly False			
Interested In Maths:	4	Mostly True		Teacher Good Reading:	5	True			
Easy To Like:	5	True		Teacher Good Maths:	4	Mostly True			

APPENDIX C

PHYSICAL SKILLS TEST

Activity:

1. **Endurance Run:** Time taken to run 300m (Year 1/2)/ Time taken to run 600m (Year 5/6). (Endurance/ heart efficiency)
2. **Softball Throw:** Distance a ball can be thrown. (Power and coordination)
3. **Astride Jumps:** Number that can be completed in 30 seconds. (Co-ordination and speed)
4. **Rebounding Ball:** Number of times a ball can be thrown at a wall and caught in one minute. Child stands 1.5m from wall (Year 1/2) and 2m (Year 5/6). (Co-ordination and speed)
5. **The Hang:** Number of seconds a child can hang from a bar. (Strength)
6. **Block Transfer:** Time taken to take 4 blocks one at a time, to another hoop 10m away (Agility)
7. **Balancing on One Leg:** Number of seconds a child can balance on one leg, eyes closed. (Balance)
8. **Sit and Reach:** How far a child can reach forward when seated on the ground, legs straight. (Flexibility)

Physical Skills Test

Year 1/2 or 5/6

School: _____

Date: _____

Name: _____

School: _____

Class: Year 1/2 Year 5/6

Activity	March/ April	October/November
Endurance Run		
Softball Throw		
Astride Jumps		
Rebounding Ball		
The Hang		
Block Transfer		
Balancing on One Leg		
Sit and Reach		

Instructions For:

Endurance Run: Year 1/2 children will complete 300m, Year 5/6 will complete 600m. The course is marked out. Record the children's names in each group then set them off to run/ walk the course. Explain to them that it is not a race and it is fine if they walk some of the way. Send all the children off as a group and record their times as they come in. You may like to call their times out to them as they come in and then ask them to tell you their time for recording.

Softball Throw: Choose a catcher to retrieve the balls and swap the catcher over at some point. Allow each child to have two throws one after the other. Mark where the ball lands first not where it rolls to. Only measure the furthest throw for each child. Record against the child's name.

Astride Jumps: These are star jumps – feet astride, feet together. Count the number each child can complete in 30 seconds. Record against each child's name. You may like to put your groups into pairs and have each partner count how many the other person does. Record these and then swap over. This will take less time than doing them one by one.

Rebounding Ball: Children are to throw a large ball at a wall and catch it. They can let it bounce before they catch it if they need to. Year 1/2s are to stand 1.5m from the wall; Year 5/6s stand 2m from the wall. Count how many they can do in one minute. You can have two children doing this at once with another two counting. This will save time.

The Hang: Time how many seconds each child can hang from the bar. Feet may not touch the ground. It is best to have two or three children doing this at a time to save time. Record number of seconds that each child can hang.

Block Transfer: Four blocks have been placed in one of the hoops. Each child runs from the line behind the hoop with no blocks up to the hoop with the blocks, takes one block, carries it to the other hoop and deposits it in the other hoop. This is repeated until all the blocks have been placed in the other hoop and the child crosses the line. Time how long each child takes to retrieve and deposit all four blocks. Record. Have half the children at one end behind the line and half at the other end behind the line. Then you can start one child as soon as the other child has finished.

Balancing on One Leg: Time how long each child can balance on one leg with his/her eyes closed. The child can choose which leg s/he wishes to balance on. Record the time in seconds. Pair the children up. Have half balancing and the

other half to tell you what their partner got. If you have one child who is able to balance really well start off the others at an appropriate time. DO NOT HOLD UP THE WHOLE GROUP FOR ONE CHILD. If necessary send the group on. One child can catch up his/her group later.

Sit and Reach: Each child sits with his/her bare feet up against the end of the box. Place one hand on top of the other and place on the sliding part so that the middle finger is touching the front of the sliding part. Slide forward as far as possible. Children may not flick the sliding part. Record how far they can push the sliding piece. Read from the back of the sliding part. Allow each child to have two turns, one immediately following the other. Count the one that is the furthest.

Equipment List

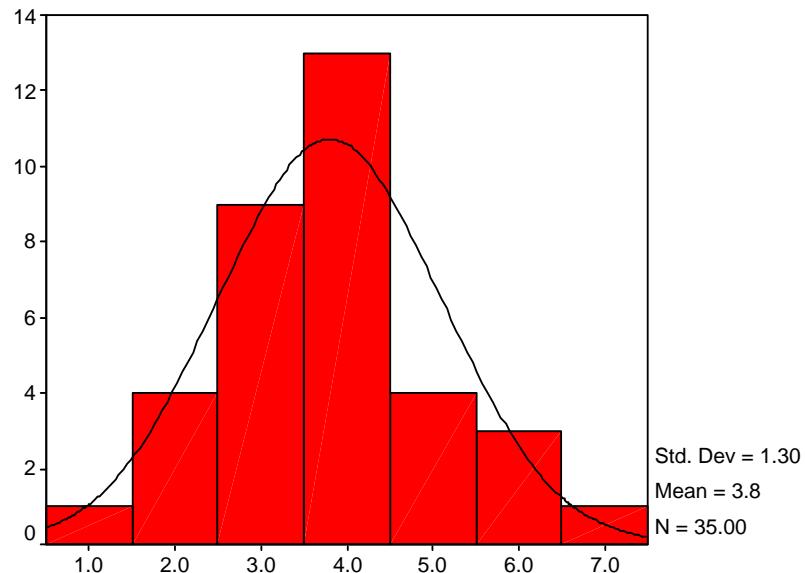
- Endurance Run:** Watch for timing. 6 cones.
- Softball Throw:** 2 softballs, long tape measure, 9 cones, 4 tent pegs.
- Astride Jumps:** Watch for timing.
- Rebounding Ball:** Chalk, long ruler or post, shorter tape measure, 2 large balls, watch for timing.
- The Hang:** Watch for timing, suitable bars.
- Block Transfer:** 2 hoops, 4 blocks, tape measure to place hoops 10 metres apart, 1 metre line in front of each hoop, chalk, long ruler or post.
- Balancing on One Leg:** Watch for timing.
- Sit and Reach:** Flexibility measure, suitable place to lean it against.

APPENDIX D

STUDY ONE: HISTOGRAMS SHOWING DISTRIBUTION IN TOTAL SCORE ON 1-7 LIKERT SCALE OF PHYSICAL SKILLS RESULTS AT BEGINNING AND END OF YEAR

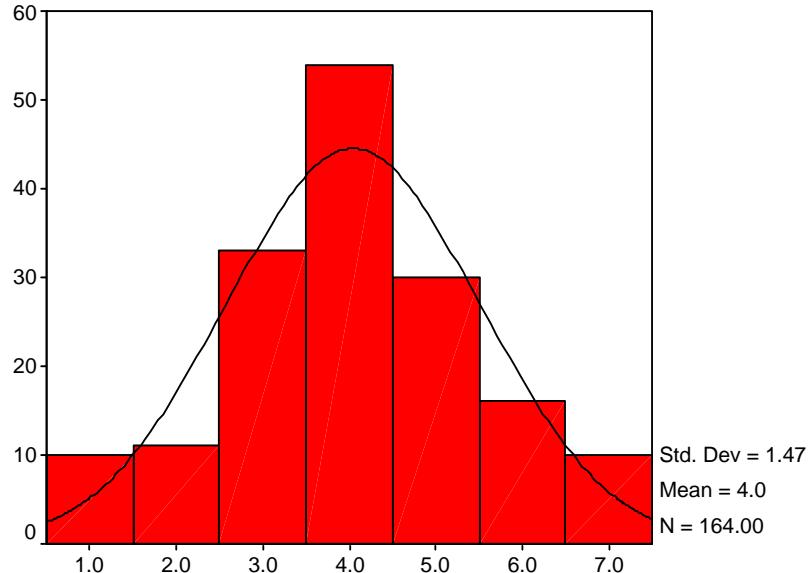
Graph Beginning of Year

CLASSLEV: 1

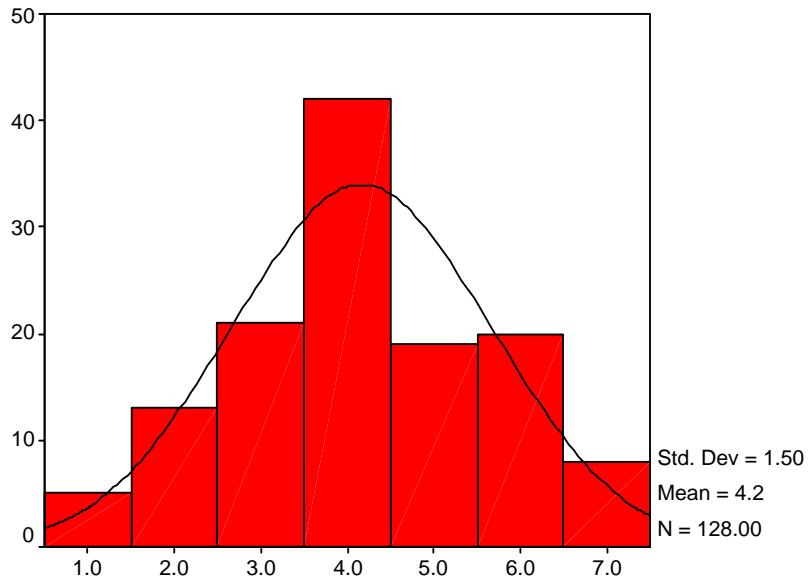


1-7 Likert1

CLASSLEV: 2

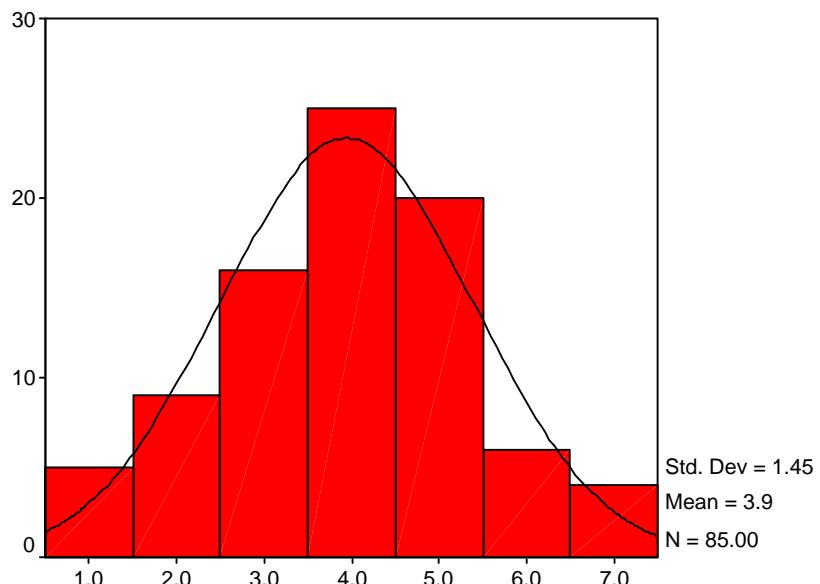


CLASSLEV: 5



1-7 Likert1

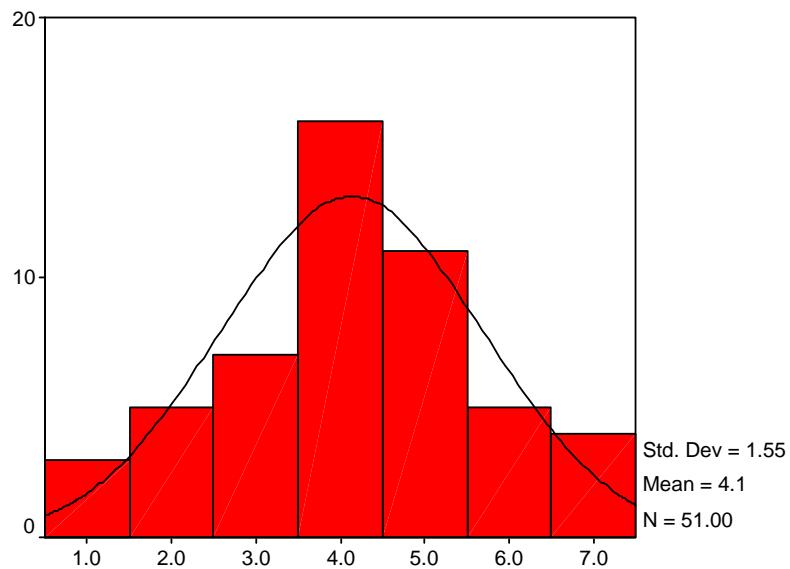
CLASSLEV: 6



1-7 Likert1

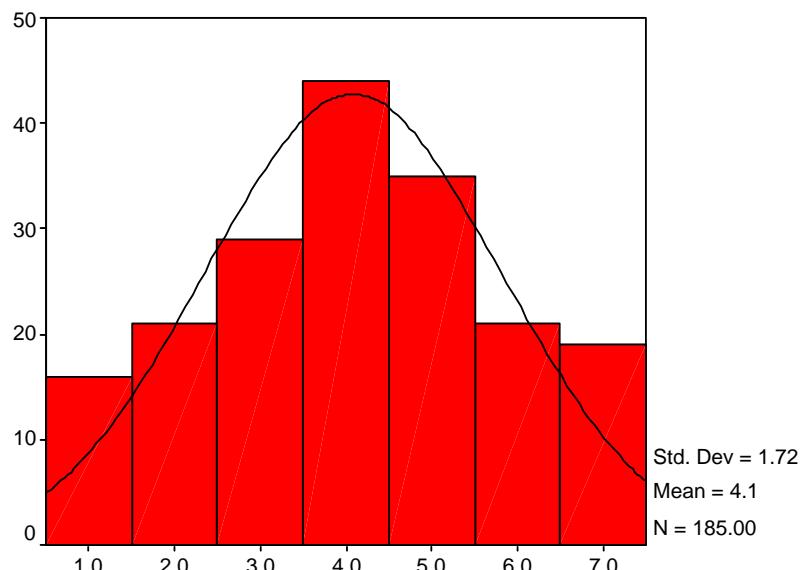
Graph End of Year

CLASSLEV: 1



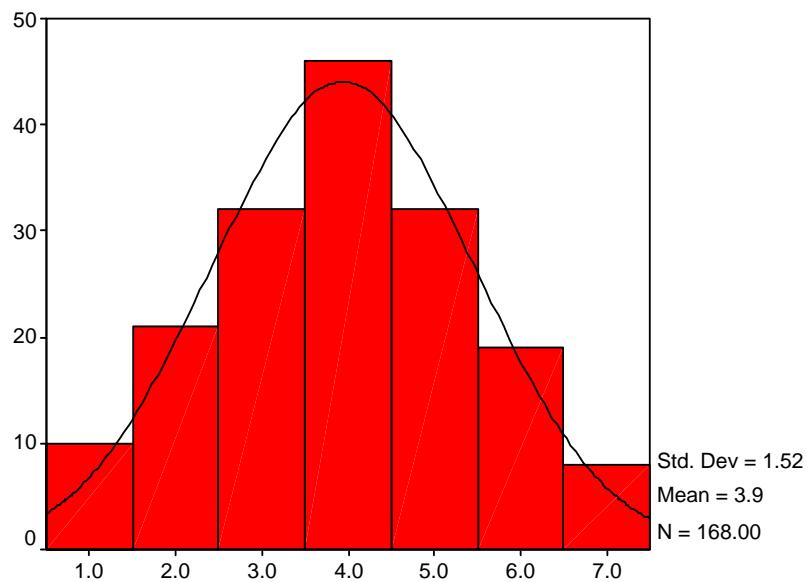
1-7 Likert2

CLASSLEV: 2



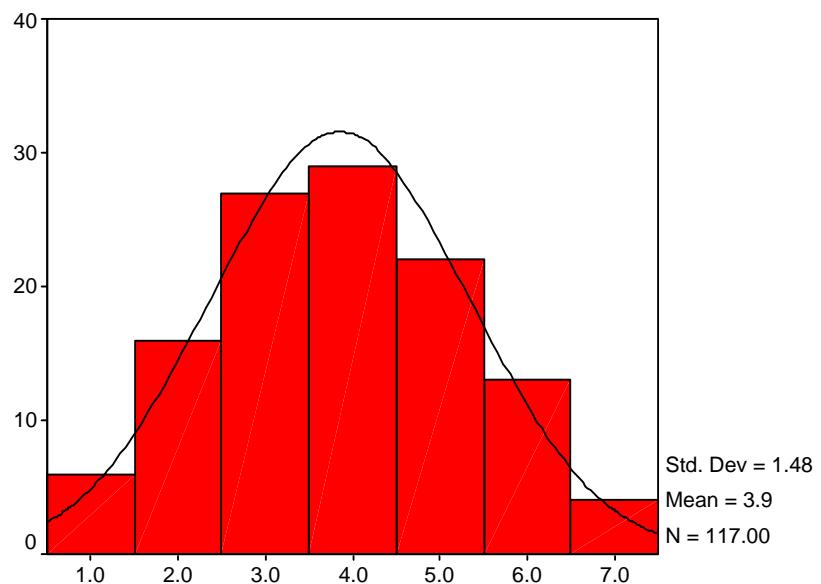
1-7 Likert2

CLASSLEV: 5



1-7 Likert2

CLASSLEV: 6



1-7 Likert2

APPENDIX E

OBSERVATION INSTRUCTIONS AND SCHEDULES

THE TEN COMMANDMENTS OF OBSERVING AND INTERVIEWING

Thou shalt take advantage of the opportunity to learn from the mistakes of the observers and interviewers that came before you.

Strike a healthy balance between automated, robotic reader of a scripted performance and well-intended, empathetic colleague who ends up altering the teacher's behaviour.

Effective observation and interviewing techniques require familiarity and practice so that the teacher is at ease, the lesson proceeds as it would without your presence, and the teacher and students feel that what they have shared is worthwhile.

Visualise the entire process, with a focus on how you will be present in the environment without altering it.

Be respectful of the teacher's efforts, integrity and territory.

See the event through his or her eyes and emotions.

Follow the school and teacher rules.

Monitor to avoid the verbal and nonverbal exchange of information/ judgements with the other observer.

Become aware, prior to the school visit, of the nonverbal ways you express both high interest and approval and boredom and disapproval.

Create a written self-inventory. Review it before each site visit, adding to it as you learn more about yourself.

Keep the role of neutral observer in mind. Monitor and adjust your behaviour accordingly.

Remember that your most innocent, innocuous behaviour could be misunderstood and redirect the teacher's behaviour. (Whispering to ask your colleague for a pencil could make the teacher think she's made a mistake and you've noticed it.)

Politely but firmly limit the information the teacher volunteers prior to the observation period.

If the teacher indicates he wishes you'd come at another time (the students have just finished a week of standardised testing and aren't their usual enthusiastic selves; the teacher was up all night with a sick child)...

Understand that the teacher is uneasy and needs reassurance.

If the teacher suggests that you 'ignore student x – nobody has ever been able to do anything with her'...

Respond as quickly as possible to end the revelations. 'We'll keep that information in mind,' spoken as you walk away.

If the teacher suggests that you 'sit with these students because they're always very helpful to our visitors'...

Respond with a ‘thank you but’ that you need to sit in a place where you can observe without interacting.

Do not talk about the teacher while in the school setting. You will be overheard by someone.

Resist the temptation to make notes of great teaching ideas you want to replicate.
You simply won’t have time.

You are there to observe. You may become a better teacher through the site visits, but that is a by-product of the experience, not the purpose.

Resist the temptation to intervene or suggest on-the-spot improvements.
‘Jumping in’ alters what is being observed.

You are there to observe, not to fix.

Follow the protocol. Follow the protocol. Follow the protocol.

There is a reason for this particular yellow brick road. Your notes provide the data to be used by scorers. The data need to be complete and collected in a consistent fashion to ensure consistency in the evaluation phase of the project. (The tape recording provides backup documentation.)

Avoid judgemental language on the narrative running recording and the coding sheets.
The written record should reflect what occurred, not your judgement about the events,

Judgements, interpretations and opinions would influence the scorers and make it difficult for them to focus on the data. Scorers will be trained to assign score values to the observed data; observers serve a different, data collection role.

Do not record	Do record
Asks brilliant question	T: Okay, now that you’ve told me what would have happened to Dorothy if Toto had not been there, what symbolic role do you think the dog played in this story?
Finally tells obnoxious kid to shut up.	T to S17: Chris, we could all hear Jo if you would stop talking. Thanks for being quiet.

We will conduct two types of observation for each lesson we record. Each observation team will have two members: the coder and the running record keeper. The running record keeper will audiotape the lesson and write narrative notes on the lesson. The coder will code information on a structured protocol.



Be sure to obtain a seating chart from the teacher *before* the lesson begins and make a copy for each observer, numbering students the same way for reference during the lesson.

Observer #1 (running record keeper)

Your task is to complete a running record of classroom activities and interactions. Using the Narrative Record form, record time at five-minute intervals in the ‘Time’ column and capture as much of the classroom activity and interaction as you can in the ‘Observations’ column. Leave the coding column blank for the coders to use at a later date. The primary focus of your observation is the **teacher**, what s/he **says** and **does**, how s/he **responds to students**, and how s/he **makes decisions** during the flow of lessons. The dimensions to be coded from your observations are listed below with questions to help guide your comments.

- Directions and procedures
What tasks are given?
How are tasks structured?
- Monitoring
How does the teacher respond to classroom events?
How does the teacher encourage engagement?
- Feedback
 How does the teacher give students information and encouragement regarding their understanding?
How does the teacher guide students toward thinking at higher levels?
- Management
How does the teacher maintain order?
How does the teacher address disruptions that occur and promote time on-task when students appear disengaged?
- Modifications
How does the teacher adapt the lesson in response to students?
- Questioning
How does the teacher phrase questions?
How do students respond to the teacher’s questions?
What types of questions does the teacher use?

If you observe instances when a scorer might interpret the teacher’s language or actions as negative, yet the nonverbal language indicates that students may not interpret the language or actions as negative, draw a ‘smiley face (☺)’ beside the phrase to indicate positive intent.
 Example:

‘S14 gives incorrect answer’

“T: ‘Can you believe he said that?’ ☺”

This suggests that the comment was made with a playful inflection and smile and that the student did not receive the comment in a hurtful way.



If you feel that you have missed something important, put a question mark in your notes and continue. You can review the tape later and fill in the missing information.

Remember: If you use abbreviations other than the common ones be sure to provide a legend of the abbreviations.

Observer #2 (coder)

Your task is to complete a structured ‘Observation Protocol’ at two-minute intervals following the directions below:

1. Before the lesson begins, record the information at the top of the form, preparing one sheet for each ten-minute segment to be observed. Be sure you have a copy of the seating chart numbered to indicate students’ location within the room.

You may wish to log in two-minute reminders in the space provided below ‘2nd minute’, ‘4th minute’, etc.

2. During each two-minute cycle, watch and listen carefully for ***one full minute*** to get a clear sense of what is happening in the classroom, and record your notes during the second minute. Use a ***dark pen or pencil*** to complete the observation protocol. ***Neatly print or write your comments*** so that raters can interpret them at a later time. For bubbled responses, ***completely darken the circle*** beside the appropriate code.
 - a) In the ‘Task, activity, event, question, or comment’ column, note the type of “Task” or “Activity” occurring (e.g., ‘giving directions’, ‘checking homework’, ‘discussing short story’). Also include any specific incident (‘Student #3 shouts out answer’) or a specific question or comment by the teacher.

If you observe any instance when the teacher seems to be uninvolved with students, record it in this column. Write a brief description of the off-task behaviour you observe in the space provided. ***Please note*** that “modelling” practices such as reading with students during sustained silent reading or writing with students are not off-task behaviours.



The important thing is to try to capture the most important event that occurs during that minute related to teacher questioning, feedback or classroom management.

- b) If the teacher offers any feedback to a student during that minute, record a short description of that feedback in the ‘Feedback from teacher’ column. Examples might include:
 - Good, you understand that. Tomorrow, we’ll learn how to....
 - See if you can make your “t” touch the line.
 - Can you sit as nicely as Michael?
 - Can you show me how to walk nicely to assembly?
 - Excellent. Now we’ll learn about



Remember: feedback is information that the teacher gives to students regarding their understanding of what s/he is teaching. If there is no feedback during the minute, leave the four columns related to feedback blank.

- c) If the teacher offers feedback, completely darken the circle beside the appropriate code in the “Type” column. Mark ***only one*** Type code. The feedback Type codes and definitions appear below:

- *Lesson* – feedback that relates to the topic of the lesson or content that students are learning
- *Procedures* – feedback that relates to directions, announcements, procedures, or routines



If you feel that you have missed something important, please put a question mark in your notes and continue. You can review the tape later and fill in the missing information.

- d) If the teacher offers feedback, darken the appropriate bubble(s) for all codes that apply in the “Target” column. The feedback Target codes and definitions appear below:
- *Individual* – individual student [Include the student number if possible.]
 - *Pair* – a pair of students working together [Include the student numbers if possible.]
 - *Group* – a group of students
 - *Class* – the entire class
- e) If the teacher offers feedback, darken the appropriate bubble(s) in the “Verbal/ Nonverbal” column to indicate whether the feedback was Verbal or Nonverbal. Also darken the appropriate bubble(s) to indicate whether the feedback was Positive or Negative. Mark all codes that apply. The Verbal/ Nonverbal codes and definitions appear below:
- *Verbal* – spoken comments
 - *Nonverbal* – gestures such as smiles, nods, frowns, etc.
 - *Positive* – teacher says “yes” or nods head
 - *Negative* – teacher says “not now” or puts up a finger
- Some examples:*
- *Positive verbal with nonverbal* – teacher says “yes” and nods head
 - *Negative verbal with nonverbal* – teacher says “not now” and puts up a finger
- f) Record any off-task student behaviours that you observe in the “Off-Task Behaviour(s) student” column. Indicate whether a student is disrupting others or is visibly disengaged. In the space provided, note the student number for the student whose off-task behaviour you observed. You may record multiple student numbers in this space if you observe more than one example of off-

task behaviour during a time segment. If you do not observe any off-task behaviour during a time segment, do not record anything in this column.

- g) Record ***reactive*** management strategies used by the teacher in the first “Management Strategy” column. Darken the bubble to indicate a reactive strategy such as “waiting for quiet,” “raising a hand,” or “asking S4 to listen”. Write a few keywords in the space provided to describe the management strategy to the coders. Remember that ***reactive*** strategies are the teacher’s response to a student who is disrupting or disengaged. The scorer should be able to find the incident to which the teacher is reacting in the preceding column.
- h) Record ***preventive*** management strategies used by the teacher in the second “Management Strategy” column. Darken the bubble to indicate a preventive strategy such as “moving from group to group”, “reminding students of time left”, “reminds students of incentives”, etc. Write a few keywords in the space provided to describe the management strategy to the coders. Remember that ***preventive*** strategies are ways the teacher anticipates and discourages disruptions and encourages students to stay on task.

NARRATIVE RUNNING RECORD

Teacher _____ Observer _____ Date _____

Time (5 minute intervals)	Observations of classroom activity and interaction with focus on <i>teacher</i>	Coding (Office use only)

OBSERVATION PROTOCOL

Teacher: _____ Date: _____ Observer: _____

No. of students: _____ Start time: _____

Curriculum area: _____

	Task, activity, event, question, or comment	Feedback from teacher	Type <u>Mark one</u>		Target <u>Mark all that apply</u>		Verbal/Nonverbal <u>Mark all that apply</u>		Off-Task Behaviour <u>Write student #s</u>	Management Strategy		Management Strategy	
2 nd minute			Lesson Procedures	<input type="checkbox"/> <input type="checkbox"/>	Individual Pair Group Class	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Verbal Nonverbal Positive Negative	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Disrupting others: # _____ Visibly disengaged: # _____	Reactive Comment	<input type="checkbox"/>	Preventive Comment	<input type="checkbox"/>
4 th minute			Lesson Procedures	<input type="checkbox"/> <input type="checkbox"/>	Individual Pair Group Class	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Verbal Nonverbal Positive Negative	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Disrupting others: # _____ Visibly disengaged: # _____	Reactive Comment	<input type="checkbox"/>	Preventive Comment	<input type="checkbox"/>
6 th minute			Lesson Procedures	<input type="checkbox"/> <input type="checkbox"/>	Individual Pair Group Class	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Verbal Nonverbal Positive Negative	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Disrupting others: # _____ Visibly disengaged: # _____	Reactive Comment	<input type="checkbox"/>	Preventive Comment	<input type="checkbox"/>

APPENDIX F**STUDY TWO: CODING SHEET****Interaction Tables for reading, mathematics, physical education**

Teacher						
Lesson/Activity						
Procedure		Management				
+ve	-ve	+ve	-ve			
Individual interaction						
	Procedure		Concept		Management	
	+ve	-ve	+ve	-ve	+ve	-ve
Boy						
Girl						
Unknown						
NZ Euro						
Maori						
PI						
Asian						
Teaching concept						
Orientation/ Focus	Prior knowledge/ experiences	Recording	Demonstration/ Modelling	Explanation Instruction	Modification	Other +ve
						-ve
Management						
	Individual		Group/Class			
	+ve	-ve	+ve	-ve		
Preventive						
Reactive						
	Individual			Group/Class		
Criticism						
Praise						
Feedback						
Questioning - Learning						
	Open		Closed			
Questioning - Learning						
	Praise	Feedback	Question further	Repeat/rephrase answer	T. explains	
Correct						
	Praise	Rephrase	Other child	Repeat answer	T. supplies/ explains	
Incorrect						
	Praise	Rephrase	Other child	Provides support	T. supplies/ explains	
Not known						